THE AUSTRALIAN MEDICAL WORKFORCE

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CHAPTER 1 - INTRODUCTION

The medical workforce is pivotal to Australia's health care system. Good quality and accessible care for the whole community requires:

- a medical workforce which matches population need – that is, enough doctors of the right kinds in the right places;

- the best expenditure of finite public resources. With competing priorities for health dollars, governments must ensure that they do not spend unnecessarily on medical services or on medical education; and

- medical services which are safe, of high quality and culturally appropriate.

To ensure access to care by all, governments heavily subsidise the delivery of medical services, both through funding of the public hospital system and by providing rebates for privately delivered services. Consumers have extensive access to services which are either free at the point of service or are subject to substantial government rebates. Doctors in private practice are largely free to determine the number of rebateable services they provide and the fees they charge to patients. Spending on medical services is substantial, accounting for nearly 20 per cent of total recurrent health expenditure. In 1999-00, the Commonwealth spent nearly $6.8 billion subsidising privately delivered medical services through Medicare. The Commonwealth and States spend significant additional amounts funding the public hospital sector and non-government spending is also substantial [1]. The training of medical practitioners is also heavily subsidised by the Commonwealth.

The medical workforce is therefore one on which we are greatly reliant as a community and one in which we invest very heavily. It is of keen interest to governments, who are responsible for maximising the return on the public's investment by ensuring that safe, quality medical care is accessible to all while overall health expenditure growth is contained.

This paper considers our medical workforce in light of the three objectives listed above. It describes its context, characteristics and significant trends. It reviews its geographic and structural distribution problems, analyses government workforce policy and planning, and outlines recent initiatives by the Commonwealth to influence workforce outcomes. For comparative purposes, the paper describes the workforce characteristics and policies of four broadly similar countries, and the final chapter highlights key issues and questions for future workforce planning.

[1] This includes spending by health insurance funds, workers' compensation and compulsory motor vehicle insurance providers, and individuals. Analysis of 1997-98 data estimated spending by these groups at over $1,500 million (AIHW 2000c).

CHAPTER 2 – SCENE SETTING

2.1 INTRODUCTION

This chapter looks at the environment of the medical workforce: the health system within which doctors practise, the emergence of workforce planning in recent decades, the organisational forces which influence the size and distribution of the workforce and the quality and safety of its services, and the broad trends and health system changes which are influencing medical practice.

2.2 THE HEALTH SYSTEM

The medical workforce in Australia delivers services in a mixed public and private health care system, with policy direction, regulation and broad service planning provided by two tiers of government with significant input from the medical profession and professional bodies.

A major part of the system is of course the popularly mandated Medicare, which provides the community with access to subsidised out-of-hospital medical care with choice of doctor, free public hospital care and subsidised pharmaceuticals. Medicare is funded by the Commonwealth and State and Territory Governments [2], and its policy objectives are universal access; affordability; quality care and outcomes; equity, both in the distribution of costs and allocation of resources; and efficiency.

Most primary medical care is delivered in private practices in the community, where general practitioners (GPs) are self-employed or contracted to a practice. Services are paid for by the patient, with the assistance of Medicare rebates, except where practitioners direct-bill or 'bulk-bill' Medicare (that is, with no payment charged to the patient). Some primary care is provided free of charge by salaried doctors in community health settings and, particularly in rural areas, by accident and emergency departments of public hospitals. These settings are administered by State and Territory Governments and the medical services provided are funded either by those governments or with Medicare rebates. Provision of secondary ambulatory care follows a similar pattern: most of this care is provided in private practices by self-employed or contracted specialists on a fee-for-service basis with Medicare subsidy; a smaller proportion is delivered free of charge in community settings and hospital outpatient clinics. Of note, non-primary care services are only rebated through Medicare where they are provided to patients following referral from a GP, thus making GPs the 'gatekeepers' of secondary care.

[2] The Commonwealth Government funds the benefits schemes for medical services (the Medicare Benefits Schedule) and pharmaceuticals (the Pharmaceutical Benefits Scheme), while State and Territory Governments have the major responsibility for financing and public provision of health services, including public and psychiatric hospitals, and public health. In fact the Commonwealth funds most of the health care system as it indirectly funds acute care services operated by the States and Territories via hospital funding agreements under Medicare (the Australian Health Care Agreements which run over five years).

Secondary and tertiary in-patient care is provided in public hospitals, where a patient may elect to be a public patient, with the cost of care fully borne by the government, or to be treated privately, bearing the cost themselves with the assistance of Medicare rebates and in many cases, private health insurance. Doctors providing in-patient care are salaried or employed on contract with access to fee-for-service income. Private hospitals are also significant providers of in-patient care. Historically they provided predominantly less complex non-emergency care, such as elective surgery, but the scope of their work has broadened significantly in recent years to include acute care comparable in some instances with that provided by public hospitals.

2.3 WORKFORCE PLANNING: A NEW ART

Until the late 1980s, Australian governments allowed the size, structure and other features of the medical workforce to be determined in a largely unregulated environment.

In the 1960s and 1970s, national health spending as a proportion of gross domestic product (GDP) began to increase rapidly. Advances in medical science increased patient expectations for health care and medical education expanded considerably. This expansion then created an oversupply of practitioners as population growth slowed, new technology realised productivity gains, numbers of practitioners migrated to Australia, and health care treatment approaches changed to include greater use of day surgery and shorter hospital stays.

In the 1980s, attention began to focus on the size and distribution of the medical workforce as medical services expenditure increased rapidly, while the market failed to correct geographic and sectoral undersupply of practitioners.

Real growth in per capita health and medical expenditure, at levels which outstripped per capita GDP growth, began to focus governments on containing costs in all areas of the health system and ensuring that the best use is made of resources in realising health outcomes. The supply of medical services grew faster than that of health care services more generally. From the 1984 introduction of Medicare, medical services were substantially subsidised by the Commonwealth on a universal basis, accounting for large and increasing expenditure outlays. Significantly, spending on primary medical care was observed to increase with the supply of practitioners, independently of population need (further discussed in Chapter 4).

At the same time, distribution of the workforce remained very uneven, with persistent shortages in rural and remote areas, despite oversupply of GPs in capital cities. Apparent shortages in some medical disciplines, particularly affecting rural and remote areas and the public hospital system, became a focus of attention in the early 1990s, together with lack of reliable data with which to analyse the extent and location of these shortages. A shortage of practitioners providing services to Indigenous communities continued to be evident. (The distribution of the workforce is further discussed in Chapter 3.)

It was in this context that Australian governments began to more closely analyse and plan the medical workforce. Subsequent planning and intervention has broadly involved slowing the overall growth of the workforce, while increasing the supply of practitioners in certain geographic areas and in particular specialties and parts of the health sector. (The measures to achieve these ends, including capping of medical school intakes, restrictions on practitioners' access to Medicare benefits and other efforts to encourage doctors into undersupplied areas of practice, are discussed in Chapter 5.) This fine-tuning has not been simple to achieve, as individual practitioners (rather than governments) have ultimate choice over where they work, and because the fee-for-service public subsidy of medical care blunts market pressures which would otherwise move doctors to where they are needed. A second arm of planning, of importance for both health outcomes and cost containment, has been to ensure that education and training of the workforce continues to be of world class standard.

As the need for workforce planning and intervention became evident, so too did the lack of detailed data on the workforce. Counting doctors was hampered by separate registration systems and conditions of registration in each State and Territory, registration of doctors in multiple States and the fact that not all registered doctors are in practice. Following the 1988 Committee of Inquiry into Medical Education and the Medical Workforce (the 'Doherty Report'), a national Medical Workforce Data Review Committee (MWDRC) was formed to address some of these difficulties. This Committee reviewed and reported on parts of the workforce, greatly improving the basis for some of the early policy interventions.

In the early 1990s, the (then) Australian Institute of Health was asked to establish a national collection of medical workforce information. It has conducted an annual national medical workforce survey in conjunction with (re)registration of all practitioners since 1993. This collection is one of the most important sources of medical workforce data and it is heavily drawn on in Chapter 3.

In 1995, the Australian Health Ministers' Advisory Council (AHMAC) established a sub-committee, the Australian Medical Workforce Advisory Committee (AMWAC), as part of a more strategic approach to workforce planning and data analysis. The new committee's brief was to provide advice on national workforce supply, distribution and future requirements on which planning decisions could be based. AMWAC has progressively examined and analysed the structure, balance and geographic distribution of the workforce, analysed supply and demand for medical services, and developed models for projecting future workforce supply and requirements. The Committee's findings are also drawn on throughout Chapter 3 [3].

[3] For a further summary description of the history of medical workforce planning, see AMWAC 2000a.

2.4 THE 'PLAYERS' IN MEDICAL WORKFORCE POLICY AND PLANNING

A number of different players, both government and non-government, have influence over the size and distribution of the medical workforce as well as the quality, safety and affordability of medical services supplied to the community. As a necessary adjunct to Medicare, the Commonwealth has overall responsibility for ensuring that these outcomes meet the needs of the community. However the Government's means of direct influence are limited, and responsibility and influence are effectively shared between a range of parties, as described below.

The influence of the Commonwealth is through:

- the Department of Health and Aged Care (DHAC), which:
  - caps the number of subsidised medical school places so that an oversupply of practitioners does not occur (see 5.2.1);
  - administers restrictions on access by certain practitioners to Medicare benefits (the 'provider number restrictions') aimed at influencing the quality of medical services and the distribution of the workforce (discussed in 5.2.2, 5.3.5 and 5.4.1);
  - determines numbers of GP trainees each year and the rural versus urban distribution of trainees, again to ensure appropriate supply and distribution of practitioners (see 5.3.7); and
  - administers and funds a range of initiatives to develop the workforce and improve the accessibility, safety and quality of care, using educational, recruitment and service delivery programs. (These are described in 5.3 and 5.4);
- the Health Insurance Commission (HIC), which administers Medicare Benefits and a range of other Commonwealth programs and undertakes education, feedback and best practice programs in cooperation with the medical profession and relevant bodies;
- the Professional Services Review Statutory Authority, which is responsible for investigation of suspected cases of inappropriate practice by medical or other health practitioners, particularly in relation to services which attract a Medicare or Pharmaceutical Benefit Scheme benefit;
- the Department of Education, Training and Youth Affairs (DETYA), which administers significant government subsidy of primary medical education, to ensure that universities are able to train sufficient practitioners for the community's future needs;

- General Practice Education and Training (GPET) Limited, which was formed as a Commonwealth controlled company in March 2001, to hold funds for, and oversee all post-graduate general practice vocational training; and

- the Department of Immigration and Multicultural Affairs, which applies criteria for temporary and permanent entry of overseas trained doctors, designed to contain growth in oversupplied parts of the medical workforce while allowing supplementation of services in areas of shortage (see 5.2.2).

State and Territory Governments:

- determine distribution of government funds for public hospital and community health services, including medical services and specialist or 'vocational' training;

- fund and administer a range of workforce programs, for example to enhance the rural medical workforce;

- with considerable professional involvement, set medical registration standards and conditions and, through the Medical Registration Boards, determine whether or not individual practitioners (including overseas trained doctors) are legally able to practise and the scope of their practice; and

- employ significant numbers of practitioners for hospitals and the community health sector.

The Australian Health Ministers' Advisory Council (AHMAC) utilises AMWAC to analyse and recommend adjustments to the size and structure of the workforce, as a basis for Commonwealth and State planning decisions (further discussed in 5.3.7).

The Australian Medical Council (AMC), a national standards body for primary medical training, (inter alia) advises and makes recommendations to State and Territory Medical Boards on the accreditation of Australian and New Zealand medical schools and medical courses, and the assessment for admission to practice of overseas trained doctors. The Council is also developing a system of accreditation of the specialist training and professional development programs run by the specialist medical colleges.

Medical colleges:

- grant fellowship to both Australian and overseas trained specialists, thereby significantly influencing the number and quality of specialists practising in Australia;

- are responsible for the quality and content of vocational training, including continuing medical education of practising doctors;

- are responsible for accrediting specialist training positions, thereby determining, together with State and Territory Governments, the number and location of trainees (further discussed in 4.5) [4]; and

- provide policy input and scientific and medical opinion for a range of purposes, such as the introduction of new technology and standards setting.

Eleven university medical schools are responsible for the content and quality of undergraduate and some post-graduate medical training and for the profile of, and to some extent the size of, medical student intakes (further discussed in 5.2 and 5.3). Of note, many academic appointments in medical schools are held by specialist practitioners.

Post-Graduate Medical Councils (PGMCs) in each State and Territory are responsible for the training requirements of practitioners in their early postgraduate years and hospital medical officers who are not in vocational training programs.

Professional representative groups influence the workforce; these include the Australian Medical Association (AMA), the Australian Salaried Medical Officers' Federation (ASMOF), the Australian Medical Students' Association (AMSA), the Rural Doctors' Association of Australia (RDAA), the Rural Health Association and the Doctors' Reform Society. These organisations represent doctors' interests in a range of settings and contribute to policy debates and initiatives in the workforce area.

- For example, the AMA, to which approximately half the medical workforce belongs, represents doctors in negotiations with the Commonwealth and State Governments on certain medical service delivery matters, and has workforce policy objectives, including safe working hours for junior doctors (further discussed in 5.4.2).

As is evident from the above, responsibility for particular workforce matters is very much shared between parties, including members of the profession. Other examples of this shared influence include:

- the Divisions of General Practice which are geographically based organisations which aim to improve health outcomes for patients by encouraging GPs to link with other health professionals to upgrade health service delivery at the local level. The Divisions are funded by the Commonwealth Government and have the twin roles of providing support for and services to GPs, and meeting health system responsibilities more focussed on consumers, such as provision of public health programs;

- Rural Workforce Agencies in each State and the Northern Territory (NT) which aim to increase access to primary health care services through the recruitment and retention of GPs (further discussed in 5.3.3); and

[4] In general practice the Commonwealth determines the number of training positions

- The Royal Australian College of General Practitioners (RACGP), the Australian Divisions of General Practice and the RDAA which represent the interests of GPs in relation to their Memorandum of Understanding (MOU) with the Commonwealth, a financial and service quality agreement with the profession.

Private hospitals are an alternative employer to the public system and have their own workforce imperatives which they pursue in workforce policy and planning.

Of significance for workforce planning, the great majority of individual doctors retain substantial autonomy over where, when and how they work. Perhaps by comparison with the wider professional workforce, the autonomy of doctors seems constrained by the various forms of government and professional regulation described above and in Chapter 5. However when considered:

- in the context of our health care system, under which services (and hence health professionals' incomes) are heavily subsidised by governments;

- by international standards, for example compared to medical practice within the United Kingdom (UK) or many European health systems; and

- in relation to professions with comparable responsibility for consumer wellbeing and safety,

medical practitioners enjoy notable professional and financial independence.

The interests of the various parties described above converge in relation to medical workforce objectives to a large extent. However the dispersion of influence necessitates a great deal of coordination in workforce planning and can present significant challenges when the objectives or interests of the players do not coincide or are confounded by other health system imperatives. In addition, the sharing of influence in many areas, and the complexity of the health care system and its financing can obscure the reasons for lack of success in achieving workforce outcomes.

For instance, in 1996, in an effort to ensure that doctors are trained in primary care before entering general practice and to curb the oversupply of GPs in metropolitan areas, the Commonwealth Government sought to bar access to Medicare rebates by newly graduated doctors who had not undertaken vocational training. (Details of the scope of the provider number restrictions are included in Chapter 5). This initiative was met with strong opposition from non-vocationally trained doctors and some parts of the wider profession, including the AMA, who argued that it was an unreasonable restriction on the autonomy of medical practitioners.

Attempts in recent years to improve the structure of the workforce, that is the distribution of doctors across the specialties, also illustrates the complexity of workforce planning. In instances where AMWAC has identified a need for a greater number of specialists in a particular discipline, and AHMAC has endorsed the resulting

recommendation for an increase in trainees in that field, the following have been required:

- funding by State and Territory Governments of the additional training places;
- agreement of the relevant medical college to accredit the training positions or training programs; and
- establishment of the positions in the hospitals and or other training institutions.

In some cases, necessary increases in training positions have not been achieved. On occasion, State and Territory Governments will cite unwillingness by the relevant college to accredit positions as the reason, and the college will maintain that government funding of the positions is the barrier. This area of workforce planning, and the recently emerging issue of competition policy, are further discussed in 4.5.

2.5 HEALTH SYSTEM TRENDS

A number of major changes in the health care system in recent decades have influenced the medical workforce in various ways.

The changing role of public hospitals over the last decade, particularly their concentration on acute care and day surgery, has narrowed the scope of clinical work performed in public hospitals. Associated with this change are shorter average hospital stays and a greater proportion of pre and post-operative care as well as management of chronic and mental illnesses being conducted in the community. A necessary adjunct to these changes - and something sought by consumers – has been better integration of health care, with a whole-of-patient approach delivered by health care professionals working together. The work of private hospitals has also changed considerably in some areas.

These trends have significant implications for the size, education, structure and location of the medical workforce. The work of clinicians in hospital versus community settings is increasingly different. It is becoming evident that education in many medical specialties can no longer be undertaken exclusively in hospitals, but must incorporate experience in community settings. Integrated or coordinated care means doctors coordinating with other health care professionals to a greater extent, more and better communication and a team-based approach to care. Many universities are now conducting ‘problem-based’ undergraduate medical training that is better suited to community-based multidisciplinary practice. The diverging nature of hospital and community work is highlighting the question of balancing the need for practitioners with highly specialised skills and practitioners able to work and manage patients across areas of expertise. Specialist skills are obviously an important resource, but broad generalist abilities must be maintained throughout the workforce. The shift of patients from the tertiary and secondary sectors to primary care is requiring many GPs to assume different clinical responsibilities.

A further significant change in the health system has been in the mix of public and private health care toward greater provision of the latter. This has been driven on the one hand by State Governments' efforts to control public health system costs, and on the other hand by recent Commonwealth Government policy to encourage a more viable private health industry to improve the choice of health services for the individual. Recent years have seen greater delivery of ambulatory specialist care to public patients through private practices, increasing provision of private accident and emergency services, and contracting by State and Territory Governments with private hospitals to provide these services to public patients. These changes impact on the work setting and employment of practitioners and the viability of hospitals as settings for specialist training of some kinds. Impacts on the health system of the recent increase in private health insurance coverage, and any flow-on workforce effects, are yet to be clearly seen. (See however 3.2.7 in relation to private and public hospital employment of specialist clinicians.)

Technological advancement has a huge ongoing impact on medical practice and the medical workforce. Its varied effects range from continuous workforce productivity improvements, through changed treatment patterns, to opportunities for improved integration of care via information technology and improved patient access via telemedicine. It requires all practitioners to develop new skill sets, and in some areas of medical practice creates greater specialisation, which in relation to workforce distribution affects the sustainability of specialist services in rural areas (further discussed in 3.3.2).

The introduction of case mix funding, involving the movement away from block-grant funding of public hospitals to that based partly on outputs, is producing not only efficiencies and cost controls for hospitals but opportunities for clinicians to monitor outcomes and quality of services through readily available casemix data.

Higher levels of consumer education and the huge increase in readily accessible health care information has had a significant impact on the way doctors work and communicate with patients. The role of the 'patient' or consumer of health care services has changed, and thus the relationship between doctor and patient. Increasingly patients are partners in decision-making about their care, and seek greater involvement in medical and broader health care, from its design to delivery.

A greater awareness of adverse patient outcomes is developing in the health system; it is estimated that ten per cent of people seeking care have such an outcome, half of these are estimated to be preventable and 30 per cent result in a disability preventing the patient from returning to work and normal activities for between 1-12 months (Commonwealth Department of Health and Aged Care, 1994 and 1995). This has brought to greater attention the safety and quality of health care services and how these can be ensured (further discussed in 4.6 and 5.4).

While such a significant incidence of adverse events results in relatively few legal claims, medical insurance premiums continue to rise. Workforce consequences of the rate of adverse events and rising insurance premiums include financial and emotional

costs to practitioners, together with impacts on the way they work and a range of other effects (Wilson and Fulton 2000). It is argued that doctors under the threat of litigation will order excessive tests and prescribe unnecessary treatments, therefore escalating costs and multiplying risks. In 1993, the Review of Professional Indemnity Arrangements for Health Care Professionals, established by the Commonwealth to examine professional indemnity and compensation for medical misadventure, found that fear of litigation had caused a significant number of doctors to change their medical practices, with increased levels of servicing and refusal by some to undertake high-risk procedures.

Finally, the trend toward corporatisation in general practice may have significant workforce implications. A number of private companies are setting up large corporate practices, sometimes involving purchase of existing medical centres and smaller practices. This predominantly urban trend has not yet been measured, however it would seem that the number of corporatised practices is small but increasing fairly quickly at present. The new practices average ten to 12 GPs who are contracted to provide services with a percentage of their patient fees going to the owning company in return for the premises and management facilities. The practices often have integrated health care services such as pathology collection, physiotherapy, imaging, specialist services and a pharmacy, and offer extended after hours care.

Corporatisation in general practice is a relatively recent trend, the implications of which are still to be determined. In workforce planning terms, there would appear to be potential for impacts on services delivered, practitioner working hours, and possibly in the area of practitioner substitution.

CHAPTER 3 – CURRENT PROFILE OF THE MEDICAL WORKFORCE

3.1 INTRODUCTION

This chapter describes the current profile of the medical workforce and identifies emerging trends that are relevant to our three workforce planning aims. The first part of the chapter gives an overview of characteristics of the workforce; the picture is one of a changing proportion of GPs and other specialists, growing female participation and significant numbers of temporary resident doctors (TRDs) filling workforce gaps. The second half of the chapter considers the distribution and structure of the workforce and areas of practitioner over and undersupply. Most evident are the uneven distribution of the workforce between metropolitan and rural areas, shortages of practitioners in some medical specialties, under-representation of Indigenous Australians in the workforce and an overall shortage of practitioners working in Indigenous health. These features impact on access to medical services by rural and Indigenous Australians and to some extent by low income groups.

This chapter draws heavily on the Australian Institute of Health and Welfare report *Medical Labour Force 1998* (AIHW 2000b) and all figures are from this report unless otherwise indicated.

3.2 WORKFORCE CHARACTERISTICS

The Australian medical workforce numbers nearly 50,000 persons spread across four broad delivery sectors:

- private practice (both primary and secondary care);
- the hospital sector (both public and private);
- the publicly funded community sector; and
- specialised services – for example research, academia, occupational health, compensation work and migrant medical clearances.

Many practitioners work across these sectors, for example dividing their time between private practice and hospital, and between research and clinical sessions.

3.2.1 Overall Numbers

Over the century numbers of doctors per 100,000 population increased markedly. There were:

- 86 in1929;
- 85 in 1943;

- 116[5] in 1953;
- 111 in 1964;
- 139 in1972; and
- 228 in 1986 (Doherty 1988).

The medical workforce more than doubled between 1976 and 1996, although growth has slowed in recent years, with the number of clinicians increasing by 8.9 per cent between 1993 and 1998. The number of clinicians per 100,000 population during this period was:

- 238.2 in 1993;
- 241.8 in 1994;
- 245.1 in 1995;
- 245.9 in 1996;
- 244.5 in 1997; and
- 244.5 in 1998.

The plateau in numbers around 1996 can be attributed to a range of Commonwealth workforce measures introduced between 1995 and 1997 which are further discussed in Chapter 5.

At December 1998, the Australian medical workforce comprised 49,623 practitioners, with 48,934 or 98.6 per cent of that number employed in medicine.

3.2.2 Participation

The participation rate of the workforce appears to be high; in 1998, 92.5 per cent of registered medical practitioners in Australia were in the medical labour force and nearly 60 per cent of those not in the labour force were retired. (This is, of course, only one measure of participation, and does not reveal how many persons with completed medical training are not registered to practice.)

Data from the AIHW's labour force reports for nursing, podiatry, occupational therapy, physiotherapy and pharmacy show that the participation rates of various health professions are broadly similar to that of medicine[6].

Australian medical workforce participation is comparable with other countries with broadly similar health systems. In the US for example, the labour market for doctors is good, with virtually all being able to obtain secure employment. In 1998, only 9 per cent of US doctors worked less than 20 hours per week, and most of these were aged over 65, the age of retirement (Coffman et al., 2000). Participation rates reflect both availability of employment and lifestyle choices.

[5] This figure is for NSW only and in context is consistant with that State's traditionally high proportion of doctors compared with most other locations (see 3.3.4).

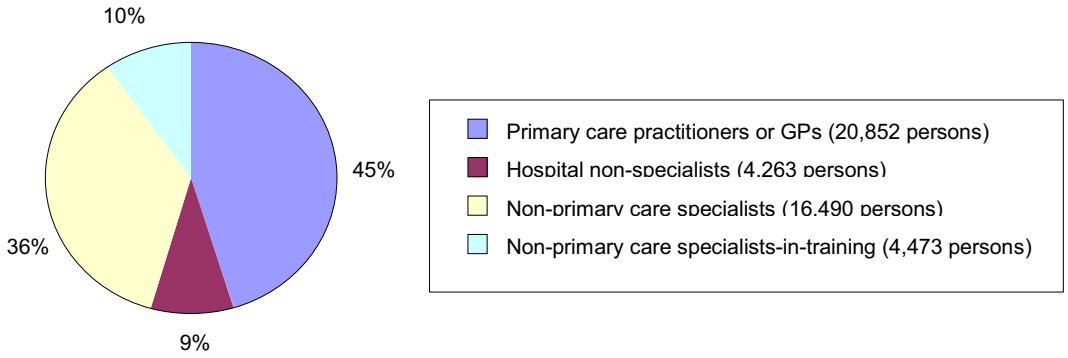
[6] Available on the AIHW website at http://www.aihw.gov.au/publications/health.html

3.2.3 Type of Medical Employment

In December 1998, 46,078 or 94 per cent of employed medical practitioners were clinicians, that is, their work involved diagnosis and/or treatment of patients. The remainder worked in administration, education, research, public and occupational health.

For statistical collection and analysis, the category 'clinicians' is often broken down into the four employment categories shown in Figure 1: primary care practitioners or GPs, hospital non-specialists, non-primary care specialists and specialists-in-training. The primary care category is broken down into recognised GPs, 'Other Medical Practitioners' (OMPs)[7] and GP trainees. Hospital non-specialist doctors include Resident Medical Officers, interns and 'other'. There are over 40 non-primary care specialist fields often referred to under the four broad headings of internal medicine, pathology, surgery and 'other'.

Figure 1: Clinician Types, Numbers and Percentage of Total Numbers



The proportions shown in Figure 1 have been fairly constant over the past decade although the GP workforce historically has shown the strongest growth. This has changed recently, with growth in GP numbers slowing as a result of the provider number restrictions (see 5.3.5), the GP training intake being held constant at 400 per annum (until 2001 - see 5.3.7) and other factors. The proportion of GPs is expected to reduce over time and the proportion of other specialists to increase, due to changes in specialist training numbers (see 5.3.7). There is early evidence of this trend: from the late 1980s high of over seven per cent, annual growth in the number of GPs[8] delivering services which attract a Medicare rebate has fallen markedly. Between 1997-98 and 1998-99 the number of such providers fell by 0.2 per cent (AIHW 2000b).

[7] An OMP is a practitioner who is not recognised as a GP or other type of specialist under the *Health Insurance Act 1973*. By way of background, in the 1980s the Commonwealth began to encourage GPs to undertake vocational training in primary care medicine (where previously there was no requirement to complete any specific training beyond the compulsory intern year). In 1989 higher Medicare rebates were introduced for vocationally trained GPs and those who could demonstrate vocational skills and experience. The 1996 Medicare provider number restrictions, further discussed in 5.3.5, restricted access to the higher level rebates to recognised GPs. Lower level rebates remain available for OMPs.

3.2.4 Male and Female Practitioners

The proportion of men and women making up the medical workforce is changing markedly. This is of particular significance because the male and female workforces differ in ways that are important for workforce supply and distribution. Most notably, they have different levels and types of participation, with women working fewer hours over their working lives, being less likely to work in rural and remote areas and being more likely to chose primary care over another type of specialist practice. In addition, gender balance in the workforce impacts on social accessibility of medical services. For example, rural women, like urban women, prefer to consult a female practitioner, particularly for reproductive health care. The scarcity of rural female practitioners may therefore affect service use and patient satisfaction.

There have also been findings of differences in work practice patterns that could impact on workforce supply and demand. Female GPs have fewer patient encounters each week, have longer consultations and deal with more clinical problems in a single encounter than male GPs (Commonwealth Department of Health and Aged Care, 2000).

In 1998:

- there were 13,736 women in the employed medical workforce, being 28.1 per cent of the total employed medical workforce; and

- 12,809 of these were clinicians, being 27.8 per cent of the total clinician workforce.

These proportions are trending up - from 25.2 per cent and 25 per cent respectively in 1993 - and will continue to increase significantly. The distribution of women across age groups in Figure 4 (section 3.2.6) shows the effect of the increasing proportion of women entering medicine.

The proportion of women commencing initial medical degrees increased from 43.6 per cent in 1989 to 52.7 per cent in 1999 after exceeding 50 per cent for the first time in 1998.

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[8] In relation to Medicare data quoted in this paper, certain data limitations should be noted. Specifically:
• Medicare statistics only relate to providers of services for which a Medicare benefit was paid in the period in question. Excluded are details of providers who treated patients exclusively on a non-'fee-for-service' basis. These are generally salaried medical staff;
• Medicare provider statistics are based on counts of active provider stem numbers. Since a significant number of practitioners have more than one active provider number, there is some multiple counting of providers, particularly in recent years;
• gender and country of basic qualification are not present in Medicare Provider File records for all practitioners;
• year of birth is present for most (but not all) practitioners;
• the accuracy of Medicare workforce statistics is dependent on code changes when practitioner speciality status changes.

In 1996, AMWAC projected the female proportion of the total medical workforce as follows:

- 30.0 per cent in 2000;
- 32.2 per cent in 2005;
- 34.3 per cent in 2010;
- 36.1 per cent in 2015;
- 37.6 per cent in 2020; and
- 38.9 per cent in 2025,

and in 1998 made the following linear projection of trend from the 1993-1996 data:

- 30.8 per cent in 2000;
- 38.1 per cent in 2010;
- 45.4 per cent in 2020; and
- 52.7 per cent in 2030.

(AMWAC 1996.1 and 1998.8).

Gender Profile of General Practice

There is an expectation that the trend towards a high number of female doctors will continue as a predominantly male cohort of older doctors is replaced by a cohort of younger doctors that is at least 50 per cent female in any one year. A supply projection analysis of the GP workforce has assumed that there will be an increase in the proportion of female GPs from 35 per cent to around 41 per cent by 2010 and a decline in absolute numbers of the male workforce (AMWAC 2000.2).

As noted, more women are choosing general practice than any other specialist discipline, and this is reflected in the rapid increase in female participation in the GP workforce: in 1998, women made up 33.2 per cent of the GP workforce overall, 53.5 per cent of the GP workforce aged 25–34 years and 42.1 per cent of that aged 35–44 years. In comparison, in the period 1984-85 the proportion of women in the GP workforce was 22.7 per cent (Hirsch et al 2001). In 1998, 57.8 per cent of GP trainees were women and a continuation of this pattern will lead to a relatively rapid rise in the proportion of female GPs over the next decade. The preference for general practice is most likely because it is an area that most readily allows the meeting of both family/social and professional objectives (Horvath et al 1998). On average, female GPs provide fewer services due to part-time work and temporary absence for family reasons (Hirsch et al 2001).

Women also prefer urban to rural practice: in 1998 while 28.1 per cent of the employed medical workforce was female, women made up only 23.6 per cent of the rural medical workforce. The preference of female practitioners for general practice is even stronger among rural practitioners although this is changing and the numbers of female GPs are likely to continue to increase as we improve rural training incentives and educational and research infrastructure (discussed in Chapter 5). Of GP trainees in 1998, 67.5 per

cent of males were located in metropolitan centres, 27.9 per cent in rural areas and 4.7 per cent in remote areas. Females were less likely to work in rural areas—76.5 per cent were located in metropolitan centres, 21.6 per cent in rural areas and 1.8 per cent in remote areas [9].

Tables 1 and 2 show the change in gender pattern in the GP workforce over time, with the proportion of females in the GP workforce increasing from 22.7 per cent to 34 per cent, and the proportion of females remaining higher in metropolitan than rural areas (Hirsch et al 2001) [10]. Table 1 is based on raw practitioner numbers, derived (in the case of Medicare statistics) by counting the number of practitioners who had at least one claim for benefits in a given year. These are not a reliable indicator for monitoring change in the level of GP service provision as they do not differentiate between full-time and part-time workers. A second measure, full-time workload equivalents ('FWEs'), take account of GPs' varying workloads and are hence a better measure of service provision [11].

The proportion of workload carried by female GPs as measured by FWEs (Table 2) shows females doubling their share of the GP workload over the fifteen years. The proportion of FWEs is lower than the proportion of female GPs, consistent with female practitioners' lower level of service provision (compared to males).

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[9] These figures are based on the Rural, Remote and Metropolitan Areas Classification (RRMA). Workforce data presented in this paper are based on three different systems for classifying areas of Australia according to remoteness. In brief, the Rural and Remote Areas (RARA) classification, developed in the late 1980's, comprises the following categories: metropolitan (capital city and other metropolitan), rural (major rural centre and other rural areas) and remote (major remote centre and other remote areas.) The Rural, Remote and Metropolitan Areas Classification (RRMA), introduced in 1994, represents a finer index of remoteness, comprising: metropolitan areas (capital city and other metropolitan centres), rural zones (large, small and other rural areas) and remote zones (remote centres and other remote areas). Both the RARA and RRMA systems measure remoteness according to population density and distance to large population centres. The more recently introduced Accessibility Remoteness Index of Australia (ARIA) derives remoteness purely from road distance to service centres, to produce five categories: highly accessible, accessible, moderately accessible, remote and very remote (Department of Health and Aged Care) and the National Key Centre for Social Applications of Geographical Information Systems at the University of Adelaide (1999), *Measuring Remoteness: Accessibility/Remoteness Index of Australia,* (DHAC Occasional Papers: New Series No.6). AIHW data has been based on the RRMA classification since 1995. AMWAC data for 'metropolitan' and 'rural/remote' areas refers to the RRMA categories of metropolitan areas; and rural and remote zones respectively.

[10] Data from this source are based on the RRMA classification.

[11] In any year, the FWE for each practitioner is derived by dividing the schedule fee value of their services by the average for full-time practitioners in that year. The FWE values for each practitioner are then added to produce totals for States and regions. In 1999-00, full-time GPs were classified as those with at least $75,585 in schedule fee value of Medicare claims. For this group the average was $186,742. For example, a GP with a FWE value of two means the schedule fee value of their services was twice the average - ie. $373,484.
It should be noted that there are other measures in addition to FWE and raw practitioner numbers, with each measure offering finer analysis of different aspects of workforce supply and service provision.

Table 1: Female GPs[1] by region[2] and year

Region	1984-85	1989-90	1994-95	1999-00	1999-00
		% of all GPs			Number of GPs
Metropolitan	23.9	28.6	32.4	35.7	6433.0
Large rural centres	22.7	27.2	30.5	32.1	446.0
Other rural or remote	17.4	20.5	23.7	28.2	1358.0
Total	**22.7**	**27.2**	**30.9**	**34.0**	**8237.0**

(1) GPs with at least one claim on Medicare.
(2) Based on the GP's major practice for the June quarter.
(Source: Hirsch et al 2001)

Table 2: GP workload carried by female GPs, by region and year

Region	1984-85	1989-90	1994-95	1999-00	1999-00
		% of total GP FWE			Female GPs FWE
Metropolitan	11.6	17.0	21.9	25.2	3,212.3
Large rural centres	10.9	14.8	19.0	21.5	199.4
Other rural or remote	8.0	10.7	14.1	17.9	474.7
Total	**10.9**	**15.8**	**20.5**	**23.8**	**3,886.4**

(Source: Hirsch et al 2001)

Gender-based differences in hours worked are discussed in 3.2.5 below.

In general, the gender-based changes in the medical workforce are consistent with changes occurring in participation in the wider labour market, including:

- a general decrease in the participation rate for men;
- a general increase in the participation rate for women;
- increasing importance of part-time and casual employment, particularly for women; and
- women being older when they have their first child.

Table 3: Comparison of the proportion of females across professions

Profession	Male (%)	Female (%)
Medicine	72.0	28.0
Occupational Therapist	6.4	93.6
Optometrist	63.8	36.2
Physiotherapist	23.0	77.0
Speech Pathologist	3.6	96.4
Chiropractor	78.1	21.9
Podiatrist	35.5	64.5
Dentist	78.0	22.0
Engineering	93.5	6.5
IT	84.0	16.0
Science and Technology	78.0	22.0
Architecture(1)	80.0	20.0
Surveying	98.0	2.0
Pharmacy	40.0	60.0
Law	68.1	31.9

(1) Data is two years old and for ages 35 and over.
(Sources: Health professional data is from ABS 1996; law data provided by the Law Institute of Victoria (membership count as at 6 November 2000); other professional data provided by the Association of Professional Engineers, Scientists and Managers, Australia (APESMA) from their 1998-99 remuneration survey.)

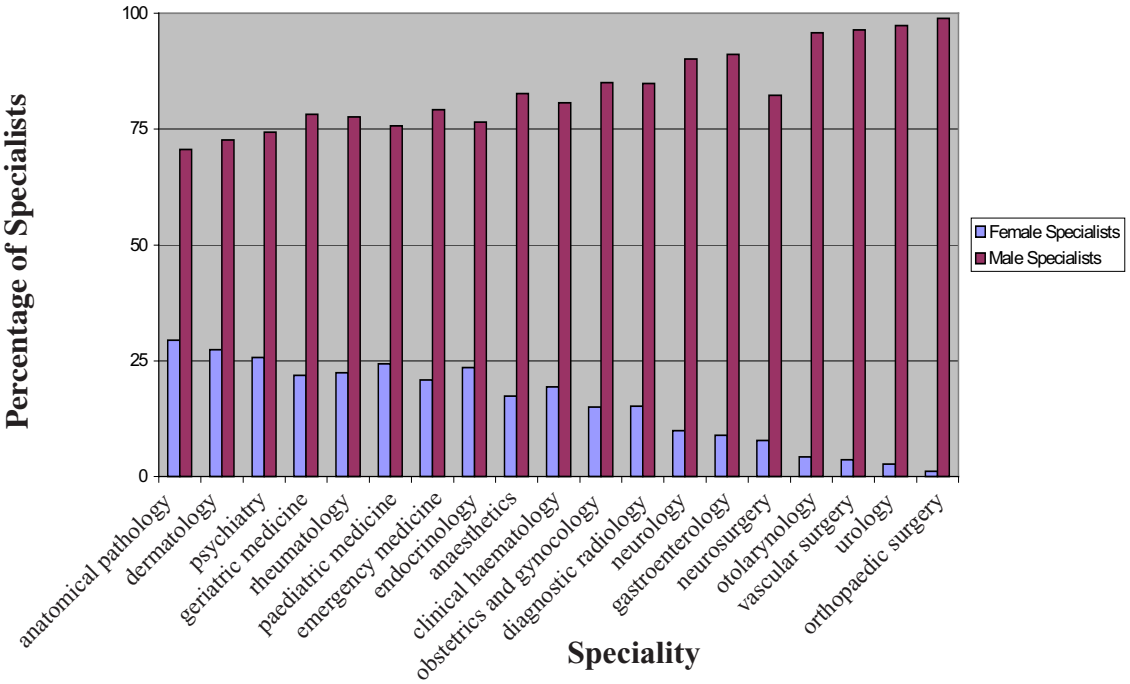
Male and Female Non-Primary Care Specialists

In 1998, 15.6 per cent of non-primary care specialists were female. The fields with the highest numbers of women practising included anatomical pathology, dermatology, psychiatry, geriatric medicine, rheumatology, paediatric medicine, emergency medicine, endocrinology, anaesthetics, clinical haematology, obstetrics and gynaecology and diagnostic radiology. These disciplines have flexible working environments and more regular working and 'on call' hours than some of the less popular fields, which is of benefit to women with family commitments. The specialist disciplines attracting very low female representation included neurology, gastroenterology, neurosurgery, otolarynology, vascular surgery, urology and orthopaedic surgery. (AIHW 2000b) (Table 3 and Figure 2).

In terms of reasons for these variations, women are most likely under-represented in surgical specialties because of the long hours. Other barriers to female specialisation which have been identified by trainees include policies and practices of some specialist colleges and structural barriers in hospitals and academic institutions, such as lack of part-time or job shared posts, and inadequate mentoring of female trainees. Female practitioners are least likely to train and work in areas that are demanding of time, compromise lifestyle, responsibilities and aspirations and offer little or no possibility for part-time work. This pattern of participation does not appear likely to change (AMWAC 1998.4).

Vocational training placement figures, showing the proportion of female trainees at 41.9 per cent in 1997 and 43.3 per cent in 2000 [12] (Medical Training Review Panel, 2000), suggest that the total female specialist workforce will continue to increase.

Figure 2: Comparison of Proportions of Male and Female Specialists Across Disciplines (%)



3.2.5 Hours worked

Average total weekly hours worked by clinicians in 1998 was 48.8, a level which has remained steady over the last few years, although those working 65 or more hours per week increased from 10.8 per cent in 1994 to 17.0 per cent in 1998 [13].

Within the clinician workforce, hours vary significantly between:

- types of clinicians;
- men and women; and
- urban and rural practitioners.

Hours worked are of importance to workforce planning as excessive hours may indicate workforce shortage as well as pose safety and job satisfaction issues. In addition, the different working patterns of younger cohorts combined with increasing female participation discussed above, have significant implications for future workforce supply.

[12] Includes GP trainees.

[13] The AIHW has observed that this pattern is characteristic of the workforce in general, that is, 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 (AIHW 2000b).

Hours worked varies between the sexes, with 40 per cent of female practitioners working less than 35 hours per week compared to 11 per cent of men, and eight per cent of women working over 65 hours per week, compared to 20 per cent of men. The difference is most marked in general practice (see Table 4).

Table 4: Average weekly hours of work for medical practitioners, 1998

Practitioner Type	Female (hours)	Male (hours)	All persons (hours)
All clinicians			48.8
GP[(1)]	34.2	51.6	45.3
GP trainee	39.7	48.1	43.2
VRGP[(2)]	34.2	53.2	46.6
Non-primary care specialist[(3)]	42.9	53.4	51.5
Non-primary care specialist-in-training			54.4
Hospital non-specialist			50.2
Interns and resident medical officers	50.6	52.7	52.1

(1) Between 1994 and 1998 those GPs working 65 or more hours per week increased from 9.6 per cent to 14.1 per cent and those working less than 35 hours per week increased from 24.0 per cent to 26.6 per cent of GPs. (Figures include OMPs.)

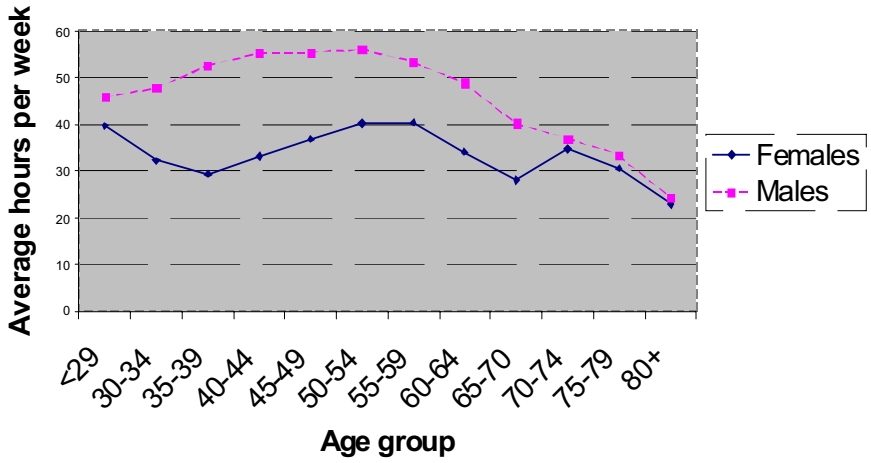
(2) 52.6 per cent of females and only 11.5 per cent of males worked fewer than 35 hours per week.

(3) Hours worked varies between disciplines. While 43.3 per cent of vascular surgeons and 42.8 per cent of cardiothoracic surgeons work more than 65 hours per week, the proportions of dermatologists and psychiatrists working these hours are 7.1 per cent and 8.1 per cent respectively.

Recent data shows women and men working different hours at different ages, with men's hours per week peaking earlier than women, and with women's hours dropping and rising again in their 30s, coinciding with child-bearing (Figure 3).

The overall difference in hours worked by men and women has considerable implications for workforce planning. Over her lifetime the average female GP will work 66 per cent of the hours of an average male GP and 74.9 per cent of the hours of an average male non-primary care specialist (AMWAC 1996.7). With the rising proportion of females in the workforce, this characteristic is expected to significantly affect both the supply and distribution of medical services, unless adjustment is made to training numbers and action taken to make rural and non-primary care specialist practice more attractive to female doctors (AIHW 1999).

Figure 3: Primary Care Practitioners: average hours worked per week, sex and age, Australia 1998



Geographic differences in hours worked are also evident. Practitioners employed in rural and remote locations averaged 51.1 hours per week compared with 48 hours per week for those in metropolitan areas. The proportion of doctors working 65 or more hours per week were 14.8 per cent in metropolitan centres, 20.4 per cent in rural areas and 19.8 per cent in remote areas. Average hours worked and on call are considerably higher for rural practitioners than their urban counterparts, with the proportion working 60 hours or more per week rising with distance from a capital city (AMWAC 1998.8). This is consistent with rural workforce undersupply, discussed in 3.3.2 below.

There are some indications of future changes in hours worked, which may have planning implications. Firstly, there is an international drive for shorter working hours for safety reasons, particularly for non-specialist hospital doctors, including residents and interns, specialists-in-training and career hospital medical officers. Traditionally these practitioners have been expected to work long hours and perform shift work, both of which have a detrimental effect on health and interfere with sleep and eating habits. There is also concern that fatigue restricts performance and therefore safe practice. In 1996, 56.1 per cent of interns and resident medical officers worked between 50 and 64 hours a week while 15.3 per cent worked 65 hours a week or more. Since 1996, the AMA has been developing a safe working hours policy to reduce excessive hours worked by hospital doctors. The project aims to develop a national standard of agreed hours of work and rostering, consistent with occupational health and safety standards (further discussed in 5.4.2.)

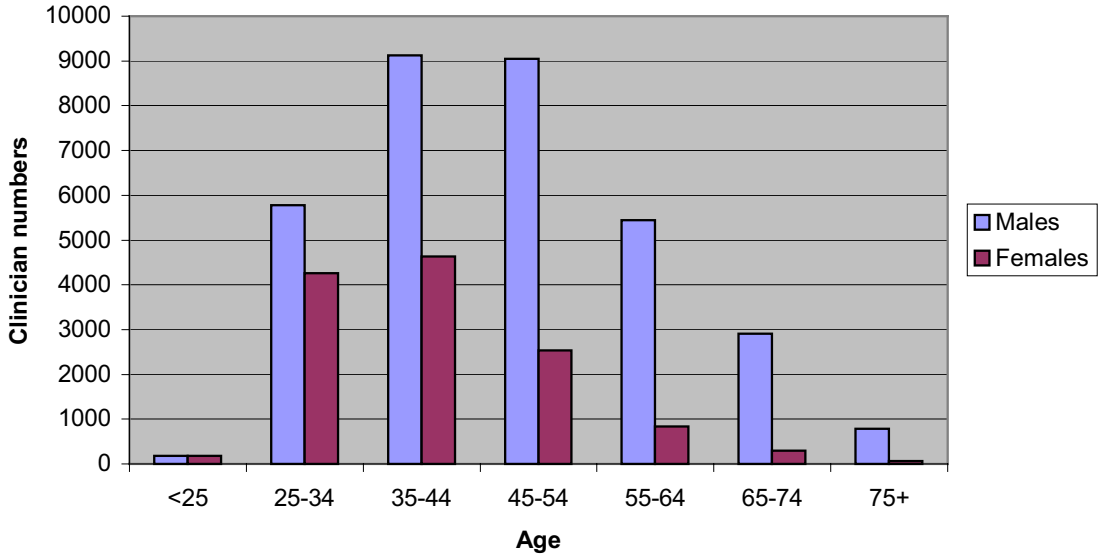
Secondly, male doctors increasingly report that they want shorter working hours. A supply projection analysis has predicted that by 2010 the average hours that male GPs work will have fallen from 51.6 to 48 hours per week, while average hours for female GPs will remain at 34.2 hours (AMWAC 2000.2). It is worth noting however, that the desire for shorter working hours has been observed since the 1970s but to date no

reductions have occurred. This probably reflects tension between the wish for shorter hours on the one hand and on the other, unwillingness to reduce income. It may also reflect the unwillingness of employers (for example, hospitals) to build flexibility into rosters as well as patient demand.

3.2.6 The Age of the Workforce

Figure 4 shows the age distribution of the workforce, with female participation lower but growing, and roughly equal in the youngest age group. The age group with the highest number of clinicians (and greatest number in both sexes) is 35-44 years, reflecting the substantial growth in the number of doctors trained since the 1970s.

Figure 4: Employed Clinicians: age and sex



Although we do not have data comparing this with other independently employed professionals, Figure 4 also shows the inclination of many GPs to continue working past the expected community retirement age, generally 65 years. (It should be noted however that re-entrants to a workforce and retirements and other withdrawals from any medical workforce are usually difficult to estimate.) In 1994, a research project was undertaken to measure the retirement intentions of a random sample of GPs aged 45 to 69 years (Reark Research 1995). Of the sample, 45 per cent were aged 55 years and over, of which 80 per cent were males located in urban areas. The study found that in regard to retirement intentions at age 65, 56 per cent would continue to work part-time or in some medical capacity, with a further 21 per cent reporting they would continue working as usual/for as long as possible. Only one in five GPs intended to retire by the age of 65. The research also reported that older GPs (60 years and over) were more likely to continue working for as long as possible. Three quarters of GPs aged 45 to 64 indicated that they would continue to work in some capacity at 65 years. Of all the GPs surveyed, 56 per cent said they would rather reduce their working hours at age 65 than retire completely.

By way of comparison, a 1997 Australian Bureau of Statistics (ABS) study showed that 30 per cent of all Australian men who intended to retire completely would do so between the ages of 55 and 64, and 34 per cent at 65 and over. However, 44 per cent of women said that they would retire between 55 and 64, with 14 per cent saying that they would retire past 65. It therefore appears that members of the medical workforce retire later in life compared to the average Australian. There is an increasing trend towards earlier retirement, that is withdrawal before pension age (65 years for men and 61 years for women), most likely due to personal factors and retrenchment of older workers related to economic restructuring.

The 1994 GP retirement intentions study found that more rural GPs reported that they intended to retire completely (at age 65) than urban GPs (33 per cent compared with 18 per cent). At the same time, 12 per cent of rural GPs reported they were less likely to continue working for as long as possible compared to almost one in four GPs working in urban areas. The report concluded that workforce policy and planning should consider the overall finding that most GPs find general practice stimulating and rewarding and that a gradual reduction in hours is the preference for attaining retirement. In addition, GPs without superannuation will keep working to maintain their income (Reark Research 1995).

The recent AMWAC GP report noted that of the 1,113 retirements and withdrawals for the 1998-99 period, 28.4 per cent of the male GPs and 20.3 per cent of the female GPs were from the rural workforce (AMWAC 2000.2). This compares to 24.3 per cent of the male GP workforce and 18 per cent of the female GP workforce having their main job in a rural area (AIHW 2000b). Of the 1,113 GPs retiring and withdrawing, 21.3 per cent of the males and two per cent of the females were aged 60 years or more. These figures are based on a comparison of Medicare data for 1997-98 and 1998-1999 (further discussed in 3.3.2 below). Interestingly, 13.5 per cent of male retirements were 70 and over, while only 4.2 per cent were 65-69 years, which indicates that the desire to work in some capacity past the retirement age was still an inclination of GPs (AMWAC 2000.2).

The age structure of the workforce and retirement trends and intentions are important workforce variables. Some specialist disciplines have an older workforce, which means that training numbers need to ensure that supply meets future demand. For example, the general surgery workforce has a large number of surgeons aged 55 years and over, and therefore increases in the number of trainees are needed now to avoid a shortage when the older surgeons retire (AMWAC 1998.7). The apparent trend of an increasing share of the rural GP workload being carried by older GPs – further discussed in 3.3.2 below - is of concern, as it suggests that in the future there may not be enough young GPs to replace the older GPs as they retire.

3.2.7 Private and Public Employment of Practitioners

Data on the participation of the workforce in the public versus private health care sectors is limited. The great majority of metropolitan GPs work exclusively in private practice, while rural GPs work in both private practice and in public and private hospital settings (further discussed under 3.2.8 below).

Non-primary care specialists more often work in both sectors, for example being self-employed in private rooms with a contract to work in private hospital plus employment in a public hospital on a part-time or sessional basis.

The mix of private and public employment varies between rural and urban regions.

- 70.1 per cent of medical practitioners who are employed in rural and remote areas work in their main job in private rooms, 22.9 per cent worked in acute care hospitals and the remaining seven per cent were employed in other work settings.

- In metropolitan areas, 56.2 per cent of practitioners worked from private rooms in their main job, 32.9 per cent worked in acute care hospitals and 10.9 per cent worked in other work settings.

The AIHW annual survey of registering practitioners has been modified to collect information on hours worked by each doctor in different settings. Data from this survey will be available in the next AIHW Medical Labour Force Report in late 2001. In the meantime, anecdotal evidence is that non-primary care specialists are working increasingly in private as opposed to public hospitals.

3.2.8 The Hospital Medical Workforce

The hospital medical workforce is complex, comprising different types of practitioners employed under a variety of different salaried, sessional and fee-for-service arrangements. Hospital workforce characteristics vary between public and private and between rural and urban hospitals.

Hospital practitioners include:

- non-primary care specialists, who are employed on a salaried, sessional or fee-for-service basis;

- specialists-in-training, being practitioners in specialist training positions accredited by one of the medical colleges. These are employed on a salaried basis [14];

- hospital non-specialists, that is, practitioners who do not have a recognised specialist qualification and who are not undertaking a training program to gain a recognised specialist qualification. Most are in the prevocational stage of training, such as interns and resident medical officers, with the remainder (25.8 per cent) in career hospital positions. They tend to be salaried;

- GPs, employed on a salaried, sessional or fee-for-service basis; and

[14] The small number of specialists-in-training located in private hospitals are granted exemption to bill Medicare where the relevant college verifies that it is essential for the training placement.

- others, such as administrators, educators, researchers, public health physicians and occupation health physicians, who are usually salaried.

1998 data indicates that 44.5 per cent of all medical practitioners (currently working in medicine) do some work in public hospitals, and 13.2 per cent do some work in private hospitals. Within the hospital workforce, the majority of all specialists-in-training and hospital non-specialists are employed in public hospitals – around 90.3 per cent and 63.9 per cent respectively. Of note, there have been small increases in recent years in specialist trainees in private hospitals.

For GPs versus other specialists, the picture is quite different. Only small numbers of metropolitan GPs work in hospitals, while the majority of non-primary care specialists work for some of their time in hospital settings. However, in small rural centres, other rural and remote areas, the majority of day-to-day medical care in hospital settings is provided by GPs. This includes primary care, in-patient care and most procedural care. (These GPs are also likely to be providing non-clinical medical services, including public and population health and administration services.) (AMWAC 2000.2).

Two current trends in the hospital workforce appear evident. Firstly there was a strong growth of 8.3 per cent in employment of salaried medical officers in public hospitals in 1997-98. This would appear related to the provider number restrictions, which prevent young doctors from going into private general practice without vocational training (further discussed in 5.3.5), and the changing nature of hospital work toward greater acute care delivery.

3.2.9 Country of Training and Immigration Status

The medical workforce features a high proportion of overseas trained doctors. Throughout this paper, the term 'overseas trained doctor' (OTD) will be used to refer to a doctor who obtained his or her primary medical qualification in a country other than Australia.

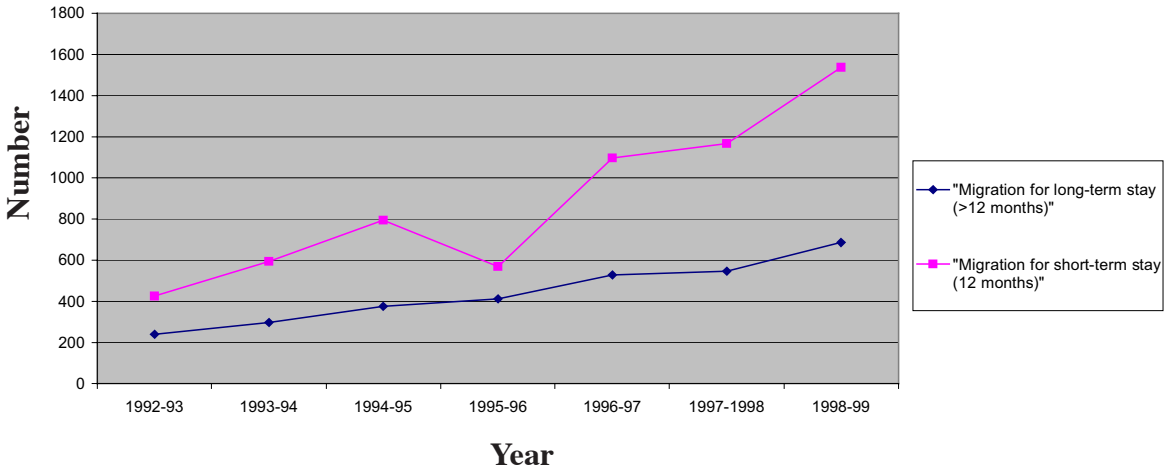
- 'Temporary resident doctors' (TRDs) are those OTDs in Australia on temporary visas [15]; and

- 'permanently resident OTDs' are those living in Australia on a permanent basis, as citizens or residents.

In 1998, 10,408 or 21.3 per cent of the employed medical workforce in Australia were OTDs. Most qualified in the UK (39 per cent), followed by Asia (28 per cent), New Zealand (12 per cent) and other countries (21 per cent). Of 1,901 rural and remote medical OTDs, 56.0 per cent qualified in the UK or Ireland, 15.6 per cent in Asia, 9.6 per cent in New Zealand, and the remaining 18.8 per cent in other countries.

[15] A small number of TRDs fall outside this definition, having trained in Australian medical schools.

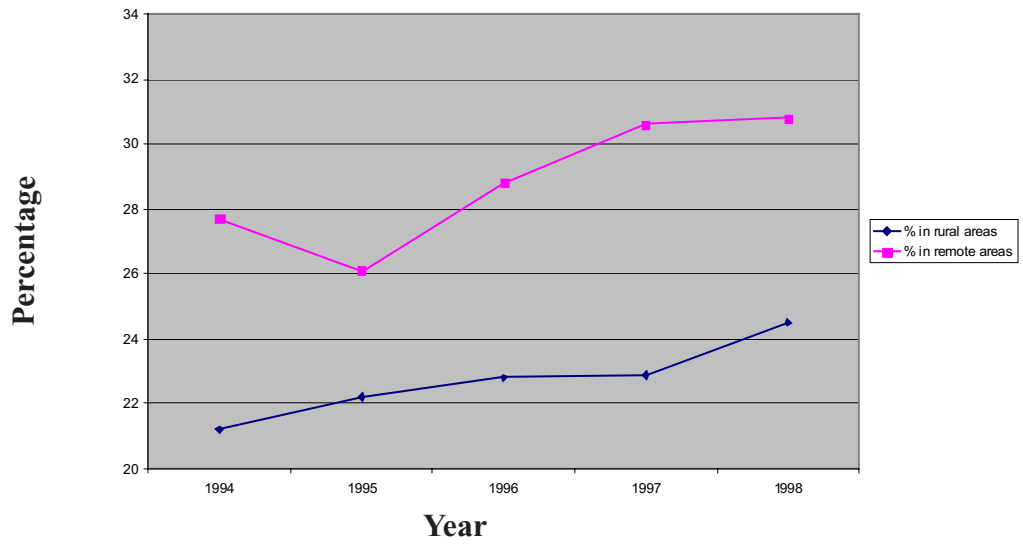
Figure 5: Temporary Migration of Non-Australian Medical Practitioners to Australia for Employment



Number of TRDs have been increasing in recent years as can be seen in Figure 5. Significantly, the 1998 AIHW survey shows 24.5 per cent of the rural and remote workforce and 30.8 per cent of the remote workforce had gained their initial medical qualification overseas. Figure 6 shows the increase in the proportions of OTDs in these areas since 1994, reflecting the (intended) effects of increasingly restrictive immigration rules and the Medicare provider number restrictions introduced in the mid 1990s (described in 5.2.2).

The number of GPs who gained their initial medical qualification overseas has remained static in metropolitan and large rural centres, but has increased in other rural and remote areas. Over the last ten years, FWEs have followed the same pattern in metropolitan and large rural centres. In other rural and remote areas, the share of the total GP workload carried by overseas graduates has increased, but at a rate lower than the increase in the number of such GPs. This indicates that overseas graduates have, on average, a lower workload claimed through Medicare than Australian graduates (Hirsch et al 2001).

Figure 6: Percentage of Rural and Remote Practitioners who gained their initial medical qualifications overseas



Temporary Resident Doctors

During the 1990s, increasing use has been made of TRDs to fill positions in public hospitals, rural general practice and locum services. The number of TRDs increased from 893 in 1993–94 to 2,224 in 1998–99, an increase of 124 per cent, with most of the increase occurring in the last three years. Most TRDs come for a stay of one year or less and their places of previous residence are predominantly the UK and Ireland (57.2 per cent), Asia (12.2 per cent), New Zealand (11.3 per cent) and South Africa (6.9 per cent).

Most TRDs enter Australia with sponsorship to work in an identified area of workforce need. Table 5 shows these TRDs by type of work and geographic location. The other large group are occupational trainees, who come to Australia primarily for training purposes, but who make a significant contribution to the hospital workforce in most States. Occupational trainees are further discussed in 3.3.7.

Table 5: Area of need TRDs, by type of work and geographic location, 1997-98

Work practice	Metropolitan		Rural/remote		Total	
	no.	%	no.	%	no.	%
Private practice only	78.0	51.0	75.0	49.0	153.0	100.0
Public hospital/private sector	58.0	36.5	101.0	63.5	159.0	100.0
Public hospital only	147.0	66.2	75.0	33.8	222.0	100.0
Other	8.0	40.0	12.0	60.0	20.0	100.0
Total	**291.0**	**51.6**	**273.0**	**48.4**	**564.0**	**100.0**

(Source: AMWAC 1999.3)

Permanently Resident Overseas Trained Doctors

OTDs are a significant source of permanent additions to the Australian medical workforce. In 1998–99, 408 OTDs permanently migrated to Australia. Of these, 39.5 per cent had previously resided in Asia, 14.1 per cent in New Zealand, and 16.3 per cent in the UK or Ireland. Historically, many of these permanent migrants have been unable to meet Australian registration requirements and have been unable to practise here.

A total of 230 permanently resident overseas-trained medical practitioners passed the AMC's clinical examination in 2000, one of the main requirements for general registration to practice. Fifty-nine overseas-trained non-primary care specialists qualified for registration after recognition of their qualifications by a medical college in 1998-99.

Table 6 shows the number of overseas-trained practitioners becoming eligible to practise in recent years. This number is expected to increase slightly from 2001 due to a steady increase in the number of candidates presenting for examination since 1998 and a change in the AMC examination format which will provide for more clinical examination places. The number of overseas trained non-primary care specialists gaining recognition also appears to be increasing, with 43 qualifying in 1996-97, 53 in 1997-98 and 59 in 1998-99, however there remain large numbers caught in the assessment process for considerable periods of time.

Table 6: Number of all medical practitioner types passing the AMC clinical examination, 1997-2000

Year	Number Sitting	Number Passing
1996	404	226 (55.0 %)
1997	429	222 (51.7 %)
1998	420	180 (42.8 %)
1999	469	240 (51.2 %)
2000	415	230 (55.4 %)

(Data source: AMC)

3.3 WORKFORCE DISTRIBUTION AND STRUCTURE – SECTORAL OVER- AND UNDER-SUPPLY OF PRACTITIONERS

3.3.1 Introduction

The uneven distribution of the Australian medical workforce is perhaps the predominant workforce policy issue, and one that has been a focus of governments and other agencies for some time.

Our main distribution problems are:

- shortages of practitioners of all kinds in rural and remote parts of Australia;
- an oversupply of GPs in capital cities;
- shortages of non-primary care specialists in certain disciplines, particularly affecting the public hospital system; and
- shortages of Indigenous doctors and of all doctors working in Indigenous health care.

In addition, there is an uneven spread of practitioners between States and Territories.

These imbalances impact to varying degrees on access to medical services by parts of the community, notably rural and Indigenous people and Australians of lower socioeconomic status, as discussed in Chapter 4. Most current and recent Commonwealth, State and Territory workforce policy initiatives - discussed in Chapter 5 - are focussed on achieving a distribution of practitioners that will provide more equitable access.

Determining adequacy of supply

Measuring workforce supply levels and determining their adequacy is extremely complex, as AMWAC has carefully elucidated. (See for example AMWAC 1998.8, 1998.7 and 1996.1. For a detailed discussion of the Committee's workforce analysis and projection methodology, see AMWAC 2000a). It requires agreement about what constitutes an adequate level of medical services, which leads ultimately to questions of medical necessity and efficacy and allocative efficiency. As noted in Chapter 1 and further discussed in Chapter 4, there is evidence that under Australia's health care system, provision of the bulk of primary care through private practice with fee-for-service subsidy by government, has seen demand for and utilisation of services follow practitioner supply independently of need. Strong growth (until recently) of the GP workforce, and a preference by the profession for metropolitan practice, has resulted in oversupply and over-utilisation of medical services in urban areas, while rural areas remain under-serviced. Marked differences in the health care needs and delivery environments of subgroups of the Australian population also preclude establishment of one 'natural' benchmark of adequate medical workforce levels.

Nonetheless, in recent years, availability of more comprehensive data and tools for analysis have enabled an increasingly detailed picture of the workforce to be drawn, and its structural imbalances better understood. Since 1993, the AIHW has conducted an annual national survey of registering practitioners, significantly improving on the data previously available for workforce planning. Since 1995, AMWAC has been analysing parts of the medical workforce and the supply and demand for medical services, and developing models for projecting future workforce requirements.

AMWAC has developed a set of possible indicators to assist in identifying and analysing medical workforce shortage in particular areas. These indicators are:

- doctor provision well below the national norm;
- prices significantly above the average (due to lack of competition);
- under-servicing and unmet need;
- higher waiting times;
- overworked practitioners;
- high levels of dissatisfaction with the stresses of overwork and inability to meet population need;
- substitution by alternative providers; and
- employment of TRDs to fill unmet need.

AMWAC has also proposed the following possible indicators of workforce in excess of need:

- doctor provision well above the national norm;
- growth of the workforce well in excess of population growth from a starting point of adequate supply;
- prices significantly below the average, or high adherence to a floor price;
- declining average practitioner incomes;
- supplier-induced demand and overservicing;
- underemployment;
- certain forms of market restructuring; and
- growth in marketing effort.

AMWAC's suggested possible indicators of workforce in balance are:

- a lean but adequate workforce with waiting times generally accepted by the community as reasonable;

- pricing of services neither at the floor price nor at a level which discourages patient attendances;

- long or short hours worked by choice and not necessity; and

- workforce growth in line with need indicators.

3.3.2 Rural and Remote Undersupply

AMWAC's workforce shortage indicators, listed above, are all in evidence in rural and remote Australia. In December 1998, 15.6 per cent of medical practitioners worked in rural and remote areas, serving 28.7 per cent of the population. The national average was 244.5 practitioners per 100,000 population, with metropolitan and rural/remote averages at 306.3 per 100,000 in capital city and other metropolitan areas, and 143.6 in rural and remote areas.

Medical workforce distribution is also uneven within rural and remote Australia (AIHW 2000b). In December 1998 there were:

- 266.9 practitioners per 100,000 population in large rural centres,
- 154.3 practitioners per 100,000 population in small rural centres;
- 91.1 practitioners per 100,000 population in other rural areas; and
- 105.2 practitioners per 100,000 population in remote areas.

(It should be noted that for a range of reasons these are not measures of the extent of undersupply. For example there are limits on sustainable medical practice in rural and remote areas, particularly applying to non-primary care disciplines - further discussed below.)

Indigenous Australians are notably affected by rural practitioner undersupply. While they represent only 2.1 per cent of the total population, they make up 13 per cent of the rural population, and 26 per cent of the population in remote areas. At the same time, 63 per cent of medical practitioners working in Indigenous health services work in metropolitan areas (AIHW 2000b). These practitioners are also unevenly distributed between States, with the ratio of doctors to Indigenous Australians being lower in the States and Territories with higher Indigenous populations (Bell et al 2000).

Basic infrastructure factors add to the disadvantage of rural and remote residents, particularly in the case of Indigenous communities. National data on motor vehicle ownership show that rural and remote areas with the lowest rates of ownership tend to be those with higher proportions of Indigenous Australians (Glover et al 1999 [16]). Some very remote communities, including outstations, have no telephone or radio contact, no roadworthy vehicles, and unreliable roads and airstrips. Water transport in the Torres Strait can be unreliable. Other barriers to Indigenous Australians accessing services are discussed in 3.3.5 below.

[16] Based on the ARIA classification.

Pricing of services is another marker of shortage. As is discussed in more detail in 4.3 below, in capital cities where medical practitioner supply creates competition, bulk-billing of GP services (that is with no payment charged to the patient) is more common than in rural and remote areas, and co-payments are smaller.

Also reflective of varying geographic supply of practitioners are per capita Medicare benefits paid. For 1999-00 these were:

- $195.87 in urban areas;
- $139.70 in rural areas; and
- $83.11 in remote areas.

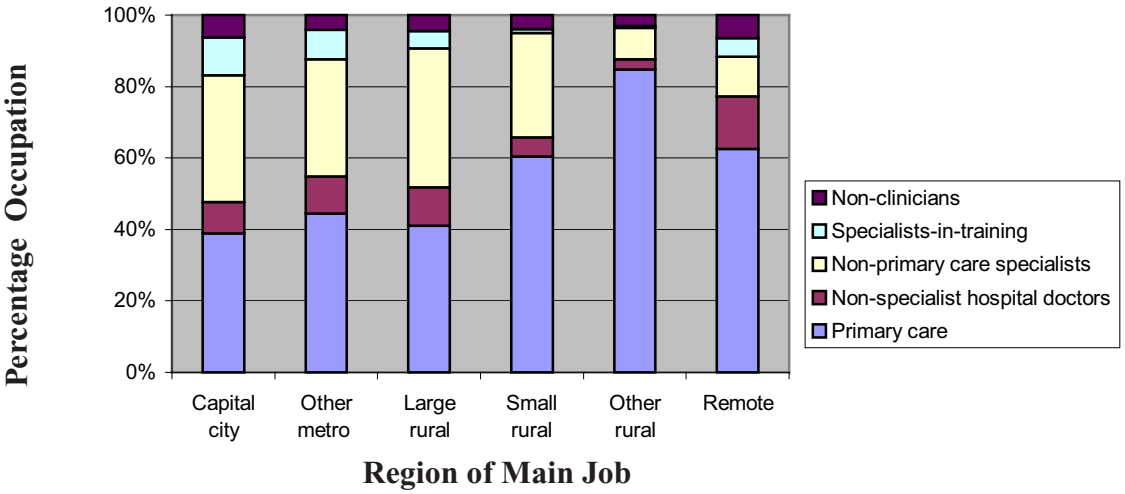
It should be noted that Medicare data underestimate usage of services in rural and remote areas because State provided community health services and Aboriginal Community Controlled Health Services are not necessarily reimbursed through Medicare. Also, social and cultural factors partly account for the difference in medical service utilisation between urban and rural areas. Rural males, for example, utilise medical services at significantly lower levels, in part because of attitudinal differences, which lead them to neglect their health and only consult a doctor for acute conditions (Humphreys et al. 1997; Commonwealth of Australia 2000; DHSH 1996). Nonetheless, it is reasonable to attribute a significant proportion of the difference in Medicare expenditure to the shortage of practitioners in rural and remote areas.

Within the above figures, expenditure differences between regions are significantly less marked for GPs than for other specialist attendances. This is consistent with differing proportions of GP and other specialist doctors in urban versus rural areas (See Figure 7). In 1998:

- 60.2 per cent of practitioners who worked mainly in rural and remote areas were employed in primary care; 25.7 per cent in other specialties; 7.4 per cent were hospital non-specialists; 2.6 per cent were specialists-in-training; and the remaining 4.1 per cent were non-clinicians (however see discussion of sustainability of rural practice below); and

- 39.3 per cent of practitioners in metropolitan areas were working in primary care; 35.2 per cent were specialists of other kinds; 9.0 per cent were hospital non-specialists; 10.4 per cent were specialists-in-training; and 6.2 per cent were non-clinicians (AIHW 2000b).

Figure 7: Employed medical practitioners: occupation and region of main job



(Data source: AIHW 2000b)

As noted in 3.2.5, hours worked by doctors are consistent with varying geographic distribution and surveys have found dissatisfaction among rural and remote doctors related to overwork due to workforce shortages (AMWAC 1998.8). Other differences between urban and rural practice exist, with urban GPs having smaller numbers of patients and providing significantly more consultations per patient (AMWAC 1996.1).

Shortages of non-primary care specialists in rural and remote areas mean that rural GPs substitute for other specialists, for example in the areas of general surgery, obstetrics and anaesthesia. Limited substitution of nursing staff for some activities normally undertaken by GPs occurs in some remote areas. (Nurse substitution is further discussed under 5.3.4.)

In remote areas the lower supply of GPs is partially offset by a higher provision of non-specialist hospital doctors with:

- 15.3 practitioners per 100,000 population in remote areas;
- 8.3 per 100,000 in small rural centres; and
- 2.6 per 100,000 in other rural areas (AIHW 2000b). [17]

AMWAC's most recent analysis is that there is a shortage of 1,238 GPs (or 1,118 FWEs) in rural and remote areas, based on the assumption that large rural centres in Australia have reached a situation of lean but adequate GP supply [18] (AMWAC 2000.2). No estimate has been made of the overall shortage of other specialists in rural areas, as this is complicated by provision of outreach services by metropolitan practitioners and by the requirements for sustainable practice in different fields, however as discussed in 3.3.8 below, shortages in individual disciplines disproportionately impact on rural populations and those dependent on the public hospital system.

Future Trends in Rural GP Supply

A recent analysis by Hirsch et al (2001) of Medicare data compiled since the introduction of Medicare in the mid-1980s, suggests significant and possibly worrying trends in rural GP supply.

Hirsch et al found that the number of GPs in rural areas has increased in most States, particularly in Qld, WA and the NT (Table 7). The exception is Tas, where numbers have remained static over the last five years. FWEs have increased since 1984-85, however in the last five years they have remained reasonably static or dropped in all States except Qld, WA and the NT (Table 8). Even in these States, the increase in FWEs is considerably less than the increase in GP numbers (Hirsch et al 2001).

Table 7: Number of rural GPs(1) by State and year

State	1984-85 No of GPs	1989-90	1994-95	1999-00
NSW & ACT	1,185	1,360	1,492	1,634
Vic	865	1,037	1,132	1,220
Qld	789	1,072	1,386	1,847
SA	359	372	406	451
WA	283	355	470	614
Tas	262	304	314	312
NT	46	90	88	132
Total	**3,789**	**4,590**	**5,288**	**6,210**

(1) GPs with at least one claim on Medicare and their major practice for the June quarter being in a rural area.

(Source: Hirsch et al 2001)

[17] Also of note, there are 65 per cent more hospital beds per person in rural areas than in capital cities. Accompanying hospital admission rates are 20 per cent to 40 per cent higher in the remote zone than in capital cities (although admission rates for remote area residents requiring specialist medical practitioners and equipment are lower, at between 70 per cent and 90 per cent of capital city rates). These differences relate to the inaccessibility of hospital facilities in rural and remote zones; for example residents with chronic conditions may be hospitalised more frequently if they need to travel great distances for follow up treatment (AIHW 2000a).

[18] The choice of large rural centres as a benchmark for assessing the need for GP services was based on macro level analysis and does not imply homogeneity across large rural centres.

Table 8: Rural GP workload by State and year

State	1984-85	1989-90	1994-95	1999-00
		FWEs		
NSW & ACT	832.7	918.0	1019.9	985.0
Vic	556.1	646.7	748.3	757.2
Qld	594.8	807.5	989.6	1,092.4
SA	210.3	235.6	261.2	262.1
WA	181.8	214.9	253.2	266.1
Tas	161.2	180.0	202.5	187.3
NT	13.8	19.2	28.5	33.8
Total	**2,550.9**	**3,021.5**	**3,503.8**	**3,583.3**

(Source: Hirsch et al 2001)

Of significance in relation to how rural workforce supply is trending, is the age profile of the rural workforce and their apparent work practices. Table 9 shows that over the past 15 years the proportion of GPs aged 50 or more has risen from 28.0 per cent to 36.9 per cent (Hirsch et al 2001). Table 10 shows that during the same period the proportion of total GP workload carried by these GPs rose from 29.5 per cent to 40.6 per cent. These results suggest that as older GPs retire, they are replaced by GPs who prefer lighter clinical workloads and are increasingly female, as discussed in 3.2.4.

Table 9: GPs[1] aged 50 or more by region[2] and year

Region	1984-85	1989-90	1994-95	1999-00	1999-00
	% of all GPs				Number
Metropolitan	28.5	26.9	29.3	38.7	6,972.0
Large rural centres	29.3	28.7	27.6	34.6	481.0
Other rural or remote	25.7	26.0	28.2	30.7	1481.0
Total	**28.0**	**26.9**	**29.1**	**36.9**	**8,934.0**

(1) GPs with at least one claim on Medicare.

(2) Based on the GP's major practice for the June quarter.

(Source: Hirsch et al 2001)

Table 10: GP workload carried by GPs aged 50 or more, by region and year

Region	1984-85	1989-90	1994-95	1999-00	1999-00
	% of total GP FWE				GPs aged ≥ 50 FWE
Metropolitan	30.2	27.3	31.8	41.9	5,349.8
Large rural centres	28.6	27.7	28.2	36.7	340.5
Other rural or remote	26.9	25.5	28.6	35.4	939.2
Total	**29.5**	**27.0**	**31.1**	**40.6**	**6,629.5**

(Source: Hirsch et al 2001)

Figures on GPs in rural areas with primary medical qualifications from overseas show similarly interesting trends (Hirsch et al 2001). The number of these doctors has increased in other rural and remote areas (Table 11) together with their share of the total GP workload (Table 12). Of note, the increase in numbers has been at a rate higher than the increase in their workload share of such GPs, indicating that OTDs have, on average, a lower workload claimed through Medicare than Australian graduates.

Table 11: GPs(1) who graduated overseas, by region(2) and year

Region	1984-85	1989-90	1994-95	1999-00	1999-00
	% of all GPs				Number
Metropolitan	24.0	23.6	24.6	24.7	4455.0
Large rural centres	22.7	21.8	22.8	23.7	329.0
Other rural or remote	25.2	24.3	24.6	31.1	1499.0
Total	**24.1**	**23.6**	**24.5**	**25.9**	**6283.0**

(1) GPs with at least one claim on Medicare.
(2) Based on the GP's major practice for the June quarter.
(Source: Hirsch et al 2001)

Table 12: GP workload carried by GPs who graduated overseas, by region and year

Region	1984-85	1989-90	1994-95	1999-00	1999-00
	% of total GP FWE				Overseas graduates FWE
Metropolitan	27.8	26.8	27.1	28.7	3658.8
Large rural centres	26.1	22.7	21.5	21.7	201.6
Other rural or remote	28.1	23.4	22.6	25.7	682.2
Total	**27.7**	**25.9**	**26.1**	**27.8**	**4542.6**

(Source: Hirsch et al 2001)

In sum, the analysis of Hirsch et al paints a picture of a larger rural GP workforce working less hours per practitioner. Large numbers of older GPs are carrying a larger share of the workload, with younger doctors increasingly working shorter hours. While the pattern of shorter hours is positive in terms of more sustainable work practices, it presents challenges in terms of workforce planning. Of note however, AMWAC modelling shows that marked improvements could occur in rural supply over the course of the next decade, depending upon retention rates (and other effects of) State and Territory OTD recruitment programs (discussed in 5.3.6) and the new dedicated GP rural training stream discussed in 5.3.2.

Sustainability of Services in Rural and Remote Areas

The above discussion shows significant differences in practitioner supply in different geographic areas. However these differences must be considered in the context of requirements for sustainable medical services of different kinds.

Population catchment and service infrastructure are key determinants for sustainable clinical practice. They determine whether resident services are feasible in a location, and also influence the type and level of services that can be provided. They are key considerations in addressing medical underservicing, particularly for rural Indigenous and non-Indigenous communities.

AMWAC has calculated need for GPs in particular areas with reference to:

- population size;
- age and sex structure of the population, for example to account for higher service usage by older persons and women;
- higher morbidity levels in low socioeconomic status populations;
- particularly high morbidity amongst Indigenous Australians; and
- different means of access to services in different communities, with more GP services accessed through hospital outpatient departments in rural areas.

The Committee has noted that the economics of GP practice and infrastructure requirements make it desirable that four or more practitioners are employed in a location. Of note, this is increasingly important for standards of care and to allow practitioners to undertake professional development and provide after hours care. Four or more practitioners require a minimum catchment population of between 4,000 and 5,000 people. While population dispersion in many areas makes this impractical, every rural centre of 1,000 or more people desires a resident GP and therefore small and solo practices are common. Significant subsidies are necessary to attract and retain practitioners in areas of particularly low population density and to make practices financially viable under Australia's health financing arrangements (AMWAC 1998.8).

Solo and small practices in rural areas need locum relief for leave and other purposes such as professional development (also known as continuing medical education (CME) or maintenance of professional standards (MOPS)), whereas in cities large practices often use internal rostering to cover leave and small practices can employ a locum or may close for a short period and redirect patients to other providers in the area.

AMWAC has also studied sustainable practice requirements for other specialist disciplines, with reference to:

- the factors listed above for general practice, including population characteristics which significantly affect catchment for individual specialties; and

- specific infrastructure needs of specialties, which variously include complementary services (pathology, pharmacy, radiology, specialist nursing and other allied health services), equipment (intensive and coronary care units, theatres, etc), the presence of a certain number of specialists in the same field for relief and the presence of appropriately qualified GPs to supplement an on-call roster.

Areas with population catchments of less than 10,000 people are too small to sustain resident specialist services in most disciplines (apart from primary care). Those with populations between 10,000 and 20,000 are large enough to support resident services in such areas as general surgery and anaesthesia, provided other discipline specific requirements are met.

Rural areas with catchments of 20,000 to 60,000 can support resident services in obstetrics and gynaecology, paediatrics, psychiatry, orthopaedic surgery, geriatric medicine and pathology. Urban and rural areas with catchments between 50,000 and 80,000 can support ear nose and throat services as well as dermatology, rehabilitation medicine, neurology and thoracic medicine.

Population catchments in rural and urban areas above 80,000 can support practice in urology, diagnostic radiology, intensive care medicine, nephrology and medical oncology. These services require support from facilities equivalent to those found in regional or urban referral hospitals. In radiation oncology infrastructure requirements impose a further population restriction, increasing the viable catchment size to 200,000. On average, population catchments necessary to support a rural outreach non-primary care specialist service range between 14,000 and 30,000 people. The level of service which can be provided is restricted by availability of appropriate infrastructure including support services and resident GPs able and willing to continue treatment. Regular consulting services generally can be provided in remote locations even if catchment populations are very small and infrastructure and support services minimal, but the provision of major diagnostic and procedural services depends on accessibility of hospital and support services, which means they are usually confined to large regional centres (AMWAC 1998.7)

Reasons for Practitioner Shortages

A number of studies have been made of the reasons for practitioner shortages (see literature review in AMWAC 1996.8; General Practice Strategy Review Group 1998; Department of Health and Aged Care 2000). Disincentives that apply to doctors relocating to or remaining in rural practice include professional, economic, educational and social/lifestyle factors. Factors and perceptions cited as disincentives include

geographical and professional isolation, comparatively poor remuneration (given higher hours worked and on call in rural areas), the cost of establishing and maintaining a practice and possible inability to recoup capital costs of surgeries and dwellings, the difficulties in obtaining and the cost of locum relief and lack of opportunities for spouses to pursue careers.

Movement in and out of the Metropolitan and Rural Workforces

Re-entrants to the workforce and retirements and withdrawals from the medical workforce are difficult to estimate. However a comparison of Medicare data [19] for GPs and OMPs (excluding temporary resident doctors and low-activity OMPs) showed that between 1997-98 and 1998-99:

- a larger number of metropolitan practitioners remained active in metropolitan areas between the two years than was the case for rural and remote GPs (93.4 per cent versus 88.1 per cent). The highest rate of practitioner 'outflow' was in other rural (19 per cent) and remote areas (42 per cent);

- fewer metropolitan GPs moved to active practices in rural and remote areas than the reverse (1.4 per cent versus 6.1 per cent);

- slightly more GPs entered or re-entered the GP workforce than withdrew (1,211 versus 1,113 practitioners), with 54.4 per cent of entrants going into the metropolitan workforce and 45.6 per cent going into the rural workforce (compared to 76.4 per cent of the 1997-1998 GP workforce being in metropolitan areas and 23.6 per cent in rural areas);

- of those entering and re-entering the rural workforce, 15.0 per cent went to large rural centres, 20.5 per cent to small rural centres, 42.6 per cent to other rural areas and 21.9 per cent to remote areas (compared to 24.4 per cent of the 1997-1998 rural GP workforce being in large rural centres, 24.3 per cent being small rural areas, 41.9 per cent being in other rural areas and 9.4 per cent being in remote areas);

- of those GPs entering and re-entering the workforce, more males than females went to the rural workforce (50.5 per cent of the males and 39.0 per cent of the females), with higher rates of both sexes in the under 30 age group going to the rural workforce; and

- of the 1,113 retirements and withdrawals, 28.4 per cent of the male GPs and 20.3 per cent of the female GPs were from the rural workforce (compared to 24.4 per cent of male GPs and 18.4 per cent of female GPs working in rural and remote areas where 28.7 per cent of the population live [20]).

[19] Cited in AMWAC 2000.2.
[20] AIHW 2000b.

Movement of Australian doctors in and out of the country is not high: in 1998-99, 604 Australian doctors returned after working overseas for a year or more and 421 left to take up temporary employment overseas. Movements over the preceding few years are similar (AIHW 2000b, 1999, 1998, 1997, 1996).

3.3.3 Urban Oversupply

Rural undersupply has long been a feature of the Australian medical workforce, however urban oversupply is a relatively recent phenomenon. As noted in Chapter 2, the rapid expansion of medical education in the 1960s and 1970s was followed by an oversupply of practitioners as a result of a range of demographic, economic and other factors. Attention focussed on this oversupply as health care expenditures grew while geographic maldistribution of practitioners persisted. The National Centre for Epidemiology and Population Health (NCEPH) noted in 1991 that workforce maldistribution increased over the 1980s, with the increase in the doctor population ratio not reducing the shortfall in bush (NCEPH 1991) [21].

AMWAC found that the GP workforce in 1994 was in considerable oversupply in capital cities, apart from Darwin. The latest AMWAC analysis, based on 1998 data and using quite different methodology, produced an estimate of metropolitan practitioner supply in excess of benchmark levels of approximately 2,300 GPs. Both demand and supply side indicators are cited in support of this finding.

- Demand side indicators include:
  - evidence of GP attendances increasing at a rate similar to workforce growth rather than to population growth; and
  - large differences in per capita consultation rates between different metropolitan regions without accompanying evidence of high consultation rates producing better population health outcomes.
- Supply side indicators include:
  - a capital city trend over the last 15 years for workforce supply to increase faster than population growth and estimated population need, while patients per full-time GP falls;
  - high Medicare bulk-billing rates in metropolitan areas, followed by a fall in those rates as workforce growth has slowed over the past two years;
  - low GP to patient ratios;

[21] Workforce reports suggest early indications of national oversupply in the late 1980s (see for example Doherty (1988)) and clear recognition from the start of the following decade (see for example NCEPH 1991).

- new fields of treatment of lower clinical need, such as plastic surgery, arising in a situation of practitioner competition; and

- increased advertising by some practices (AMWAC 2000.2).

Supply tends to be greatest in inner suburban areas of capital cities, which have the highest numbers of GPs per capita, although it should be noted that inner city practices tend to have higher proportions of patients who live outside the area, as they tend to serve commuters and travellers.

This oversupply is trending down with the slowing of GP workforce growth from 3 per cent in 1995 to 0.3 per cent in 1997 and 1.7 per cent in 1998 (AMWAC 2000.2).

3.3.4 Distribution of the Workforce Across States

There is considerable variation in the supply of practitioners across States and Territories. (Table 13 and 14) In December 1998 there was a 26.8 per cent difference between the States and Territories with the lowest and highest supply.

Table 13: Employed clinicians per 100,000 population by State and Territory

Occupation	All clinicians	Primary care	Specialists
NSW	255.1	111.0	90.2
Vic	243.4	113.5	96.9
Qld	225.6	104.5	72.6
SA	273.4	120.7	99.7
WA	220.3	98.7	78.0
Tas	233.5	125.9	72.0
NT	239.1	115.1	59.9 [22]
ACT [23]	279.4	124.5	96.0
Total	**244.5**	**110.6**	**87.5**

[22] A significant but unquantified number of specialist services are provided in the NT by SA-based specialists, who fly in for periods of up to a week.

[23] It should be noted that the ACT provides a significant number of medical services to residents of south-eastern NSW. In addition, the ACT has no significant rural areas and therefore comparing its level of clinicians per population with that of other States is not meaningful. Comparison of clinicians per population for capital cities shows Canberra having a lower supply than other cities.

Table 14: Comparison of clinicians per 100,000 population (1998), population share (March 1999) and commencing medical students' State of home residence (1999)[2]

State	Clinicians per 100,000 population (1998)	% share of population (1999)[(1)]	% share of commencing students - State of home residence (1999)
NSW	255.1	33.8 %	33.0 %
Vic	243.4	24.9 %	21.6 %
Qld	225.6	18.5 %	19.2 %
SA	273.4	7.9 %	10.0 %
WA	220.3	9.8 %	9.5 %
Tas	233.5	2.5 %	4.4 %
NT	239.1	1.0 %	0.7 %
ACT	279.4	1.6 %	1.6 %
Total Australia	**244.5**	**100.0**	**100.0**

(1) Data source: Australian Bureau of Statistics 1999

(2) The Territories do not have medical schools

A similar pattern was found in 1989 data, which used graduations rather than commencing students (Medical Workforce Data Review Committee, 1992). It was suggested at the time that the relative per capita discrepancy in medical school outputs between States contributes to geographic maldistribution of the workforce.

This uneven distribution, of both GPs and other specialists, is expected to lessen with the targeted allocation across States of GP training numbers and increases in training numbers in other specialties recommended by AMWAC (further discussed in 5.3.7 below).

3.3.5 Indigenous Australians and the Workforce

There are two problems in relation to Indigenous Australians and the medical workforce – they are under-represented in it, and are underserviced by it. At the time of the 1996 population census, there were 29 general medical practitioners, 12 practitioners-in-training, 20 non-primary care specialists and 21 medical administrators who identified as Indigenous Australians[24]. These doctors represented (at best) 0.2 per cent of the medical workforce, compared to 2.1 per cent of the population who identified as Indigenous in the same census (1996 ABS census data, cited in AIHW 2000b). In 1999, there were 21 Indigenous Australians who commenced initial medical training and a total of 63 in initial medical training at Australian universities (AIHW 2000b).

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 (with 309 of these indicating that it was their main job).

[24] Note: these are ABS census categories which do not accord with those of other workforce data collections, notably that of the AIHW.

This represents one per cent of the workforce, compared with 2.1 per cent of the Australian population who identify as Indigenous. The structural distribution of this workforce (that is, the proportions of GPs, other specialists and other occupations) is similar to that of the wider medical workforce, although of note:

- 36.4 per cent of these practitioners were female compared to the 28.1 per cent of the wider medical workforce who are female;
- 62.7 per cent were employed in a metropolitan area; and
- 61.1 per cent worked part-time (less than 35 hours per week) compared with 18.8 per cent of clinicians generally. The average was 20.7 hours per week compared with 48.8 hours per week for all clinicians.

The under-representation of Indigenous Australians in the workforce is significant (inter alia) due to the well-recognised cultural barriers to Indigenous Australians using medical services. Language and cultural differences can mean that health services are confusing and anxiety provoking, particularly where people are hospitalised. Many Indigenous Australians are reluctant to use services if providers lack understanding of their communities, cultural differences, socioeconomic circumstances and recent history, and will do so only if there is no alternative or a health problem is extreme.

Other barriers to use of services include:

- the location of services, which are remote from many Indigenous Australian communities. This is often compounded by a lack of transport and/or money to pay for transport;
- the cost of services; and
- the actual or perceived availability of a service.

In combination these barriers mean that access to appropriate primary care is low, contributing to poorer health status and a higher dependence on hospital-based care (as a result of failed prevention) (Bell et al 2000). Indigenous health outcomes are further discussed in 4.2.

Comparative statistics on health care utilisation and expenditures are also consistent with relative underservicing of Indigenous Australians by the medical workforce (and the health workforce more generally). A 1998 study found that:

- total per capita spending on health services for (and by) Indigenous Australians was only about eight per cent higher than for the non-Indigenous population; and
- government expenditures over one year on Indigenous and non-Indigenous Australians in the same economic position were approximately the same. As the

> health of Indigenous Australians as a group is almost certainly worse than that of non-Indigenous socioeconomically disadvantaged persons, this suggested that the needs of Indigenous Australians could not have been equally well met. (Deeble et al 1998).

While this research considered health rather than specifically medical service expenditure, it has also been established that Indigenous Australians do not access primary medical care at the same rate as the rest of the population, particularly given their poorer health (AIHW 2000a).

The pattern of spending on medical care for Indigenous Australians is very different to that of the rest of the population and is consistent with the effects of their underservicing. Expenditure on acute hospital and community care is higher for Indigenous Australians, while outside hospitals they use very few of the specialist medical services (and specialist prescribed drugs) which represented nearly 20 per cent of all non-Indigenous government outlays. This appears to be a function of geographic and cultural barriers to access (Deeble et al 1998). Despite relatively high expenditure on acute hospital care, hospital admission rates for the conditions from which Indigenous Australians typically suffer (such as circulatory, endocrine, respiratory, infectious and parasitic conditions) are not as high as corresponding mortality rates for these conditions. As hospital admission patterns generally follow mortality patterns, this suggests that utilisation of hospital care by many Indigenous Australians is not has high as it should be, given their health status (McLennon and Madden, 1999).

In sum, there is a clear undersupply of Indigenous doctors and, as discussed in 5.3.2, efforts are being made to recruit and support Indigenous medical students. As this supply is difficult to improve (the reasons for this are discussed in Chapter 5), more non-Indigenous practitioners are needed to work in Indigenous health, practitioners who can provide culturally appropriate care within integrated health services tailored by communities to their individual needs. Of note, the complex causes of Indigenous morbidity, and the critical importance of services being appropriate to individual communities, mean that Indigenous health workers, administrators and informed community members are also key to future improvements in Indigenous health status.

3.3.6 Locum and After Hours Doctors

Doctors providing locum services and after hours care, including through medical deputising services, comprise a significant part of the medical workforce. In December 1998, there were 1,484 locums, 275 deputising service GPs, and an additional 89 GPs working as both, a total of 1,848 practitioners. Of these, 1,339 (72.5 per cent) had their main job in a capital city (AMWAC 2000.2).

There is a lack of good data to analyse this part of the workforce at a national level. Comprehensive data and findings on the numbers of doctors performing these services and the adequacy or otherwise of the supply is not available. Nonetheless it is apparent that locums are in short supply in many rural areas of Australia and significant use is made of TRDs to supplement supply.

The difficulty of attracting doctors to this work, particularly in rural and remote areas, has been a persistent workforce issue and the focus of attention by governments and other players, given the high expectations of consumers for continuous care and the importance of locum relief in retaining rural practitioners.

Traditionally, locum services were provided by semi-retired doctors. In more recent times these services, and after hours care, have tended to be provided by young doctors, particularly in metropolitan areas, as employees of locum and deputising service organisations. However the introduction of the provider number restrictions, designed to ensure quality of primary care services and better practitioner distribution, has reduced the numbers of young doctors available to do urban locum work. The restrictions prevent doctors with no vocational training from accessing provider numbers. A concessionary provision applies to rural locum and after hours work, for which doctors without vocational qualifications may be granted a provider number if they work under supervision.

Locum and after hours work is (and has always been) unattractive to many doctors, variously due to the out of hours and weekend work involved, a preference by many doctors for working with their own patients, perceived inadequacy of the remuneration and concerns about safety.

A 1995 report found that only 52 per cent of a sample of rural GPs provided their own after hours care, suggesting significant substitution by hospital emergency department services may be occurring (Mira et al 1995). An even smaller proportion of metropolitan GPs provided their own after hours cover, relying instead on medical deputising services. A more recent study showed an overall trend, particularly marked in most non-metropolitan areas, towards decreasing utilisation of Medicare emergency after hours item numbers. This does not necessarily indicate a fall in the after hours workforce but may be due to substitution by the growing number of extended hours clinics in urban areas and use of hospital accident and emergency departments in rural areas. More work is needed to understand the relationship between supply, demand and patient access in this complex market (Pegram, 2000).

How shortages in these areas are trending is difficult to determine. On the one hand:

- shortages in GP locum and deputising services in metropolitan areas may ease with the trend toward larger group practices brought about by the Commonwealth's practice amalgamation initiative [25] and the corporatisation of general practice trend discussed in 2.5. It has also been suggested that the proportion of GPs working in larger practices will increase significantly in the next ten years, which will have the effect of reducing the requirement for locums (AMWAC 2000.2); and

[25] Amalgamation incentives were introduced in March 1999, as part of a broader program to promote microeconomic reform in general practice. Incentives were made available to small practices (up to five FTE GPs) to investigate amalgamation options and to assist with the costs of amalgamation itself. Over 200 amalgamations were assisted through the program which closed in September 2000. It is currently being evaluated.

- locum work appears slightly more popular among female than male GPs, so that increasing female participation in the workforce may reduce the shortage (Harding, in Commonwealth Department of Health and Aged Care 2000).

Others however view increasing female participation and related changing work patterns as potentially worsening locum shortages (see for example, Power and Aloizos in Commonwealth Department of Health and Aged Care 2000).

The difficulty of filling locum and deputising positions is sometimes cited as evidence of a shortage of GPs. However as AMWAC has noted (2000.2), the markets for GPs and locums are quite different, and adding GPs to the workforce would not guarantee that locum positions would be filled. The size of the locum workforce is clearly related to the attractiveness of the work.

Efforts to address locum and after hours shortages are discussed in 5.3.3.

3.3.7 The Hospital System

Public hospitals in particular report difficulty in filling non-specialist resident medical officer and career medical officer positions. National data on this shortage is limited. AMWAC estimated in 1996 (that is, prior to the introduction of the provider number restrictions) that it was in the order of 300 to 400 practitioners, although given the long working hours reported by these practitioners, the shortage could have been greater (AMWAC 1996.1).

It is not clear why the level of vacancy of hospital non-specialist positions is high, particularly as the introduction of the provider number restrictions has meant large numbers of doctors without vocational training remaining in hospitals (see 5.3.5), and as the number of TRDs working in hospitals has increased significantly. It may be that shorter hospital stays have increased non-specialist medical work by concentrating resource intensive activities such as admission and discharge.

AMWAC studies of the hospital non-specialist workforces which are currently underway will update the shortage estimates and may indicate trends and underlying factors.

Use of Occupational Trainees

Significant use of occupational trainees by the public hospital system may be symptomatic of the difficulty of recruiting doctors for both specialist and non-specialist hospital positions. Occupational trainee TRDs come to Australia to undertake a supervised training program that is designed to increase the trainee's skill level in their occupation or area of expertise. They have an employment or attendance arrangement with (usually) a teaching hospital for the purposes of undertaking the training and experience. However anecdotal evidence suggests that some trainees are filling positions with a large service component that may be difficult to fill with local doctors, and that some are so poorly remunerated that they rely on Medicare rebates

for assistance at operations to achieve a reasonable income. In 1998-99 nearly 600 occupational trainees arrived in Australia, and numbers are rising at the rate of over 25 per cent per year (AIHW 2000b; AMWAC 1999.3).

3.3.8 Specialist disciplines

Australia has shortages or developing shortages in a number of medical specialties potentially affecting significant parts of the community. This is an important issue for governments, as shortages are most pronounced in rural and remote areas and public hospitals, as well as some metropolitan areas of private practice. Rural, Indigenous and low income Australians are therefore disproportionately affected by undersupply.

In 1996, AMWAC conservatively estimated a national shortage of 900 (FTE) non-primary care specialists, based on information available at that time, and noting that State and Territory health authorities identified 19 specialties experiencing shortages in the public hospital system.

Since that time AMWAC has reviewed 19 specialist disciplines, describing the characteristics of the workforces, assessing the adequacy of the workforce and estimating future supply and requirements. While findings have been diverse, significant shortages are clear:

- 11 specialist disciplines are facing current or imminent overall shortage. Those with current shortages include anaesthesia, dermatology, thoracic, rehabilitation medicine, geriatric medicine, intensive care, psychiatry and radiation oncology. Those facing imminent shortage include urology, orthopaedic surgery, and ear, nose and throat surgery.

- Others have regional shortages (eg opthalmology) or other supply difficulties, such as within sub-specialty areas.

One discipline, paediatrics, is predicted to have an oversupply of practitioners if training numbers are not adjusted downwards. (For a summary of findings, see AMWAC 2000.5.)

Indicators of shortages include comparatively low or uneven specialist to population ratios, public hospital job vacancies and long waiting times for treatment (particularly affecting public patients). Data from 1995-96 on public hospital waiting times showed waiting and waiting list clearance times above the average in specialties assessed by AMWAC as experiencing shortages (AIHW 1998). It should be noted however, that specialist waiting times are influenced by factors apart from workforce supply, such as public hospital funding for services and infrastructure requirements [26].

[26] See discussion of waiting times as an indicator in AMWAC reports on individual disciplines.

In its 1999 review of TRDs in Australia, AMWAC found some growth in their utilisation in some specialties, including general medicine, psychiatry, anaesthesia, paediatric*s,* emergency medicine, intensive care, general surgery, diagnostic radiology, orthopaedic surgery, obstetrics and gynaecology and cardiothoracic surgery. Most of these are disciplines with practitioner shortages (AMWAC 1999.3).

Action to address these shortages is discussed in 5.3.7.

CHAPTER 4 - WHY PLAN AND INTERVENE IN THE MEDICAL WORKFORCE?

4.1 BACKGROUND

Why do Federal and State governments plan and intervene in the medical workforce? Why do other organisations, such as specialist medical colleges and university medical schools, also seek to influence workforce outcomes? As with any profession or sector of the economy, the justification for regulation or other intervention, and the extent and type of intervention which is appropriate, are important issues.

Governments plan and intervene in medical workforce matters with the objective of ensuring access by the whole community to quality medical services. This objective is central to our health care system, and enjoys consistent community support. As noted in Chapter 1, universal access requires:

- a medical workforce which matches population need – that is, enough doctors of the right kinds in the right places;

- the best expenditure of finite public resources - applying the rationing principle that services are accessible on the basis of individual need rather than ability to pay; and

- medical services which are safe, of high quality and culturally appropriate.

These objectives overlap with those of other participants in workforce policy and planning, notably universities, the medical colleges and professional groups such as the AMA.

Without intervention by governments and other bodies, these outcomes cannot be assured. As discussed in Chapters 2 and 3, recent history shows that the geographic and structural distribution of the workforce have not matched population need, resulting in underservicing of parts of the population, notably rural and Indigenous Australians and those reliant on the public hospital system. The significance of this is discussed in 4.2 below. Oversupply of practitioners in other parts of the country can lead to unnecessary expenditure of public money on medical services as well as price distortions which make access by different parts of the community unequal, as discussed in 4.3 – 4.4. Intervention is also required to ensure safety and quality of services provided, including to reduce cultural barriers to accessing medical care, as discussed in 4.6.

4.2 A MEDICAL WORKFORCE WHICH MATCHES POPULATION NEED - THE GREATER HEALTH NEEDS OF UNDERSERVICED GROUPS

As discussed in Chapter 3, practitioner shortages exist in many rural and remote areas, and in metropolitan areas in certain non-primary care specialist fields. The health status of rural and Indigenous Australians is therefore of particular concern in workforce policy

and planning. Low income earners are also of concern, especially in relation to non-primary care specialist shortages, as waiting times for care as a public patient can be significantly longer than those for private patients [27].

The health of rural and remote communities, Indigenous Australians and persons on low incomes is measurably poorer than that of the wider community. The combined impact of rurality, Aboriginality and low income level in limiting access to medical care should be noted: the socioeconomic status of country residents is generally lower than that of city dwellers and Indigenous Australians are generally poorer and more likely to live in rural and remote areas than the wider population.

The health status of rural Australians declines with distance from metropolitan and regional centres. Mortality rates are higher in rural and remote regions, reflecting the greater proportions of Indigenous Australians in populations in these areas. (Strong et al 1998. Unless otherwise stated the statistics quoted in this section (4.2) are from this source and are based on the RRMA classification.) Rural health also features, by comparison with that of metropolitan residents:

- a higher rate of premature death from injury or accidents particularly among men;
- higher rates of road injuries and fatalities, the latter linked to remoteness of accident sites and consequent lack of access to facilities and medical professionals;
- higher mortality related to coronary heart disease, diabetes and asthma;
- among people over 65 years, higher rates of hospitalisation and death from falls or burns;
- in remote areas, higher incidence of low birth weight and infant mortality, including that from sudden infant death syndrome. (The higher proportion of Indigenous Australians in remote areas is a particularly significant factor in these rates);
- lower incidence of cancer detection possibly reflecting better diagnostic services available in the cities;
- in terms of health risk factors among rural women, higher rates of obesity, higher alcohol intake in small rural centres and higher rates of smoking in remote area; and
- suicide, depression and other mental health problems, with the suicide rate of men noticeably higher in rural areas.

[27] See for example AMWAC 1998.6 and 1997.6.

The poorer health of Indigenous Australians is the most significant contributor to these indicators. As a group, they have far higher mortality and morbidity rates than the non-Indigenous population, including:

- an extremely high perinatal mortality rate compared to the total Australian population and a high prevalence of diarrhoeal, parasitic and respiratory disease in infancy. While considerable gains have been made in infant mortality since the early 1970s, improvement has slowed in recent years, and rates have stabilised at unacceptably high levels (over two and a half times the all Australia rate);

- among those in their early twenties and thirties, a high incidence of psychiatric disorders, homicides, assaults, suicides and motor vehicle accidents. This is associated with high rates of alcohol and other substance abuse;

- death rates for young adults up tp ten times that for the rest of the Australian population;

- among those of middle age and older, type two diabetes mellitus, hypertension and ischaemic heart disease;

- high rates among adults of smoking and alcohol abuse, and a high incidence of liver, lung and cervical cancer; and

- mortality rates in middle age amongst the highest recorded in the world, with rates in early middle age estimated to be six to eight times greater than the rest of the Australian population. There has been little improvement in adult rates over the last 20 years, and this lack of progress is virtually without precedent on a world scale (AIHW 1996; Lowe et al 1995; McLennon and Madden, 1999).

Health differentials associated with socioeconomic status have been repeatedly identified in Australia, with many indices showing a clear gradient with greater disadvantage. Persons of lower socioeconomic status have higher mortality rates, are more likely to suffer from disability or chronic or recent illness, and more likely to report experiencing only fair or poor health.

Analysis of mortality for 1997 and 1998 found that males in the most disadvantaged socioeconomic quintile experienced 12 per cent higher mortality than the average Australian male, and 30 per cent higher than males in the least disadvantaged quintile. For females, the latter difference was 16 per cent. One recent analysis found a 3.6 year gap in life expectancy at birth for males between the top and bottom quintiles of socioeconomic disadvantage, and nearly a two year gap for females (AIHW 2000a). Although there has been improvement in mortality rates overall since 1986, disparities in death rates between residents of well-off versus poorer areas have not reduced (Glover et al 1999).

The higher mortality of low socioeconomic groups is related to circulatory and respiratory disease, ischaemic heart disease and lung cancer, and injuries and poisoning (Glover et al 1999). A national health survey in 1995 found arthritis, asthma, bronchitis/

emphysema, ulcer and diabetes to be more common in the most disadvantaged areas of Australia (AIHW 2000a). People in these areas also have greater self-reported morbidity and higher rates of risk factor behaviours (Wiggers 1997).

The poorer health outcomes of rural, Indigenous and low income Australians are not generally attributable to lack of medical services. For example, as discussed in 4.3 below, differences which are unrelated to medical workforce supply are accounted for, the health of rural and urban populations does not differ. The differences are largely attributable to lower socioeconomic status and the complex interrelationships between social, economic, political and cultural processes and institutions and individual actions. (The concentration in metropolitan areas of migrants, who enjoy better health than the general population due to stringent health requirements for migrant visas, is also a factor here.) For Indigenous Australians, dispossession, racism, family separation and loss are additional and interrelated factors.

While medical under-servicing is not a significant cause of poor health, appropriate services are essential for addressing the greater health care needs of the three groups. Access to preventative medicine is important to address the affects of their socioeconomic and related disadvantage, while practitioner shortages result in unmet medical need, an extent of preventable hardship and in some cases, acute conditions and complications that require more intense forms of treatment. This is particularly the case in many Indigenous communities, where a combination of practitioner shortages, remoteness from services and lack of transport and the cultural inappropriateness of some services, mean that primary health care is not accessed and conditions become serious before they are treated. This is a situation which is not only plainly inequitable, but inefficient in terms of health resource usage. The need for intervention to ensure cultural appropriateness of care is further discussed in 4.6.

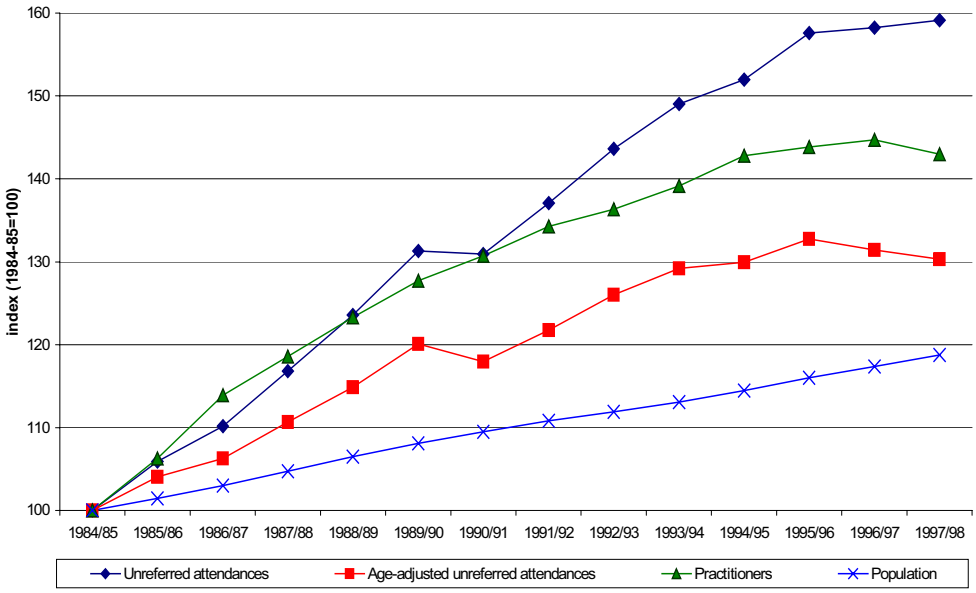
Rural practitioner shortages may be in part responsible for the treatment choices which rural people make. Rural women are more likely to choose tubal ligation, hysterectomy and mastectomy, if they are either unable or unwilling to access services requiring repeated or prolonged attendance away from home. In Victoria, in 1996-97, an urban woman was 47 per cent more likely than a rural woman to have a lumpectomy rather than a mastectomy (Wainer 1998).

4.3 BEST EXPENDITURE OF FINITE RESOURCES - MALDISTRIBUTION, CONTAINING HEALTH CARE COSTS AND ALLOCATIVE EFFICIENCY

Over the period 1976 to 1996, Australia's medical workforce increased in size by 108 per cent, while population growth rose by only 30 per cent. Importantly, the growth in the size of the workforce did not result in practitioner unemployment, nor disappearance of the long-standing sectoral shortages in the workforce. Instead, an oversupply of urban GPs was created, while shortages in rural and remote areas remained, together with an overall shortage of non-primary care specialists. During the same period, health expenditure rose from 7.2 per cent to 8.2 per cent of GDP. Expenditure on medical

services was an important component of this growth [28], and GP attendances in turn were an important component of growth in medical services expenditure. Overall, the level of services utilised matched the growth in the supply of doctors (AIHW 2000a), as illustrated in Figure 8 for GP services and practitioners.

Figure 8: Growth in unreferred attendances, non-specialist practitioner numbers, age-adjusted unreferred attendances and population, 1984-85 to 1997-98



Source: Commonwealth Department of Health and Aged Care (unpub); ABS Cat. 3101.0

This growth in medical service utilisation was related to a number of factors, including a significant shift in health care delivery from institutional to community settings, medical and technological advances improving diagnosis and treatment of illness, increased medical knowledge and increasing specialisation of practitioners, improved access to services (that is, addressing previously unmet need), population ageing, rising real household incomes and better consumer education and awareness.

However there is also evidence that growth in service utilisation is related to 'supplier induced demand' (SID), where circumstances allow or encourage service providers to generate demand. In the metropolitan GP market, an oversupply of practitioners over the last two decades has created competition for patients which has increasingly forced the price of services down to the floor, being the Medicare rebate level. From this point the number of services delivered to each patient can increase with no cost to the patient, thus creating potential for practitioner income to be maintained in a situation of workforce oversupply. In this way our system of fee-for-service public funding of medical care can encourage doctors to deliver and patients to consume more services than they otherwise would. (For discussion of SID see, for example, Richardson 1998 and Scotton 1998).

[28] For example, the contribution of growth in medical services utilisation to real per capital growth in recurrent health expenditure between 1984-5 and 1996-7, was 24 per cent (Commonwealth Department of Health and Aged Care, 1999)

Drivers of demand for services include:

- 'moral hazard', which describes the effect of incentive on behaviour, for example the increase in services instigated by suppliers (in this case practitioners) and consumers (in this case the patients) when a third party (in this case the Government) is paying for a service; and

- 'information asymmetry', which describes the imbalance in information held by suppliers and consumers. In a perfectly competitive market, consumers have sufficient information and are able to make purchasing decisions based on their assessment of their need and judgement about the price they are willing to pay. Inherent in the relationship between patient and doctor is extreme information asymmetry, such that patients often have difficulty assessing their health needs, and are often unable to make judgements about aspects such as adverse outcomes. With patients lacking the knowledge necessary to determine their own need for services, doctors may determine service use.

Income considerations, as well as other factors such as the practice of defensive medicine, may lead practitioners to deliver and order services that they otherwise would not. Consumers, seeking the best possible care and not required to meet the cost of services, have little incentive to question their necessity. Doctors in an oversupplied market may be more inclined to comply with any patient expectations of referrals, prescriptions and other health services, in order to reduce the likelihood of patients going to another practitioner (Oxley and McFarlan 1994). Indeed Medicare data demonstrates that doctors in over-supplied metropolitan areas tend to have shorter consultations, arrange more follow up consultations, and order more medications and diagnostic tests per capita than doctors in other areas. (See the discussion of drivers of growth of health care expenditure in Commonwealth Department of Health and Aged Care, 1999.)

Of interest, while growth in GP numbers has slowed since the early 1990s when workforce restrictions began to be introduced, and numbers of GPs per capita have actually fallen from 1995-96 levels in capital cities, supply of medical services per capita has remained constant (Commonwealth Department of Health and Aged Care, 1999).

Importantly, evidence is lacking that health outcomes improve where workforce numbers increase in already adequately serviced areas. As AMWAC has noted, if a greater supply of doctors was to have a positive effect on health outcomes, we would expect to see better health in capital city populations than in rural areas, over and above that related to the higher socioeconomic status, lower Indigenous populations and higher migrant populations of capital cities. Instead, on such measures as mortality, hospitalisations and risk factors, as well as on self-assessed health status, higher GP servicing in capital cities does not appear associated with better health outcomes (AMWAC 1998.8)[29].

[29] While most studies support the view that health outcomes do not improve with medical workforce increases, a recent Organisation for Economic Cooperation and Development (OECD) study suggested that doctor numbers have been strongly associated with lower mortality in OECD countries, after allowing for a range of other determinants, including socioeconomic status (Or, 2000). However, further is required to assess the applicability of this finding to health outcomes in urban Australian.

At best, an oversupply of medical practitioners means public and private spending on medical services at a level of low marginal return and unnecessary spending on medical training. More seriously, health outcomes can be negatively affected if over-servicing results (for example, overuse of medication and radiation from unnecessary imaging) or if quality of care is reduced because the economies of practice encourage greater throughput of patients with resulting shorter consultation times (Moynihan 1998; AMWAC 1998.8). Oversupply in a workforce may also produce underemployment and a related risk of loss of practitioners' skills.

4.4 MALDISTRIBUTION AND ACCESS BASED ON MEDICAL NEED

4.4.1 Background

As discussed in Chapter 2, Medicare provides public hospital treatment at no charge to the patient, as well as significant rebates for privately provided medical services. Different levels of rebate apply to private services, for example according to:

- the type of service and the time, level of complexity and technical difficulty involved; and

- the type of practitioner, with different rebates applying to GPs and other specialists.

Private practitioners either:

- direct-bill or 'bulk-bill' Medicare for services delivered, undertaking to accept the relevant Medicare benefit as full payment for their services; or

- charge individual patients a fee, leaving them to claim the rebate for the service from Medicare or from a private health insurance fund (in the case of in-patients with insurance cover). The fee differential, the 'copayment' or 'gap', is not insurable and can be sizeable to the point of impeding access in instances where equivalent bulk-billed or public treatment is unavailable or subject to long waiting periods [30].

4.4.2 The Effect of Practitioner Supply on Pricing of Services

Of relevance in relation to the distribution of the medical workforce, bulk-billing rates and copayment sizes vary considerably, with one determining factor being the level of practitioner supply. There is evidence from the metropolitan GP market that oversupply of practitioners can create competition which drives prices down to the Medicare rebate level, and that undersupply and lack of competition in some circumstances enables practitioners to set fees at higher levels.

[30] In the case of in-hospital services, the gap is the difference between the fee charged and the combined Medicare and health insurance benefit.

Medicare statistics consistently show that urban GPs have higher rates of bulk-billing than rural ones, with the 1999-2000 rates declining with greater rurality from an average of 85.4 per cent in capital cities to 59 per cent in remote centres [31]. Further, rates of bulk-billing in the undersupplied non-primary care specialist market are much lower, with an average of 32 per cent of attendances bulk-billed compared to 79 per cent of GP consultations [32]. The following rates of bulk-billing for non-primary care specialist services [33] across regions show a decline with rurality, although this is less marked and not as consistent as that for GP services:

- capital cities - 44.3 %
- other metro centre - 41.9 %;
- large rural centre - 38.3 %;
- small rural centre - 44.9 %;
- other rural - 37.7 %;
- remote centre - 40.0 %; and
- other remote area - 44.7 %.

There also appears to be a relationship between practitioner supply and copayment size for attendances which are not bulk-billed. In 1998-99 the average out-of-pocket cost for all non-primary care practitioners services (averaged over total services, both bulk-billed and involving a copayment) was $1.61 in capital cities, $3.72 in rural areas, and $4.19 in remote areas (Hynes in DHAC 2000). In 1999-00, the average patient contribution for GP services (averaged over services involving a copayment, that is *excluding* bulk-billed services) was $10.46, for other specialist services was $20.31, and in the notably undersupplied field of anaesthesia was $51.89 [34].

The relationship between practitioner supply and bulk-billing is not a simple one and nor is that between supply and copayment levels. The effect of copayments on patient access is similarly unclear, and as yet not well researched (Wiggers 1997).

- For example, while variations in bulk-billing rates certainly represent an extent of unequal access, lack of bulk-billed GP services does not necessarily bar access. Many people in rural areas obtain GP-type services through hospital casualty departments or other public facilities, including Aboriginal Medical Services. (The limited evidence available suggests that this is due to a shortage of private practice GPs and/or to the cost associated with private services.) However, while the outpatients alternative may ensure access for some, it is not (geographically) available to all and may not necessarily offer the same continuity of care that a general practice would provide.

[31] The bulk-billing rate in 'remote other' regions in 1999-00 was 71 per cent, which could be due to bulk-billing by Aboriginal Medical Services in remote locations.
[32] Medicare statistics 1999-2000. For these and average payment contribution figures below, specialist services do not include obstetrics, anaesthetics, pathology and diagnostic imaging services, operations and optometry.
[33] Medicare statistics 1999-2000, excluding optometry, diagnostic imaging and pathology.
[34] These figures are for out-of hospital services only. Medicare statistics 1999-00.

- In addition, there is a relationship between socioeconomic level and bulk-billing, with the highest GP bulk-billing rates in the most socioeconomically disadvantaged areas. There is also evidence of a relationship between socioeconomic disadvantage and size of copayments in different locations (AMWAC 1996.1 and 2000.2).

- Further, while many metropolitan general practices may bulk-bill all patients (in order to be competitive in a situation of oversupply), rural GPs and non-primary care practitioners may bulk-bill selectively according to individual ability to pay.

Many other variables, including rebate sizes and institutional factors such as public funding priorities, will all interact with practitioner supply in determining the extent of competition in different fields of medicine and in different locations, and the concomitant bulk-billing rates and copayment sizes. Paterson (1994) observed in relation to the influence of the pricing and structure of the Medicare Benefits Schedule, that private psychiatric practice readily provides a good income, remunerated almost entirely from benefit payments. This is of interest in view of the fact that psychiatrists are in short supply, but have a higher average rate of bulk-billing and a lower average copayment size than some other undersupplied disciplines (AMWAC 1999.7; Medicare statistics 1999-00).

The factors determining pricing of medical services in our fee-for-service funding system are many and interrelated and not well understood. Nonetheless it is evident that workforce imbalance does distort pricing, which is undesirable for a range of reasons, including that it creates unequal access.

4.4.3 Supply of Non-Primary Care Specialists and Individual Access

Access to non-primary specialist care on the basis of need may be impeded due to the combined effects of practitioner shortage and the fact that we do not have a single queuing system for elective non-primary specialist care, with the potential for public and private patients to wait different periods for care. A 1999 study found that while disadvantaged groups in major urban areas had higher rates of health service utilisation, they had lower rates of hospital admissions for procedures of myringotomy, hip replacement, lens insertion and endoscopy (Glover et al 1999). Other studies have found some evidence of inequality in use of non-primary care specialist services in favour of higher income groups, particularly given their better health status (Scott 1996; Wiggers 1997).

It has been argued that cost containment efforts in the public hospital system over the last decade have extended waiting times for elective inpatient treatment and restricted the services available from public hospital outpatient departments (McClelland and Scotton 1998). This appears to have been exacerbated by workforce shortages in some specialties in the public sector. For instance, a recent study of the psychiatry workforce found unacceptably long waiting times for care and significant numbers of psychiatry positions vacant in the public sector (AMWAC 1999.7).

Private treatment is not an alternative for all where public hospital waiting times are lengthy. Approximately 50 per cent of the population does not have private insurance and for those who do, gap payments for hospital inpatient treatment as a private patient can be significant. Ambulatory care is not covered by private health insurance and copayments can be sizeable where practitioners do not bulk-bill.

Uneven geographic distribution of practitioners in metropolitan areas, with concentrations of practitioners of all kinds in the inner cities (AMWAC 1999.4) may also impede access. This is unlikely to be significant in relation to primary care, as capital cities have too many GPs, and even outer metropolitan areas tend to be adequately supplied. However the concentration of non-primary care specialists (and tertiary hospitals) in inner cities, imposes time and travel costs on less well-off communities in outer metropolitan regions.

We do not have a good understanding of the various impacts of scarcity of public services, waiting times and transport on access to services by persons on low incomes (Wiggers 1997) and more work is needed to improve our understanding in this area. It should be noted in relation to the available data on differentials in service utilisation, that while differences in treatments like hip replacements may be significant, it is also the case (both in Australia and other Western countries) that private patients may be receiving services of uncertain efficacy, which means that the services they receive are not a benchmark of necessary care.

4.5 COMPETITION POLICY AND MEDICAL WORKFORCE PLANNING AIMS

In recent years the role of competition policy in the medical workforce has emerged as an additional issue related to practitioner supply and patient access.

4.5.1 Background

The *Trade Practices Act 1974* (TPA) was enacted in 1974 to protect consumers and business from unlawful anti-competitive conduct and unfair market practices.

Part IV of the TPA contains the competition laws, and these have an impact on the business aspects of all professions. The Australian Competition and Consumer Commission (ACCC) is an independent, statutory authority responsible for monitoring compliance with, and enforcement of the TPA. There is provision in the TPA for the ACCC to sanction anti-competitive behaviour provided that a clear public benefit can be shown.

In 1995 all Australian governments agreed to a National Competition Policy with the result that each State and Territory has enacted competition codes which mirror part IV of the TPA. It has been the responsibility of each jurisdiction to review its legislation within a specified time frame to remove anti-competitive restrictions. The most obvious implication for medical professions is the review of State and Territory Medical Acts. The National Competition Council (NCC) was established to review that legislative process and provide advice to governments.

4.5.2 Workforce Regulation

As discussed elsewhere in this paper, the medical workforce is 'regulated' in a number of ways, including via legislative restrictions, professional restrictions and financial restrictions, designed to balance workforce supply with population need and/or to ensure quality and public safety.

- Medical registration legislation restricts permission to practise to doctors who are competent. WA's *Medical Act 1894*, for example, requires a practitioner to:

  - be competent to practise medicine (that is, to have sufficient physical capacity, mental capacity and skill);
  - have a sound knowledge of the English language and sufficient skill in the expression of that language, both written and oral, for the practice of medicine; and
  - be of good character.

- The Commonwealth determines the number of Australians studying medicine, to avoid workforce oversupply (further discussed in 5.2).

- Medical colleges influence entry to specialist practice through their power to grant Fellowship to Australian trainees who have satisfied college requirements and demonstrated competence in their field, and to overseas trained specialists with equivalent qualifications who wish to practise here. This recognition is necessary for both groups to obtain specialist registration (applicable at present in only SA and Qld), to secure employment as a specialist in certain institutions, and to provide services which attract Medicare rebates at the specialist or vocationally registered level.

- Through the provider number restrictions, the Commonwealth restricts access to Medicare to specific groups of medical practitioners to ensure quality, equity and cost-effectiveness. Excluded are doctors without recognised postgraduate qualifications, as well as TRDs and permanent resident OTDs, although exemptions are granted if doctors are working in districts of workforce shortage (further discussed in 5.2.2 and 5.3.5).

4.5.3 Anti-Competitive Behaviour in the Medical Workforce

Over recent years the ACCC has expressed concerns about specific activities of the medical profession and whether these activities may involve anti-competitive practices such as price setting, collusive bargaining, credentialling for doctors to practise in hospitals and restricted entry activities of medical colleges. While all these issues impact on workforce planning to a greater or lesser extent, it is the restricted entry issue that has the potential to most directly impact on supply and planning.

As noted, specialist colleges have considerable influence over entry to the medical workforce by:

- selection of trainees into training programs;
- accreditation of training placements in institutions;
- assessment of trainees performance in training programs; and
- the recognition of OTDs wishing to practise as non-primary care specialists in Australia.

Colleges also influence aspects of ongoing workforce participation, such as by verifying practitioners' ongoing medical education (CME or MOPS), which in the case of GPs is linked to their eligibility for higher Medicare rebates, and in the case of obstetricians and gynaecologists is linked to their ongoing fellowship status.

Non-Primary Care Specialist Entry

As noted in 2.3, AMWAC was established in 1995 to assist AHMAC with the development of a more strategic focus on medical workforce planning, and to advise on national medical workforce matters including workforce supply, distribution and future requirements (see also 5.3.7.)

All governments are expected to implement AMWAC's recommendations regarding training numbers, unless there is demonstrable cause for not doing so. One such impediment is the lack of interest among graduate doctors to enter vocational training in some specialty areas such as geriatric medicine and rehabilitation medicine. To date AMWAC has recommended increases in all but one non-primary care specialist training program. Some specialties, such as general surgery, have needed only minor increases to maintain a balanced workforce, while others such as anaesthesia and orthopaedic surgery have been shown to need a dramatic increase in training numbers.

Paediatrics is the only specialty area which needs to reduce training numbers, and this is a result of the large number of paediatricians aged less than 50 years, and little or no growth in the paediatric population and requirements expected over the next ten years.

The determination of numbers of trainees entering college training programs each year is a complex process which involves negotiations between State and Territory health departments, hospitals and medical colleges. As AHMAC has endorsed AMWAC's recommended training intakes, it is expected that each State and Territory will implement them.

Some colleges however have not yet increased accredited training places in line with AMWAC recommendations. In these instances the colleges generally blame the lack of funding from State and Territory health departments for hospital training posts, while health authorities indicate that there is strong reluctance from the respective colleges to

accredit additional training posts. This situation is one which must be resolved, and the roles of the colleges in accrediting the hospital posts, and employing hospitals in funding the posts, clearly delineated. The ACCC has an interest in those colleges who appear to be limiting training places, and is currently examining the processes of one college in this area.

Under current arrangements, overseas trained non-primary care specialists wanting to practise in their area of specialty in Australia are required to obtain recognition from the relevant specialist medical college. These recognition processes vary considerably across colleges. Some overseas trained doctors are critical of a perceived lack of transparency and equity in the processes, and unreasonable delays in obtaining decisions, and there have been instances where doctors have waited for between six months to two years to be assessed. There are indications that certain colleges recognise overseas trained specialists more frequently than other colleges. This reinforces a public perception that some specialist colleges are 'closed shops' which operate to actively 'restrict' entry to the market in order to protect the income of existing fellows. The ACCC has advised colleges that they may be breaching the TPA if their decision making in the assessment of doctors for specialist entry is influenced by a desire to limit the number of specialists in the market.

4.5.4 Workforce Planning vs Competition Policy

There is potential tension between the pro-competitive objectives of the TPA and the need for Governments to plan and regulate the medical workforce to achieve optimal health outcomes, while containing unnecessary growth in taxpayer funded expenditure.

The ACCC states that competition law applies equally to all sectors of the economy. Competition policy is underpinned by the assumption that a well-supplied free market improves access and quality of services, with competition between purchasers and providers an important element of a healthy industry.

However, there are several features of the Australian health system, which distinguish it from a free market. Medicare significantly subsidises medical services, and thereby counters market forces that would otherwise operate. As discussed in Chapter 3, the last decade in Australia has seen continuing undersupply of medical practitioners in rural areas despite significant workforce growth overall. This is largely a result of the effective Medicare floor price enabling GPs to maintain a comfortable income in an oversupplied market. As discussed in 4.3 above, fee-for-service rebates allow practitioners to increase income by delivering more services, while patients, experiencing no (or a distorted) price signal, and lacking the knowledge to determine their own needs, are more compliant consumers that they would otherwise be in a market for different services.

Commonwealth measures to restrict the number of doctors accessing Medicare reflect concerns about this effect. The Commonwealth must be able to justify any significant increases in Medicare outlays with demonstrated improved access or quality.

Although Australia has not experienced oversupply of non-primary care specialists, there is evidence in Australia and internationally that, rather than redistribute to underserviced areas, practitioners sub-specialise to create new niche markets to maintain income in urban areas. Sub-specialisation carries the risk of reducing the availability of the flexible, generalist skills which are required by underserviced communities.

Self-regulation

It is essential for public health and safety that doctors providing services are suitably trained and demonstrate competence in their particular area of clinical practice. The medical profession is best placed to assess clinical competence of individuals, and it is for this reason that it determines entry to its ranks.

Graeme Samuel, President of the National Competition Council, has questioned whether the notion of 'professional independence' can be reconciled with the development of a competitive market (Samuel 2000). It is suggested that the historical acceptance of professional regulation has resulted in a number of anti-competitive practices that are disguised as quality or ethical imperatives. While all would agree that restrictions not linked to quality should be removed, the distinctions in this arena are somewhat opaque, and need sensitive exploration.

Progressing to a Competitive Yet Regulated Market

As governments have finite resources, training and service delivery must be carefully planned to match population health needs. As indicated above, a medical workforce in excess of population need does not necessarily reduce costs, does not necessarily improve access for underserviced communities, and is unlikely to improve health outcomes. Doctors are extremely expensive to train, and generate high incomes once in the workforce, both through Medicare and patient co-payments. It is the community (through taxation) which funds the major proportion of medical training, as doctors meet only a small amount of their training costs. A balanced medical workforce should therefore be the objective of governments, consumers and the profession.

The Australian Competition and Consumer Commission (ACCC) is concerned that some Colleges are restricting entry into their respective medical specialties by limiting the number of training positions they provide. The Commission acknowledged, however, that there may be public benefits associated with some entry restrictions and has therefore invited the Colleges to make use of the authorisations provisions of the TPA so that the issue can be debated in the public forum (ACCC 2000).

Of prime concern to colleges is the suggestion by the ACCC that they may be found to be in breach if they are limiting trainee numbers for anti-competitive purposes, irrespective of AMWAC recommendations on the size of training program intakes. Colleges are thus expected to demonstrate that their inability to increase training numbers is a result of government funding constraints or inability to attract suitable trainees, rather than an attempt to restrict entry to the workforce.

In a recent discussion paper entitled 'Reform of the Health Care Professions' the NCC argues that the problem of college control over specialist entry to the workforce needs to be actively addressed. The NCC suggests that governments are in a position to establish alternative training providers and independent assessment bodies who will operate on the basis of maintenance of standards rather than income protection.

This is a viable option available to governments if medical colleges are judged to be not complying with the TPA, with no counter-balancing public benefit. It is not however a preferred option for the Commonwealth at this time. Medical colleges are the recognised training bodies and the arbiters of clinical and professional standards, and there is widespread agreement that the standards of education and professional practice in Australia are very high by international standards. The desire to remove anti-competitive behaviours must be balanced with the need to maintain public safety. The challenge is to ensure that the medical colleges implement selection and assessment processes that meet nationally agreed criteria in terms of timeliness, equity and transparency. All parties must be satisfied that barriers to entry are based solely on standards, and do not reflect in any way the self-interest of professional groups seeking to control the market.

In terms of trainee numbers, it is necessary to make transparent the complex process by which colleges and States determine trainee numbers. The establishment of State level bodies to oversee education and training arrangements, such as the Medical Training and Education Council recently established in NSW, may address this issue.

The Commonwealth and the profession have also been working for some time on improving processes for selection of trainees. The Medical Training Review Panel (described in 5.4.1), established by the Commonwealth Government in 1997 to look at demand for and supply of medical training opportunities, reviewed the processes by which medical graduates are selected to college training programs, by considering the existing policies of the colleges, identifying gaps between practice and policy and to recommending a best practice framework for selection.

In 1997 the MTRP engaged Dr Peter Brennan to undertake a review of medical college selection processes. His report, *Trainee Selection in Australian Medical Colleges*, proposed a best practice framework for trainee selection, the principles of which were endorsed by all relevant stakeholders at a subsequent workshop. Participants acknowledged that collaboration between medical colleges, hospitals and State and Territory Health Departments was needed to facilitate appropriate selection processes.

The assessment of OTDs would be less problematic if decisions were made on the basis of 'competency' rather than 'equivalence of training'. While acknowledging that this would constitute a significant and challenging change in focus for colleges, it would enable individual doctors to be judged on their merits, and would therefore minimise accusations of discrimination and income protection.

It is also essential that impartial, transparent and equitable appeals processes be maintained by all colleges. The internal appeal mechanisms provided by colleges, while

robust in terms of maintaining a standards approach, must also be seen to provide for impartial and independent review.

Current work being undertaken by the AMC and the Committee of Presidents of Medical Colleges to establish a uniform process for assessing overseas trained (non-primary care) specialists for area of need positions is a positive step toward addressing current inadequacies in assessment processes. It is important that this work is extended to develop a uniform process for the assessment of all overseas trained (non-primary care) specialists, and that de-identified data are publicly available regarding numbers of applications, timeliness of responses and decisions made, across all colleges, to ensure accountability and comparability.

4.6 ENSURING SAFETY AND QUALITY OF MEDICAL SERVICES

Quality and safety of medical care have been long underpinned by Australia's high standards of medical education and rigorous registration requirements, however recent years have seen a need emerge for additional mechanisms and an important role for governments and other workforce players in a number of areas.

Following the introduction of universal fee-for-service funding in the mid 1980s, it was observed over time that this method of financing medical services does not act as an incentive to provide quality care, particularly in general practice where the growing oversupply in the metropolitan market created pressure for doctors to deliver more rather than necessarily better services in order to maintain their incomes. Over the course of the 1990s, the Commonwealth has introduced a range of financial incentives to reward quality care, including an emphasis on health promotion and disease prevention. These are discussed under 5.4.2.

A second broader role for government has existed in the area of ensuring safety and quality of patient care. The importance of this has been heightened by a range of factors including the growing complexity of medical care and technology, together with an increase in the amount and range of care provided in community settings, including hospital-in-the-home models of care where there is less supervision, peer support, and capacity for monitoring than in the traditional institutional environment. There has also been increased recognition of the importance of systemic, rather than individual practitioner factors in adverse medical events, and consumer demands for both information on the safety of services provided as well as comprehensive safety mechanisms. Significant resources and national leadership are needed to respond to this; the Commonwealth's response is outlined at 5.4.2.

A related area where governments have had a necessary role in influencing quality of care has been in the development of evidence-based medicine. The increasing financial investment in health care over the last few decades, has led to only marginal improvements in the health status of Australians, and there are significant variations in practice by health care providers. This phenomenon has been observed in other developed countries and raises questions about the best use of health care resources, as well as the basis of medical decision-making underlying treatment paths. At the

same time, increasing education and access to information by the wider population have resulted in greater consumer consumption of medical information and demands for medical practice to be based on up to date, quality evidence. It has been recognised that the growing amount of medical literature, the rate at which new pharmaceuticals, tests and procedures enter and are promoted in the market, and the amount and variable quality of published evidence for treatments, make it impossible for individual practitioners to make evidence-based decisions unassisted (Moynihan 1998). In response the Commonwealth has initiated work to contribute to the growing trend of making quality evidence available to practitioners in manageable form; this is further discussed in 5.4.2.

In the field of medical education, the significant changes in hospital work over the last two decades, and the increasing amount and scope of medical care provided in community settings (private practice and public facilities) have meant that teaching hospitals are no longer an ideal setting for education in a number of the specialist disciplines. However because the traditional hospital role of the specialist trainee and the funding of their training are so embedded in the public hospital system, the necessary shift of training in some disciplines to community settings is not likely to occur without intervention. Early work of the Commonwealth, State and Territory governments in this area is outlined in 5.4.1.

Cultural Appropriateness of Care

There is an obvious need to continually modify medical education to ensure that the workforce provides care appropriate to population needs and changes in health care delivery.

Considerable evidence exists concerning the importance of culturally appropriate medical and broader health care; our significant Indigenous and migrant populations mean that this is an important issue for workforce policy and planning (Hayman 2000; Department of Human Services and Health 1996; Fagan 2000; Bell et al 2000). As noted in 3.3.5, Indigenous Australians are under-represented in the workforce, and non-Indigenous practitioners need a cultural and historical understanding of Indigenous communities in order to work with them in addressing their health care needs. They need to understand the social, cultural, economic and political determinants of health, as well as the complex issues of race and racism, to be able to recognise differences and act upon them, but not in ways that support racially or culturally based stereotypes and inequalities (Lowe et al 1995; McLennan and Madden 1997; Paul 1999). The strong social determinants of health mean that the workforce has a role not only in providing treatment and health prevention, but also in inter sectoral liaison and advocacy to ensure that the policies and activities of other sectors, such as education, transport, taxation and housing, are monitored and assessed for their potential impacts on the community.

Practitioners need specific clinical skills and must be able to work effectively within the Indigenous health care framework. As outlined in 5.3.4 below, many Indigenous communities have community controlled health services, which are quite different working environments to private non-Indigenous medical practice. Health professionals

work in multidisciplinary teams and are responsible to the communities which they serve. An important part of the philosophy of community controlled health care is a holistic approach to health, and services therefore operate within an integrated rather than disease oriented primary health care model, which is not always the case for GP services in other parts of the health system (Bell et al 2000).

Similarly in migrant health, the birth country profile of the medical workforce does not match our sub-population structure and evidence exists that some migrants are underserved by the medical workforce due to care not being culturally relevant. Problems exist, for example, in the prescribing and utilisation of medication by culturally and linguistically diverse communities. Improved cultural competency of workforce is important to addressing this; practitioners need to be aware of and able to analyse their own cultural assumptions, be aware of the cultural assumptions and beliefs of patients, and be able to respond in ways which are meaningful.

CHAPTER 5 - OPPORTUNITIES TO INFLUENCE

5.1 INTRODUCTION

As discussed in Chapter 2, a range of players, including governments, professional bodies, health care and educational institutions, exert influence over the size, distribution and operation of the medical workforce. Of relevance for workforce planning:

- the sphere of influence of each player is limited, and although in general terms they have common objectives, competing interests do present barriers to common workforce outcomes; and

- doctors themselves exercise considerable individual autonomy over where and how they work.

This chapter primarily examines the opportunities of one party - the Commonwealth Government - to influence workforce outcomes, that is, the overall number of practitioners, their geographic and structural distribution and related accessibility of services by communities, and the type of medical care provided. The Government's levers to effect change are limited, so initiatives have been applied strategically in particular areas. Many initiatives are collaborative efforts or are complemented by initiatives of the State and Territory Governments, universities, professional bodies and other parties. Mention is made throughout this chapter of the work of these other players but it does not attempt to fully describe their significant contribution to workforce development.

5.2 INFLUENCING ENTRY TO THE WORKFORCE

5.2.1 Medical School Intakes

As discussed, the Commonwealth has acted to slow the growth in the overall size of the workforce by restricting numbers of Australian medical students[35]. Since the mid 1990s, the intake has been capped at a level appropriate to the required future (total) workforce size, while other measures described below have been put in place to change the structure and geographic distribution of the workforce.

Some growth in intake numbers has occurred in individual universities, and in addition, the Commonwealth has initiated increases to the total intake for specific workforce initiatives. In particular, extra medical school places were part of the James Cook Medical School, the '100 Places' Program, and the Rural Medical Bonded Scholarships (each described in 5.3.2 below).

[35] Medical schools are permitted to enrol fee-paying overseas students on temporary resident visas; the intake restrictions apply only to Australian students.

It is clear that a close watch needs to be kept so that medical school numbers accord with future total workforce needs, and it is likely that any future increases in intakes will be carefully targeted.

5.2.2 Immigration Restrictions

Restrictions on the eligibility of OTDs to migrate to Australia on a permanent or temporary basis have been used as a workforce tool in recent years. Concern developed in the mid 1990s that OTDs were aggravating the maldistribution of the workforce because there were no controls on the number entering Australia permanently and no controls on where they practised. AHMAC's Medical Workforce Data Review Committee (MWDRC) recommended that the number of OTDs entering Australia permanently be limited to 200 per annum (MWDRC, 1992.)

The Australian Health Ministers' Conference agreed in 1992 to the adoption of a national workforce target of 200 doctors per 100,000 population, with mechanisms to achieve this including a reduction in the number of OTDs entering Australia each year.

- To reduce entry of OTDs for permanent stay:
    - on the labour market test used to select migrants for permanent entry under skilled migration categories, the points awarded to doctors were reduced;
    - nationals whose medical qualifications had previously been recognised automatically (including those from UK, Ireland, South Africa and Canada) were no longer given automatic unconditional registration for general practice, and instead were required to complete the AMC examination; and
    - a quota was introduced of 200 on the number of OTDs permitted to attempt the clinical component of the AMC examination each year. (This quota was abolished in 1995).
- It was agreed that the number of TRDs entering Australia should be reduced by 20 per cent per year over five years, with labour agreements providing for the entry of specific numbers of TRDs for areas of workforce shortage to be progressively implemented in each State and Territory. For a variety of reasons however, this did not eventuate.

The restrictions on entry of OTDs for permanent stay were tightened progressively and in 1999 medical practitioners were excluded altogether from applying for points-tested visas, becoming eligible to migrate only under close family or humanitarian categories, or if sponsored to work in an area of workforce shortage.

Provider Number Restrictions on Overseas Trained Doctors

Effective from 1996 and 1997, changes to the *Health Insurance Act 1973* limited access to Medicare rebates by OTDs. In broad terms:

- TRDs became ineligible for provider numbers except to work in 'districts of workforce shortage' (generally rural and remote areas and parts of the public hospital system); and

- OTDs entering Australia for permanent stay became ineligible for a provider number for a period of ten years, unless they worked in a 'district of workforce shortage' (Further detail on the operation of the provider number legislation is available at the Department of Health and Aged Care Health Workforce Website at http://www.health.gov.au/workforce/index.htm).

These restrictions have the effect of limiting entry to the medical workforce by OTDs to districts of workforce shortage, thus influencing the size and structural distribution of the workforce. Provider number restrictions also apply to Australian doctors without postgraduate qualifications – see 5.3.5 and 5.4.1.

5.3 INFLUENCING THE GEOGRAPHIC AND STRUCTURAL DISTRIBUTION OF THE WORKFORCE AND ACCESS TO SERVICES

5.3.1 Introduction

Governments have attempted to influence the distribution of the medical workforce by a variety of methods. In particular, there has been an emphasis on encouraging medical practitioners to practise in rural and remote areas, via education and recruitment and retention incentives. Outreach services have been employed to supplement rural communities' access to medical specialists. OTDs have been employed to fill shortages in rural areas using provider number restrictions. There is also a significant degree of substitution occurring in rural areas, with GPs undertaking a broad range of clinical work in the absence of other resident specialists.

Universities are beginning to play a significant complementary role in influencing future workforce distribution by:

- increasing intakes of rural and indigenous students;

- providing students with rural experience; and

- including training in cross-cultural awareness and Indigenous health in their curricula.

In this way, students are encouraged to pursue rural and/or Indigenous health as a career, and better serve the community through increased cultural awareness.

5.3.2 Educational Initiatives

Indigenous Student Selection and Support

Efforts to increase numbers of Indigenous medical students have been in progress for some time. A number of universities, supported by some Commonwealth funding, have developed projects to encourage higher intakes to medical schools of Indigenous students, variously promoting medicine as a career in high schools, reviewing student admissions processes, establishing student communication and support networks and enhancing the cultural awareness of the medical schools.

Some universities have minimum quotas for Indigenous students, but these are small and not always filled. Approaches have been developed as difficulties with recruitment and retention of students have been identified, including disrupted secondary education, social and financial disadvantage and cultural and family commitments. Although progress has been made, student numbers remain very small, with less than one per cent of the intake in 1999 identifying as Indigenous. There is a need to improve both recruitment quotas and rates and there is scope for medical schools to develop more consistent support strategies for Indigenous students, covering financial, educational (including pre-entry) and personal support.

In 1998, there were nine Indigenous students who completed medical training and 43 who completed primary medical training over the ten-year period 1989–1998, with 41.9 per cent of these graduating from the University of Newcastle, which has provided a strong lead in recruitment admission and support strategies for Indigenous students. The 43 graduates were 0.4 per cent of total Australian students who graduated during the period compared to the 2.1 per cent of the population who identify as Indigenous (1996 population census, ABS; AIHW 2000b)

Rural Undergraduate Support and Co-ordination Program

It has widely been accepted that students who come from a rural background, or who have had positive rural experience early in their medical training, are more likely to embrace rural practice as a career. The approach is mainly pursued through the Rural Undergraduate Support and Co-ordination (RUSC) program, which is implemented through the medical schools and aims to:

- increase rural student selection;
- expand the rural curriculum content;
- provide structured rural placements (of at least eight weeks for all students);
- develop educational materials and support for teachers;
- employ academics for on-site support for rural teaching;

- improve student assessment and support systems;
- develop and enhance university departments of general practice; and
- facilitate active cooperation with State based agencies for student placements.

Enhanced Rural Australian Medical Undergraduate Scholarships (RAMUS)

The 2000-01 Federal Budget put aside $8 million over four years to expand the popular RAMUS scheme to support rural students who wish to pursue a medical career. The scheme aims to increase the number of medical graduates entering rural general practice, by providing financial assistance towards the cost of accommodation, living and travelling expenses while studying. The scholarships are awarded to applicants with the strongest claim against selection criteria. In 2000 over 400 scholarships were awarded to students from all years and approximately 80 scholarships will be awarded in 2001, primarily to first year students.

Measures to increase numbers of rural origin students have had an impact: in 2000, 25.2 per cent of commencing medical students were of rural origin, compared to 10.7 per cent in 1989.

Rural Medical and Clinical Schools

James Cook Medical School

A medical school has been established at James Cook University in Townsville to address workforce maldistribution through provision of 60 medical school places in far north Queensland. Of these places, 15 have been allocated to rural students and five to Indigenous students.

Clinical Schools Network

The Commonwealth Government is establishing in rural areas a network of clinical schools and university departments of rural health to create a better infrastructure for rural medical training. One clinical school and seven University Departments of Rural Health (UDRHs) were established before 2001. Under a $117.6 million funding commitment over the next four years, a further nine schools and two UDRHs are planned. Additional funding will be made available to the James Cook Clinical School in later years to develop clinical placements in northern Queensland.

The new rural clinical schools and UDRHs will create a rural-focused national network of medical and health professional training. This is intended to increase opportunities for medical students to undertake training in rural settings and to encourage more country students to pursue a career in rural medicine. The academic positions will mean more practising clinicians in the regions where the facilities are located, and they will provide existing local practitioners with clinical support, research capacity and professional development opportunities.

John Flynn

The John Flynn Scholarship Scheme was established in 1997, named after the founder of the world's first flying doctor service. It aims to attract medical students to rural medicine by providing them with an opportunity to spend part of their holidays working in remote areas. Students commit to an annual two-week placement in a rural or remote community over four consecutive years of their medical course, and develop personal links in that community. Supervised placements are in general practice, hospitals, Aboriginal Community Controlled Health Services (ACCHS) and other facilities. The scheme provides 150 new scholarships each year.

Higher Education Contribution Scheme (HECS) Reimbursement

The HECS Reimbursement Scheme provides funding to assist medical graduates wanting to work in rural and remote areas of Australia. The program gives medical graduates who completed their medical degree in 2000 or later the opportunity to 'work off' their HECS debt by taking up employment in rural practice. During 2001-2002 approximately 200 doctors will be assisted under this scheme.

Rural Medical Bonded Scholarships

In a recent initiative, new scholarships are being offered to 100 medical students (whether from rural backgrounds or not) commencing in the 2001 academic year, in return for a commitment from them to practise in rural and regional areas for at least six years after post-graduate training. Medical school places will be increased cumulatively by 100. Scholarship holders will be unable to receive Medicare rebates for services delivered in urban areas until they have met their rural service obligation.

The '100 Places' Program

In 1999 the Commonwealth Government provided funds for a 'one-off' program to create 100 additional places for OTDs whose qualifications were not immediately recognised for practice in Australia. Instead of sitting the AMC examination for OTDs, candidates who agreed to undertake five years of rural practice were admitted to the final years of an Australian medical course and allowed to convert their qualification to an Australian degree. The first students graduated in 2000.

Rural Postgraduate Training

As part of the General Practice Memorandum of Understanding (GPMOU), the Commonwealth is funding the Australian College of Rural and Remote Medicine to administer a Rural and Remote Area Placement Program (RRAPP). This is a pilot that aims to increase the exposure to rural general practice of recent medical graduates undertaking hospital internships. In the short term, the Program will increase rural communities' access to primary care, as participants undertake a ten to 13 week placement in a rural general practice or rural community practice setting. This training placement builds on the rural experience and orientation provided during medical

undergraduate years and via the John Flynn Scholarships. In the longer term, the RRAPP will provide information about alternative models of rural and remote practice that may encourage participants to consider careers in rural general practice.

GP rural training has been on offer for some years, with the aim of building interest in rural practice as well as the professional and personal skills needed for this work. The training has included placements in regional hospitals and rural practices plus an additional year of advanced training in skills relevant to rural practice, including anaesthesia, obstetrics and psychiatry. The uptake for the stream has however been quite low.

As part of a broader reform of GP training, a dedicated GP rural training stream is being introduced from 2001 which will see larger numbers of graduates undertaking GP training with a rural focus. The total (national) training intake is being increased from 400 to 450 places, with 200 of these set aside for training for rural general practice, called the 'Rural Training Pathway'. This training will involve placements in rural practices and (optional) additional training in advanced skills.

The General Practice Registrars Rural Incentive Payments Scheme provides financial incentives to medical practitioners who agree to undertake the majority of their GP training in practices located in small rural, other rural and remote locations. Up to $60,000 is available per registrar over three years of GP training. To be eligible, registrars must be formally registered in the Rural Training Pathway and will qualify by completing a period of service in a rural or remote area.

The management and funding of GP training is also being reformed in ways which will give it a more regional focus. A limited company, GP Education and Training Ltd, will be responsible for managing funds for and delivery of training. A new training framework is expected to see training funded and delivered on a contestable basis by regional consortia, and hence more tailored to regional communities' individual needs.

Various efforts are in progress to increase the rural component of postgraduate training in other disciplines. Under the Advanced Specialist Training Post in Rural Areas (ASTPRA) Program, rural and regional placements for advanced non-primary care specialist trainees have been in place for several years, as joint initiatives of the specialist medical colleges and Commonwealth and State and Territory Governments. These enable medical registrars to receive accredited training in their specialty at a rural or regional hospital, and more recently in rural community settings. Posts are negotiated and funded to reflect the specialist workforce needs identified by the States and the NT, and AMWAC. This work also encompasses development of curricula and distance supervision technologies for rural training.

Cross-Cultural Medical Education

At the level of undergraduate medical education, cross-cultural work is a current focus of attention and a topic of discussion between medical schools. Universities are aware of the need for more comprehensive training in this area and are addressing it in

different ways. Notably, the University of NSW is developing a multi-cultural health program aimed at ensuring cultural 'competence' in all levels of medical education with an emphasis on integrating training within each curricula. The program also involves establishment of multicultural health research partnerships with other teaching institutions and service providers.

In post-graduate medical education, the medical colleges as well as the hospitals and other care settings in which trainees are posted, are generally aware of the need for skills in cross-cultural care, and address it in a variety of ways.

Content of professional development programs for qualified specialists is the responsibility of individual specialist colleges. Programs vary greatly in scope, content and 'take-up', but overall, cross-cultural content does not appear to be significant.

Education for Practice in Indigenous health

Training in Indigenous health, for both Indigenous and non-Indigenous medical practitioners, is a current priority. Progress to date by medical schools has been patchy; some have developed Indigenous health curricula, but this is not the case in all schools and Indigenous health, both clinical and public health components, is not well integrated into the broader curricula.

It is thought that exposure of all medical students to Indigenous health, including via practice placements, will increase interest in pursuing Indigenous health as a career, and development of a national medical curriculum on Indigenous Health is therefore in progress. Greater involvement of Indigenous Australians in the content and delivery of the medical education is also needed.

Initiatives include the recent introduction of a compulsory two day camp on Ngarrindjeri land for new South Australian medical students, with a program focussing on Indigenous health in its historical context. A full year clinical placement in Alice Springs is available for Flinders University medical students in their second undergraduate year. Other universities such as the University of Newcastle present a staged curriculum focussing mainly on cultural awareness issues in Indigenous health. A training package for medical educators developed in 1997 by Flinders University has recently been evaluated, and its uptake and barriers to use analysed; the package has been redeveloped as a train-the-trainer module for use across the health care professions.

A distance education package in cross cultural care, the Binan Goonj, has been developed by a team of Indigenous and non-Indigenous health professionals with support from the Commonwealth Government. The package is aimed at ensuring appropriate, culturally safe health care for Indigenous communities with non-Indigenous professionals able to work effectively and efficiently in this area. The model has been judged to be very successful and has been adopted by a number of health departments and adapted to different geographic settings.

At the postgraduate level, all GP registrars undertake training in Indigenous health using a curriculum jointly produced by the Royal Australian College of General Practitioners (RACGP) and the National Aboriginal Community Controlled Health Organisation (NACCHO). The extent of coverage of Indigenous health in other postgraduate programs and in professional development programs appears variable and colleges generally do not have information on the extent of take-up of optional training.

5.3.3 Recruitment and Retention Incentives

Rural Workforce Agencies

Commonwealth-funded non-government Rural Workforce Agencies (RWAs) were established in each State and the NT in 1998 to recruit and retain doctors for rural and remote communities, through the rural and remote GP Program, discussed below. To date they have focussed on retaining GPs already working in rural and remote areas and filling temporary placements with more permanent arrangements. In the 1999 calendar year, approximately 600 doctors (mostly overseas trained) were placed in rural and remote areas. In the future RWAs will play a more central role in collaborative workforce planning on a State-wide basis.

Rural and Remote General Practice Program

This program aims to attract and retain GPs to rural and remote communities in Australia. It is being implemented by the State and Territory RWAs, which individually target support and incentives to assist in recruiting GPs. In addition, payment incentives are made to GPs based on their length of service and the remoteness of the geographical region of practice. For example, the NT Government may offer between $30,000-$50,000 in individual cases as a remote area grant to supplement income.

Rural Retention Program

This program is designed to retain long-serving doctors practising in rural and remote communities identified as being in relatively high need of retention support. Support is directed to areas in greatest need to ensure payments are of a reasonable size and provide a reasonable incentive for GPs to continue practising in these locations. Payment categories provide a relative index of need for retention support, as a basis for applying different qualifying periods and payment rates for doctors working in different locations under the program. Locations are classified using issues identified as important by rural doctors, including general physical remoteness and access to services, opportunities for social interaction and availability of peer support. An amount of $59.1 million over four years has been allocated to the program, with more than 2000 doctors expected to benefit.

The categories are to be reviewed following the initial stages of the Program with close involvement of the RDA, RWAs and rural Divisions of General Practice.

Rural Other Medical Practitioner (OMP) Program

Under this program, all patients receiving services from OMPs in rural and remote areas of Australia are able access a higher Medicare rebate, regardless of whether the doctor is vocationally registered or not, on condition that they pursue recognition as a GP through an alternative training pathway. (OMPs are discussed in 3.2.3 above.)

Australian Indigenous Doctors Association (AIDA)

Funding has been provided for the establishment of AIDA, which plays a variety of roles from provision of advice to developing significant initiatives to encourage and support Indigenous students and doctors.

Locum Relief and After Hours Primary Medical Care

As discussed in 3.3.6, lack of access to locum relief is a well-documented disincentive to rural practice, and there are also shortages of doctors providing after hours services, particularly affecting rural communities.

Over the last few years the Commonwealth and States have developed a number of initiatives to address problems in these areas. The national Rural Locum Relief Program, introduced in 1995 and now administered by the RWAs, has improved coverage of GP services in rural and remote areas. This scheme is also structured to give supervised and supported experience to more junior practitioners who would not otherwise work in rural areas. Initiatives in after hours care include:

- the Practice Incentives Program (PIP), further discussed in 5.4.2, which includes incentives to improve access of patients to after hours care;

- the Approved Medical Deputising Service (AMDS), which is designed to expand the pool of available medical practitioners who may provide after hours home visit services. The program allows medical practitioners currently subject to provider number restrictions to provide a restricted range of professional services for which Medicare benefits are payable. The service is currently being evaluated;

- After Hours Primary Medical Care Trials. These were begun in 1997 in response to a perception that provision of such services was declining and concerns regarding the safety of GPs doing this work. The trials are collecting information on the cost of after hours services, current levels of services and the appropriateness of different models, with a view to better assessment of community need and development of optimal service delivery models;

- The GP MOU process which has recently produced a 50 per cent increase in the Medicare rebate for after hours care provided by GPs; and

- Some States and Territories are introducing telephone triage services which enable callers to talk to a registered nurse about immediate health issues at any time. Similar services are in place in other countries, where governments are viewing call centres as a potential solution to after hours and other primary medical care issues.

Other Specialist Support Services

The Royal Australasian College of Physicians maintains a locum service for physicians and paediatricians practising in regional and rural areas. Metropolitan Fellows offer consultant services as medical officers in metropolitan Aboriginal Health Services, particularly in paediatrics, assist with specialist tertiary services provision in rural and regional hospitals and provide training and support to local primary health care providers.

Other State and Territory Initiatives

State and Territory Governments are providing a range of financial incentives, family support measures and professional development assistance to encourage practitioners to take up practice and remain in rural areas.

In Queensland for example, a medical superintendent is paid an annual stipend between $78,000 and $85,000, depending on qualifications, to practice in a rural or remote hospital. The practitioner also has the right to practice privately (which means extra remuneration), to assistance with medical indemnity cover, and he or she may receive a motor vehicle, a communications package and a surgery. Periods of appointment are usually for 6-12 months, but some remain longer.

In WA, 'North West' Medical Practitioner industrial agreements provide a range of incentives to assist north west employers to attract and retain experienced and qualified medical practitioners into the public health system. The agreements provide flexibility for both the employer and employees and include arrangements that provide salaried medical practitioner rights of private practice which suit local conditions. The agreements provide, in addition to annual leave entitlements, an entitlement to four weeks' salary for each completed year of continuous service, subject to a minimum term of three years' continuous service. The payment may be drawn in whole or in part at any time after completion of the qualifying period or will be paid upon termination of employment. The size of the payment is determined on the basis of the substantive base salary applicable at the time of payment being made. Annual leave travel concessions are also provided.

Under the agreements, salaried medical practitioners recruited from within WA are entitled to air travel for themselves and immediate family members and the cost of freight of personal effects from the point of recruitment to the location of appointment, at the expense of the employer. They are also provided with a fully maintained motor vehicle for official use. WA Government professional development initiatives include regular upskilling training at regional centres including telehealth simulation sessions.

Despite these financial incentives (totalling in excess of $200,000 plus) it is still difficult to recruit Australian doctors into rural areas, hence they are mainly filled by UK TRDs.

5.3.4 Alternative Service Delivery Models

Substitution

Substitution of GPs for other specialists is common in rural Australia and GPs are required to provide care across a range of clinical areas, particularly obstetrics, anaesthesia and mental health. This is supported in various ways, including by improved Medicare subsidy arrangements, assistance with indemnity insurance and training and professional support coordinated by the specialist colleges.

Particularly since the 1990s, work has been in progress to review and enhance the role of nurses in health care delivery. In some cases, particularly in rural and remote areas, there is some substitution of registered nurses and nurse practitioners for doctors. Nurse practitioners require extensive experience and an enhanced level of clinical expertise to obtain authorisation. Clinical work undertaken includes health assessments, health risk management, health education and counselling. They are able to prescribe a limited range of medications, order pathology and radiology tests and refer to specialists, under approved clinical guidelines. In New South Wales, the first nurse practitioners commenced work in an approved position in Wanaaring, which is in the far west of NSW. Three other positions have been approved and a number of others are currently under development. In Victoria, amendments to the *Nurses Act (1993)* protects the title 'Nurse Practitioner' and provides for the introduction in Victoria of the role of Nurse Practitioner. This will allow suitably qualified and experienced enhanced clinical nurses to have limited prescribing authority. These amendments are expected to come into effect in November 2001. In most States however, trials are still ongoing to identify and explore the issues involved, which include cost, legal issues, collaboration and appropriate delivery.

Nurse substitution is complicated by the fact that States and Territories have responsibility for training and registration of nurses and regulation of nursing practice, whereas the Commonwealth has responsibility for public subsidy of fee-for-service medical practice and the pharmaceutical benefits scheme. It is controversial within the medical profession, some of whom welcome the formalisation of the nurses extended role, while others oppose it on the grounds that nurses are stepping beyond their professional boundary. Some have expressed the view that it is merely a cost saving exercise by governments.

Nonetheless, making the most effective use of the whole health care workforce is important in addressing the clear disadvantage of rural and remote Australians. Of note, Australia's use of practitioner substitution and enhanced nursing roles is considerably less than that of other countries. There has been a significant increase in the number of nurses employed in general practice in the UK in the last 15 years. Their role has also expanded, for example to include chronic disease management and an increasing role in triage and first line management of minor illness (Chapman 2000). Given the close

working relationship between doctors and nurses this role expansion could be considered more of an enhancement of services that a substitution. In the US, use has been made of physician assistants to supplement the medical workforce since the 1960s, and nurse practitioners have grown very rapidly in number in recent times. In rural areas of Washington State it is estimated that generalist nurse practitioners and physician assistants provide about 30 per cent of the generalist care (Hooker 2000 and Hart 2000).

Outreach

Outreach services are a major plank in efforts to better provide non-primary care specialist services to non-metropolitan areas, particularly those that cannot sustain or attract resident specialists. Significant proportions of metropolitan practitioners participate in outreach work, ranging from approximately 14 per cent of practitioners in obstetrics and gynaecology, psychiatry and general surgery to approximately 30 per cent of ear nose and throat surgeons. Various outreach models have been in place in each State and Territory for some time, involving collaborative efforts between hospitals, State and Territory Government health authorities and specialist medical colleges.

The Royal Flying Doctor Service (RFDS) provides aeromedical emergency and primary health care to 80 per cent of rural and remote Australia (7,150,000 km^2). The Rural Women's GP Service, previously known as the 'Fly-In Fly-Out Female General Practice Service', delivers female general practitioner services to rural communities and larger remote centres where there is little or no access to a female doctor. The service, administered by the Australian Council of the Royal Flying Doctor Service, operates in approximately 90 locations.

The Commonwealth Government provided funding in the 2000-01 budget for the Medical Specialists Outreach Assistance Program to address some of the disincentives to specialists providing outreach services, such as travel and opportunity costs, with a view to maximising the sustainable delivery of these services. Under the program specialists will also be able to provide training and support for local medical practitioners keen to improve their skills.

Attention has been given in recent years to the need for a greater role to be played by specialist practitioners in improving the health of remote Indigenous Australians. Particularly successful has been an outreach service operating in the NT since 1997, which delivers surgical, obstetric and gynaecology, ophthalmic and ear nose and throat specialist care to remote community people, most of whom are Indigenous. This service has dramatically increased non-primary care specialist consultations, with up to five times as many consultations occurring than prior to the program, when patients were transferred to outpatients clinics in Darwin. A recent evaluation has found that the service:

- enables much better doctor-patient communication than is possible in outpatients clinics, due to involvement of family and local clinic staff, local interpreter support and greater time for explanation during consultations. Flow on effects include better patient understanding and informed consent and greater adherence to treatment;

- by removing the need for patients to travel, has lessened the anxiety and expense experienced by patients associated with treatment, as well as the loneliness and disorientation which can be experienced in unfamiliar environments, particularly by young women and older people;

- has provided remote GPs and other health workers with useful professional contact; and

- is less costly (to government) than providing services through outpatients clinics. (Of note, the service is jointly funded by the Commonwealth and Territory Governments.) (Gruen and Bailie 2000).

Other projects involving non-primary care specialist outreach services for Indigenous communities have been piloted in recent years, including:

- a specialist respiratory service for children in remote areas of North Queensland, which is a shared initiative of the Commonwealth and Queensland Governments, the Mater Misericordiae Children's Hospital, the University of Queensland and the Queensland Institute of Medical Research. The services is a coordinated multidisciplinary clinical approach with associated education, community development and preventative programs; and

- ear, nose and throat services for 10,000 remote children, which is a joint venture involving the Commonwealth and Queensland Governments, and the Royal Australasian College of Ear, Nose and Throat Surgeons.

Evaluations of these services are currently in progress.

State and Territory governments also have travel assistance schemes to cover patients' travel costs for specialist care, which can be a significant barrier to access.

Telemedicine and Telehealth

Communication technologies have been of considerable assistance to rural and remote communities in accessing medical services. Australia has been a leader in this field in the past, servicing remote communities by telegraph links and the Royal Flying Doctor Service. Since the early 1990s governments and the private sector have invested heavily in technologies such as video conferencing and digital transfer of diagnostic information, in particular teleradiology.

Overall benefits have yet to be evaluated in detail but it appears that telehealth can reduce inequalities of access for rural communities. It has the potential to improve communications between health professionals, which has direct patient benefits such as earlier intervention, while also reducing the practitioner isolation which is a powerful disincentive to rural practice. Teleconsultations have been particularly useful

in specialist medicine, for example in psychiatry, oncology, dermatology and renal medicine. They enable language interpreter services to be used, improving access for non-English speaking consumers.

Evaluation of recent psychiatry telemedicine pilot projects has considered the viability, clinical effectiveness, cost and benefits of early intervention and found that video-conferencing is an effective approach for regional specialists enabling direct patient assessment and consultation about treatment, indirect consultations between clinician and case consultant and educational sessions.

Use of telecommunications technologies have been a major contributing factor in creating more medical training opportunities in rural areas and they are increasingly employed for distance CME.

Issues for extending the use of telemedicine include cost, availability of telephone lines and the need to ensure confidentiality of clinical information. The challenge in using this technology will be to reduce further the inequities in service levels while maintaining positive outcomes, by selecting technologies which are both cost effective and address high priority health needs.

The Commonwealth, State and Territory Governments have commissioned work to develop a methodology for telehealth evaluation. The methodology was completed last year and will support better quality and quantity of data available to make decisions about telemedicine programs and services.

A recent initiative to improve access quality health information through the Internet is expected to be of benefit to those consumers and practitioners in rural areas of Australia with internet access. Health*Insite* is an readily navigable gateway to the sites of more than 50 leading health organisations, thus providing to up-to-date information on a wide range of health topics and related information on health services. The facility is an enclosed search engine referring users to sites that have been quality assessed by an editorial board which includes professional and consumer representation.

Indigenous Community Controlled Health Care Model

Aboriginal Controlled Community Health Care Services (ACCHCs) have been integral to primary health care service provision for Indigenous Australians, particularly those living in rural and regional areas, since the early 1970s. These services have provided improved access, more culturally appropriate care, and a better range of primary health care services in one location. Over one hundred ACCHSs operate throughout Australia, ranging in size from services which may employ several medical practitioners to smaller services which do not employ a medical practitioner, but rely on Indigenous Health Workers and/or nurse practitioners for the bulk of the service provision. Health professionals in these services work in multi-disciplinary teams and answer to the communities that they serve. (Bell et al 2000).

Indigenous Health Workers are fundamental to the operation of ACCHSs, and the Commonwealth provides funding for their training through a range of community controlled health education providers. They perform a range of health care functions in Indigenous health settings, including traditional health, cultural brokerage, clinical care and western medicine, health education and promotion, environmental health, community care, administration, management and control, and policy development and program planning. Of relevance to the medical workforce, their work is an integral component of effective health care delivery as they inform the work of other health professionals and act as interpreters between western and Indigenous health and wellbeing concepts and treatment regimes.

Regional Health Services

Increasingly it has been recognised that designing integrated health care services to best meet the self-identified needs of individual communities is more important that simply improving physical access of rural populations to medical practitioners. Various initiatives have been trialed in this area. The Commonwealth Government's Regional Health Service Centres Program provides funding for small rural and remote communities to design and establish centres offering a range of health, aged care and community services based on individual communities' needs, with particular emphasis on primary health care. Such services may include health promotion, medical services, illness and injury prevention, acute and palliative care, women's health, children's services, community nursing, aged care, mental health, podiatry, radiology and immunisation.

The benefits of this approach lie in the more accurate assessment of local need for health care professionals of different kinds, optimal use of scarce human resources and better targeted workforce recruitment efforts.

Coordinated Care Trials

'Coordinated Care Trials' commenced in Australia in 1997, to test whether planning of care and coordination of services improves the health and well-being of people with chronic or complex illness, within existing resources. For many such people, care has traditionally been provided by a number of quite separate service providers and funded by different levels of government, resulting in them getting the care they can get rather than the care they need. It was hypothesised that coordinated care intervention would lead to the substitution of services which are both more appropriate and lower cost, for services which are more costly, such as hospitalisation. Implicit in this is more effective and efficient use of health care human resources, including different types of medical practitioners.

The trials involved funds pooling between Commonwealth, State and Territory and community programs (and in one instance, private insurance funds), with the amount of money placed in each pool based on an estimate of what would otherwise have been spent on services used by trial participants. Each participant had a care coordinator, often the person's GP, who worked with them to develop and implement a care plan.

The care coordinator then drew on money from the funding pool to buy the full range of services set out in the care plan.

The first round of Coordinated Care Trials concluded in late 1999. Evaluation results will be available shortly. Predictably there were considerable difficulties in the measurement of health outcomes in a group of mostly older, frail individuals through an intervention of just over two years. One interim finding however, was that participation in a trial resulted in improved feelings of well being among clients.

It is anticipated a second round of coordinated care trials will commence in late 2001, building on the experiences of the first round. Three of the features of further trials will be:

- further exploration and development of best practice disease management approaches and evidence based protocols for multidisciplinary care;

- improving primary and community care services, as well as coordinating across the acute and primary care sectors; and

- exploration of effective partnerships between general practice and non-medical primary and community care.

5.3.5 Provider Number Restrictions under the *Health Insurance Act 1973*

These targeted restrictions on access to Medicare rebates contribute to a range of workforce planning outcomes. As broadly outlined in 5.2.2, they restrict both TRDs and OTDs entering Australia for permanent stay to providing rebatable services only in areas of workforce shortage (in the case of permanently resident OTDs for a period of ten years), thus increasing workforce supply in areas of shortage and curbing oversupply of the metropolitan GP workforce. (The operation of the provider number restrictions is described on the Department of Health and Aged Care Health Workforce Website at http://www.health.gov.au/workforce/index.htm.)

Restrictions also apply to Australian-trained doctors who do not have vocational qualifications. These practitioners can only provide rebatable services under supervision and in districts of workforce shortage. An important outcome of this restriction has been the improvement in the overall quality of primary care, discussed in 5.4.1 below. In addition, by preventing doctors without vocational training from entering general practice, at the same time as limiting the number of GP training places to that appropriate to projected future needs (discussed under 5.3.7 below), the restrictions have stemmed growth in the metropolitan GP workforce.

At the same time, there has been some improvement in practitioner supply in areas of shortage: over the course of 1999-00 an estimated 700 doctors were granted exemptions from the provider number restrictions to take part in the Rural Locum Relief Program. The overall change in numbers in different geographic areas is shown in Table 15 below. As noted in 3.2.4 above however, raw practitioner numbers are only a part of the picture,

and the FWE measure of workload levels for GPs shows younger practitioners in rural areas working less hours on average.

Table 15: Number of doctors in RRMA 1-2 and 3-7 (includes specialists and GPs) [36.]

Financial Year	RRMA 1-2	RRMA 3-7	Total
1995-96	32,956	7,471	40,427
1996-97	33,405	7,710	41,115
1997-98	33,425	7,928	41,353
1998-99	33,655	8,295	41,950
1999-00	34,006	8,652	42,658

5.3.6 Use of Overseas Trained Doctors

As discussed earlier, extensive use is made of OTDs to fill gaps in the Australian medical workforce. The Commonwealth and States and Territories have recently agreed on a national model to ensure consistent arrangements with agreed standards for GP recruitment to districts of workforce shortage. Arrangements vary from State to State, but generally provide fully trained overseas-trained GPs with various incentives, including assistance in gaining permanent residence, unconditional medical registration and a partial exemption from the ten year 'moratorium' (described in 5.2.2) in return for periods of rural service.

5.3.7 AMWAC Specialist Workforce Reviews

Non-Primary Care Specialist Training Numbers

The Medical Training Review Panel (MTRP), which monitors supply of medical training places, reports a nearly 11 per cent increase in availability of first year vocational training places since 1997, shown in Table 16. While there has been little change in the total number of training placements, there have been noticeable adjustments within disciplines. Increases have been seen for example in surgery, emergency medicine, radiodiagnosis and dermatology, in line with adjustments recommended by AMWAC. Decreases in total training numbers have been in general practice and paediatrics. (The role of the MTRP is further discussed at 5.4.1 below).

[36] The RRMA classifications from one to seven are (respectively), capital cities, other metropolitan centres, large rural, small rural, other rural, remote centres and other remote areas.

Table 16: Number of non-primary care recognised vocational training positions and likely number of first year vocational training places to be offered for commencement in 1997-2001

Year	Total vocational training positions and/or trainees in programs in given year (excluding GPs)	Likely number of first year recognised vocational places (excluding GPs)
1997	4,062	Data not available[1]
1998	4,120	969
1999	4,167	950
2000	4,405	1,073
2001	Data not yet available	1,068

(1) The MTRP Panel was formed in 1997, therefore no predictions are available for that year.

Data source: Medical Training Review Panel Reports 1997, 1998, 1999 and 2000

GP Training Numbers

As discussed in 3.3, reviews of the GP workforce have showed undersupply in rural areas and oversupply in metropolitan areas. AMWAC has projected GP supply, taking account of:

- trends in service utilisation and an assessment of whether these trends are likely to continue;
- ABS estimates of population growth and change in the age profile of the population;
- projected population age and sex utilisation using ABS population forecasts, assuming current patterns of age and sex utilisation remain the same;
- levels of relevant morbidity among population groups and projected growth in morbidity;
- any additional factors that could impact on future demand, such as advances in medical technology (which can, for example increase patient demand on one hand and improve workforce productivity on the other); and
- assessment of whether the estimated rate of change in the requirement projections should be increased or reduced as a consequence of these factors.

AMWAC considers that the main influences on future requirements for GPs would be population growth, the effect of population ageing on service utilisation and the relationship between GP supply and patient utilisation of services. (This is assuming that the health system continues to operate as now for the next ten years.)

A combination of measures applied by the Commonwealth and State and Territory Governments are aimed at effecting an adequate future supply and better distribution of GPs. Since 1994, Commonwealth funding of vocational training of GPs has been conditional on the annual intake of registrars being reduced to 400, from a high of 830 in 1993, in order to limit growth of the total GP workforce. (As noted in 5.3.2 above, the total intake has recently been increased to 450, with 200 places set aside for training in rural general practice.) Together with the provider number restrictions this has had the effect of reducing growth in the GP workforce from three per cent in 1995 to 0.3 per cent in 1997 and 1.7 per cent in 1998 (AMWAC 2000.2). Combined with the expected increase in GP numbers through the State and Territory OTD recruitment schemes, this should be sufficient to meet on-going growth in demand in the short term (AMWAC 2000.2).

Other AMWAC Recommendations

AMWAC has made recommendations to address workforce over- and under-supply in addition to training number changes. For example, in the field of psychiatry where the Committee found shortages significantly impairing consumer access, the Committee recommended that the Royal Australian and New Zealand College of Psychiatrists:

- develop strategies to encourage trainees to focus on their role as consultants and to practice psychiatry in locations and branches of psychiatry of greatest community need, including underserviced rural and remote communities, public sector health care facilities and currently underserviced population groups;

- pursue educational strategies to raise awareness among private sector psychiatrists of the access problems being experienced by consumers and carers and the support problems of general practitioners and other mental health professionals and develop strategies for bringing about appropriate work practice change in order to improve access and support; and

- in conjunction with State and Territory health departments, develop strategies to further enhance collaborative programs with GPs and other mental health professionals.

5.4 INFLUENCING THE QUALITY OF MEDICAL CARE

As well as trying to influence the size and distribution of the workforce, governments have sought to ensure that the workforce has the skills and flexibility for current and future medical care needs. A number of the major and recent areas of government involvement are discussed below.

5.4.1 Education, Training and Professional Development

Developments in Undergraduate Medical Education

The last two decades have seen significant changes in medical school selection and learning approaches.

The University of Newcastle Medical School, established as a means of introducing broader and more innovatory selection and curriculum approaches, led the way and today all but one medical school use selection procedures which identify students who are not only academically able, but who also possess other abilities and personal qualities appropriate to the practice of medicine (AMWAC 2000b). Three universities – Flinders, Queensland and Sydney Universities – have changed their medical course from six year undergraduate degrees to four year graduate entry degrees. A trend toward mature age admission to medical school means that students bring broader experience to the study and practice of medicine.

In the area of curricula development, apart from changes to better meet the needs of rural and Indigenous medicine (discussed elsewhere in this paper) significant changes have included increased use of problem-based learning and restructuring to include community placements and create a smoother transition from study to practise (AMWAC 2000b).

Use of Provider Number Restrictions for Educational Outcomes

Prior to the 1970s no formal training for general practice was available in Australia. Training programs began to be developed and introduced from this time, although efforts were piecemeal and training was not compulsory. Medical school graduates continued to enter private general practice with as little as a year of undifferentiated hospital intern experience.

In line with growing recognition that general practice is a distinct medical discipline requiring a specific skill set, vocational training began to be further developed in the 1980s and in 1989 higher level Medicare rebates were introduced to encourage take up of the training. Agreement emerged in the early 1990s between the Commonwealth and the medical profession, notably the AMA and RACGP, that vocational training should be compulsory for general practice. This was in accord with the UK, Canada and New Zealand, each of which had introduced compulsory training. The provider number restrictions introduced in 1996 require all medical graduates entering unsupervised general practice to have completed vocational training.

Pre-Vocational Education Measures

Education and Training Needs of the 'Non-Streamed' Medical Workforce

The Medical Training Review Panel (MTRP) was established by the Commonwealth Government in 1997 to look at demand for and supply of medical training opportunities and to monitor the impact of the provider number legislation. Membership includes representatives of State and Territory health departments, medical colleges, medical professional and industrial organisations (such as the AMA and the Australian Medical Students' Association), the Committee of Deans of Australian Medical Schools, the Committee of Presidents of Medical Colleges, the Divisions of General Practice, the RDAA and AMWAC.

The main focus of the Panel's work is to monitor supply and demand for vocational training places and identify and address the training needs of young Australian doctors affected by the provider number restrictions, namely those in their first two postgraduate years (PGY1 and PGY2), as well as non-vocationally trained Hospital Medical Officers in postgraduate year three (PGY3) and beyond.

Post-Graduate Medical Councils (PGMCs)

In response to a recommendation of the MTRP, PGMCs have been established in every State and Territory, to be responsible for the training requirements of PGY1 and PGY2 practitioners plus HMOs in later years who are not in vocational training programs. This has been a shared endeavour by Commonwealth, State and Territory Governments, health service delivery bodies, the medical colleges and universities.

With the exception of Queensland and NSW, the Commonwealth funded the establishment of the Councils. They are now funded by State and Territory Governments, and play an important role, not only in supporting doctors in their prevocational years, but in bridging the gap between undergraduate and vocational training and contributing to integrated continuation of medical education. The Commonwealth will continue to provide funding for educational initiatives with national application.

The Councils have worked toward a range of outcomes including accreditation of intern positions and placements, development of curriculum frameworks for PGY one and two programs, placement evaluation and cross-cultural communication educational resources.

Accreditation of Non-Primary Care Specialist Training

As noted in Chapter 1, the AMC accredits undergraduate medical education programs offered by Australia's medical schools. With input from the medical colleges and the medical boards, the AMC has recently proposed a system for accreditation

of specialist medical education and training (as well as professional development programs, discussed below).

The aims of the accreditation process are to:

- assess if the education and training programs are appropriate in terms of modern educational methods and clinical practice and include appropriate assessment methods that test the trainee's knowledge, clinical skills, attitudes and expertise for safe and competent practice;

- encourage further improvements and developments in programs to enhance their educational quality; and

- assure the community that a doctor who has successfully completed an accredited specialist education and training program is able to practise as a specialist in that area and is being assisted to maintain and enhance her/his knowledge, competence and performance.

The AMC is currently running a pilot program funded by the Commonwealth to evaluate the proposed system, refine procedures and establish the nature of the resources needed to sustain it.

Community-Based Training

As noted in 2.5 and 4.6, the changing nature of hospital work, with the concentration on acute care, complex procedures and day surgery, is effectively narrowing the scope of clinical practice which trainees can be exposed to in teaching hospitals. Particular aspects of care, including pre- and post-operative care, child and mental health, are now conducted in community settings and many hospitals have closed or privatised their outpatient facilities.

To ensure that specialists receive comprehensive training in all facets of care, community settings therefore will need to be incorporated into training programs in some disciplines. The need for hospital-based clinical training remains, however there is growing recognition of the need for experience in other settings, notably specialists' rooms and day procedure centres, to ensure that trainees gain broad experience in the history of illness, diagnosis and management of individual patients.

The need for training to be conducted outside of hospitals varies between specialties. For example, dermatology, psychiatry and paediatrics require a high degree of community-based training, but radiology, emergency medicine and anaesthesia do not. Other specialties require a mix.

Issues to be addressed in increasing community-based training include:

- the funding of training outside teaching hospitals and the implications for delivery of medical care in hospitals;
- ethical and quality issues, including patient and practitioner acceptance, standards and goals for training and monitoring of quality;
- the cumulative impact of changes in different levels of medical training on community care settings; and
- the role of private hospitals.

These issues are being examined by an AHMAC working group.

In the meantime, pilot projects have been set up by the Commonwealth to research the training effectiveness, cost effectiveness and transferability of community-based training within community settings. One such pilot project, the Network Dermatology Training Project, provides positions for trainee dermatologists in community settings in the NT, NSW and Qld over four years. Students rotate through the positions from their base training hospital and each rotation contains a rural component. The NT project also involves trainees in research work on skin diseases in Indigenous communities.

A second project in community and rural-based paediatric training commenced at the beginning of 2001. It consists of a three-year pilot program comprising three training positions which are based at the Centre for Community Child Health in Victoria.

Professional Development

Consumers increasingly want to know a medical practitioner's area of expertise and the extent and currency of his or her qualifications. High levels of consumer awareness and education, and increasing focus on safety and quality in medical care are highlighting the extent and consistency of professional development undertaken by medical and other health care professionals.

To date, professional development has been the responsibility of the profession. All specialist colleges offer a professional development program. The Royal Australasian College of Surgeons (RACS), for example, requires its Fellows to participate in a program of continuing professional development, by recording their involvement in a range of development activities, auditing a part of their practice (with peer review of the audit), and providing evidence of current credentialling at an approved hospital or day surgery centre. The validity of the process is checked by a close review of the information given by a random sample of Fellows each year. The production of a certificate of maintenance of professional standards is usually required by hospitals credentialling a surgeon (Barraclough 2000).

Different processes apply to other clinicians that do not need the resources of hospitals in order to provide medical care. The overall quality of audit and peer review,

credentialling and even the accreditation of hospitals and practices varies, and greater robustness and transparency in this area is needed (Barraclough 2000).

As noted above, the AMC, with input from the colleges and the medical boards, has developed a model for accreditation of specialist medical education and training and professional development programs. The AMC is running a pilot program funded by the Commonwealth to evaluate the proposed system, refine procedures and establish the nature of the resources needed to sustain the system.

It is increasingly better recognised that the responsibility of the individual clinician for the quality of care they give and the outcomes for their patients must be supported by appropriate structures and systems (apart from professional development). Routine assessment of performance and necessary recommendation for retraining have not been a prominent response of the system. For performance to be improved, there needs to be data collection, review and feedback on performance. Some work along these lines is currently facilitated by medical colleges. The Australian Council on Safety and Quality in Health Care has identified the need to support those who work in the health system to practise safely as a priority area for action (further discussed in 5.4.2). In addition, a joint working group of the AMC and the Committee of Presidents of Medical Colleges is investigating the possibility of linking continuing certification of professional competence to medical registration.

Higher Education and Research in Public Health

The Commonwealth views as increasingly important the role of the medical workforce, in conjunction with the allied health professions, in disease prevention and health promotion. A number of educational and research initiatives are funded to support this role.

- The Public Health Education and Research Program (PHERP) is a long-standing national program for developing public health skills. It involves universities, research institutes and governments in a collaborative effort to prevent disease, improve health outcomes and promote cost-effective health services through research and education of the health care workforce. Various initiatives under the program are aimed at building the public health capacity of the workforce, as well as supporting applied research in public health to meet the needs of practitioners.

    - A need has been identified to strengthen capacity in the Indigenous health workforce, as a national priority, and projects are supported in advanced study and training in public health nutrition in the area of Indigenous health.

- A Masters in Applied Epidemiology (MAE) and a Population Health Program have been funded by the Commonwealth since 1990 to support specialised training in applied epidemiology to assist in communicable disease control nationally. Of the 68 students enrolled in the MAE course in 1999, 57 per cent were GPs, with the remainder coming from nursing, dentistry, veterinary science and other areas.

- A Clinicianship Program is being established with the aim of expanding the role of GPs in improving public health through sharing common primary health care core competencies with other allied health professionals. Through the program, GPs will be encouraged to take a leadership role in a broad range of health issues including prevention, environmental problems, leadership and health workforce needs. A small number of GPs are currently involved in piloting of the curricula which is expected to be in use from 2002.

- The Joint Advisory Group on General Practice and Population Health was established following the recommendation by the General Practice Strategy Review Group in 1998 that GPs be assisted to have a broader role in public health. Work of the Joint Advisory Group includes development of an integrated behavioural risk framework, utilising a systems wide approach within general practice for addressing smoking, nutrition, alcohol and physical activity.

- The Commonwealth is working with the RACGP and a consortium of universities on how GPs and GP organisations can work to better address the needs of disadvantaged patients.

- There are also a range of population health activities being undertaken which aim to influence, as part of a broader agenda, the nature and quality of GPs' work in relation to chronic and preventable illness. For example:

    - the RACGP is developing chronic disease self-management guidelines for GPs, allied health professionals, nurses, and Indigenous health workers. The Divisions of General Practice will disseminate and train GPs and other health providers in the use of the guidelines; and

    - work being undertaken by the Health Inequalities Research Collaboration (HIRC) is likely to have implications for the nature and quality of GPs' work. The HIRC aims to enhance Australia's knowledge on the causes of and effective responses to health inequalities, and to promote the application of this evidence to reduce the inequalities, including by influencing the work of practitioners as well as academics and policy makers in relation to health inequalities.

5.4.2 Influencing The Way Doctors Practise

Safe Working Hours

Along with measures described above to ensure that the educational and development needs of postgraduate hospital doctors are met, attention has also focussed in recent years on their working hours. Traditionally, non-specialist doctors, including residents and interns, registrars and career medical officers, employed in a hospital environment have worked long hours, usually in shifts. The resulting fatigue restricts performance, and its effects are well documented. Concentration, data processing and short-term memory are impaired, variability of performance increases and decision-making is

erratic. Inevitably, tired doctors make errors, fail to spend adequate time with patients, fail to communicate effectively with them and neglect to complete appropriate case notes. Of note, fatigue is not available in law as a defence for negligence by a doctor in a legal action by a patient (Nocera and Strange Khursandi, 1998).

There are therefore safety and quality, humanitarian and legal reasons to limit excessive hours, which in recent times have been recognised in other nations and other industries in Australia. Methods of regulation and have varied internationally, but essentially provisions have recognised that:

- on call work practices lead to long hours of work for staff, and shift rosters in comparison reduce work hours;

- flexible work patterns contribute to reduction in doctors' average work hours and periods they are required on continuous duty;

- transferring non-medical duties to nurses and clinical support staff allow doctors to focus on medical care; and

- specialists require assurance that reducing excessive hours for non-specialist doctors will not result in extra workload for senior staff.

As noted in 2.5, the AMA has developed a safe working hours policy. The former Federal President of the Australian Medical Association (AMA), David Brand, noted that while traditional working hours had endured to a degree because many non-specialist hospital doctors are young graduates awaiting entry to specialist training programs, recent graduates have expectations of work, leisure and social and family life that are increasingly intolerant of previous approaches (AMA 1998). In attempting to find appropriate solutions to the problem of excessive working hours, the AMA took particular interest in responses to similar problems in the road transport and aviation industries. [37]

It considered that the most appropriate framework within which to initiate reform was firstly a combination of education, awareness raising and self regulation through an industry code of practice, supported by legislation holding hospitals accountable. Secondly, it considered this should be coupled with a system of accreditation, which could lead to benefits for compliance such as reduced indemnity or insurance costs. Consequently, with funding provided by the Commonwealth, the association initiated a Draft National Code for peer and public review and also undertook case studies of seven public hospitals with the objective of better identifying factors that contributed to non-specialist doctors' workloads.

In the course of the subsequent debate, traditional arguments were advanced that for continuity of care purposes, doctors needed to work long hours in order to see

[37] Unless otherwise cited, the remainder of this section draws on AMA papers discussing hospital and medical workplace practices. These are found on the AMA website at http://ama.com.au.

development of medical conditions over entire periods of hospitalisation. Moreover, it was argued that junior doctors learnt responsibility and decision-making skills they required in their future careers under the existing system. On the other hand, it was argued that:

- the need for continuity of care and clinical experience could be used to justify unfair work practices and that learning experiences for junior doctors would in fact be enhanced if they were not fatigued by overly long shifts; and

- as junior doctors often worked on weekends when no senior doctors are available to provide training or supervision and where there is limited opportunity to reference medical texts, the long hours/training argument seemed contrived.

Following consultation, a national code of practice has been progressively adopted by the States since May 2000. The code is voluntary and operates within the context of occupational health and safety legislation that locates a general duty of care with employers to provide and maintain a healthy workplace. It involves three processes: hazard identification, risk assessment and risk control. The code is to be reviewed.

GP Practice Measures

Blended Payments

The fee-for-service Medicare system does not provide adequate financial incentives for doctors to provide longer consultations, instead encouraging high throughput of patients. Better care is provided if doctors spend more time with patients and provide more preventative health information. High throughput of patients is also associated with unnecessary prescribing, tests and referrals. Consequently, the Commonwealth has endeavoured to influence how GPs practise, by offering incentives for better quality care.

The Better Practice Program (BPP) was initiated in 1994 partly in response to the obvious need to assist practices providing high quality care. Following a review of the Commonwealth's GP strategy, the Practice Incentives Program (PIP) was introduced in 1999. The PIP is part of a 'blended payments' approach to funding general practice. Payments made through the program are in addition to other income earned by the GPs and the practice (largely patient fees and Medicare rebates). The PIP aims to compensate for the limitations of fee-for-service arrangements, and payments are dependent upon practice size, in terms of patients seen, rather on the number of consultations performed. The additional funding is intended to reduce the pressure on practices to see more patients more quickly, in order to maximise their income.

The basis for the new PIP payment formula was developed in consultation with the RACGP, the Divisions of General Practice, the RDAA and the AMA. The formula comprises five elements, any or all of which practices may qualify for:

- information management, including use of prescribing software, and the capacity to send and receive electronic data. All practices receive a minimum payment for providing data to the Commonwealth on the application form;

- after hours care, with a base payment for ensuring patients have access to 24-hour care and greater payments for greater participation in that care;

- rurality, determined by location outside of metropolitan areas, with greater payments for areas of greater remoteness;

- teaching of medical students; and

- participation in targeted incentives programs, such as the General Practice Immunisation Incentives and Quality Use of Medicines Programs.

Anecdotal evidence suggests that GPs are happier with the new program.

Enhanced Primary Care

Enhanced Primary Care comprises a number of innovative programs designed to allow primary care providers, especially GPs, to focus on preventative care for older Australians and better-coordinated care for people with chronic illness and multidisciplinary care needs. The package includes 28 Medicare items which rebate:

- annual health assessments for older Australians; and

- care planning and case conferencing services for people of any age with chronic conditions and multidisciplinary care needs, including people receiving care in residential aged care facilities.

These items are innovative in a number of ways that are likely to influence GP practice and workforce issues. They encourage GPs to work with other health and care providers in multidisciplinary teams. They also provide Medicare rebates for services provided where the patient is not present, for example participation in case conferencing with other members of the care team. Health assessment items encourage GPs to take a preventative approach to the health and care needs of older Australians. GPs can use third party service providers to undertake part of the health assessment on their behalf and under their supervision. Some practices are redesigning their business to best utilise the EPC items, for example, by engaging practice nurses to assist with health assessments.

Practice Accreditation

The need to ensure incentives and a structure for practitioners to pursue better and consistent quality of medical care, led the Commonwealth to pursue and ultimately introduce practice accreditation in 1998. This was a difficult process, facing strong opposition to the principle and proposed methods of accreditation from parts of the medical profession. A company limited by guarantee, Australian General Practice

Accreditation Limited (AGPAL), was formed. The five key GP organisations – the RACGP, the AMA, the RDAA, the Australian Divisions of General Practice and the Australian Association of GPs – were included as members, together with government and consumer representation on the board.

Practices are assessed against the RACGP's Standards for General Practice, including patient access, clinical care, continuity of care and practice administration. Approximately 85 per cent of practices across Australia are accredited. Accreditation has been linked to the PIP so that practices participating in the latter prior to 1 January 2001 will need to be fully accredited by 1 January 2002 in order to continue to receive payments. Practices joining the PIP after 1 January 2001 will be required to register for accreditation when they join the program and be fully accredited within 12 months of joining.

Safety and Quality Enhancement

Recent years have seen a greater role for government in contributing in the area of safety and quality of medical and broader health care services. As noted earlier, the traditional emphasis on the total responsibility of individual clinicians for the care they give and its outcomes for individual patients has been increasingly recognised as inappropriate and counterproductive. Better understood is the contribution of the health care system to provide backup needed by doctors to identify risk and prevent adverse outcomes, and the role of systemic rather than individual failure in many adverse events.

With this shift in thinking the role of governments has been increasingly to establish a foundation for practitioners to assess and improve their practice through a range of tools. For example, the Commonwealth has been working with State and Territory Governments and other bodies to create electronic access to patient and clinical information, data analysis and clinical decision-support to bring time-critical patient and clinical information to practitioners.

The Australian Council for Safety and Quality in Health Care, formed in 2000, has been given the task of providing national leadership in the implementation of safety and quality enhancement. Its first report, 'Safety First', highlighted the financial and person cost of adverse patient events and noted that health care, as a high risk high reliability industry, lagged significantly behind similar industries in its approach to safety.

The wide range of the Council's work will directly and indirectly support the medical and broader health care workforce, however one of its key priorities is to support practitioners to practise safely, by (inter alia):

- strengthening, developing and widely disseminating national standards and guidelines in priority reform areas, including credentialling and clinical privileging processes in health care delivery settings and peer and performance review;

- actively supporting the development of national specialist registration for doctors; and

- reviewing current practitioner credentialling arrangements to identify exemplars of 'best practice' and areas for reform.

This work will be undertaken in conjunction with professional associations, the AMC and State and Territory Governments, and be designed to complement and strengthen the existing approaches of these parties in ensuring safe practice.

The Commonwealth maintains a scheme offering qualified privilege to encourage health practitioners to participate in quality assurance activities, by providing protection from disclosure of certain information produced as a result of a quality assurance activity. A strategy of the Council for Safety and Quality in Health Care is to work toward consistency where appropriate of jurisdictional legislation in this area.

Evidence-Based Medicine

As discussed in 4.6, a need has increasingly been recognised for medical workforce, as well as the wider health care deliver sector, to be assisted in the practise of evidence-based decision-making. Governments and the health and medical research sectors in Australia are therefore working to foster a strong evidence base for decisions, so that knowledge can be used to improve quality and ensure better outcomes for patients which are as cost effective as possible.

The Commonwealth is a contributor to the International Cochrane Collaboration, an international organisation of health professionals, consumers and researchers formed in 1993 to prepare and maintain systematic reviews of the effectiveness of health care, and disseminate results to inform decisions about healthcare and practice. The Collaboration has created a library of databases that provide information to guide effective healthcare decisions around the world. The Australasian Cochrane Centre was established in 1995 with Commonwealth funding to coordinate Australasian participation in the Collaboration's international effort.

Effort has also been made to support and encourage use of available evidence in clinical decision-making. Clinical practice guidelines, academic detailing, prompting and reminder systems and the use of processes involving audit and feedback have been variously developed. The National Health and Medical Research Council has sponsored a program on evidence-based clinical practice research; medical schools have significantly changed approach and now teach evidence-based and problem-based inquiry methods and colleges have supported the trend through CME and quality assurance programs (Silagy, 2000).

The National Institute of Clinical Studies has been established to work across the range of clinical settings and with other lead organisations such as the Council for Safety and Quality in Health Care, universities and colleges, to identify where clinical practice can be improved and how to effect improvements. The Institute will undertake, commission and disseminate research to identify best clinical practice for a range of health conditions, with particular attention to those which are of national priority and for which there is insufficient research about best practice. It aims to build links between

the profession, consumers and other stakeholders to improve exchange of information about the operation of the health system.

Consumer Participation Education

The developing role of consumers in many areas of health care service design and delivery – which links closely to improvements in safety and quality of services – is another area where government leadership has been needed. The modern consumer role has seen significant changes in the doctor-patient relationship in recent decades, and hence in the skills required of the medical workforce, notably collaboration, communication and negotiation skills. The Consumer Focus Collaboration was established by AHMAC in 1997 to facilitate consumer participation in health care, including by promoting education and training of health care professionals to support active consumer involvement. An example of work in this area with medical workforce implications has been a Commonwealth funded project at the University of Queensland to develop and test intervention materials for doctors and patients and test their effectiveness in improving doctor-patient communication.

CHAPTER 6 - INTERNATIONAL PERSPECTIVES

Industrialised countries around the world face similar challenges in providing quality medical and broader health services. The methods employed to deal with the seemingly competing objectives of delivering more and better care with fewer resources reflect the origins of individual health systems and the social and economic cultures which they served. While the magnitude and nature of reforms undertaken by countries vary, all have revised issues of supply and delivery sufficiently to achieve efficiency gains in tandem with improved service. All acknowledge that future planning must address the structure and composition of the medical workforce as a key determinant of cost and consumer satisfaction.

This section summarises current workforce issues in four countries with reasonably comparable health systems. This brief overview shows shared problems in the areas of supply, distribution and training, and also that solutions are not necessarily transferable across health systems. It is important, however, that Australian policies are informed by international experience, particularly experience of using supply-side measures to control workforce numbers, and training initiatives to improve access to and quality of health services.

6.1 THE UNITED KINGDOM

In recent times, effects of imbalance in the United Kingdom (UK) medical workforce have become obvious. There are shortages of doctors available for consultant posts in many specialties, a reduction of trainees applying for general practice and an increase in the number of non-UK doctors working in hospital and community care posts.

Cost-effective ways for increasing the supply of doctors that also allow for future reappraisal have been suggested, including:

- increasing numbers of students as soon as possible. The options available in this context include expanding the capacity of medical schools or the geographical spread of clinical teaching facilities, extending postgraduate facilities to include undergraduate students or establishing new undergraduate medical schools;
- developing graduate entry courses;
- minimising wastage from courses;
- improving training for students; and
- researching the concept of skill mix, productivity and flexible workforce options.

The UK has recognised that given the time it will take to implement new procedures and the length of medical training, it is essential to make maximum use of the present workforce and accelerate training where possible. Undergraduate training courses may be accelerated and retraining schemes developed to encourage non-practising doctors

back to the profession coupled with flexible pension provisions that will encourage later retirements. By modifying selection procedures, medical students may be attracted from a wider range of disciplines, and further encouraged through extension of flexible training and working practices.

Since announcement of Labour's 'New National Health Service' in 1998, a number of reports have addressed health workforce planning as a crucial aspect of the revised system. One identified six major policy issues for UK health in the future: rising public expectations, an ageing population, new technologies, information and communications technology and information management, system performance and quality and workforce education and training. The report argues that pertinent issues for future medical workforces will be:

- the impact of better access for the public to health information that previously depended on professional gatekeepers. As a result of information available consumers have become increasingly ready to challenge professional and expert authority. People in the future will have different expectations about the type of care they receive, when they are treated and who carries out treatment. This will require the health system to produce a workforce that can deal with an informed public;

- the need to shift health care resources towards older people. This will mean a trend towards medium and long-term care and research posts that investigate diseases especially associated with ageing;

- the need to deal with development of technologies that allow self-diagnosis and treatment. This will influence the location of health care with more diagnosis, treatment and monitoring able to take place outside the hospital environment. Possibilities are that there will be a greater concentration of specialist equipment in a smaller number of larger centres dealing with complex cases. This will mean the medical professional taking on new roles in new settings;

- that electronic records, telemedicine and health information databases will be used extensively. As more health care is provided remotely this will mean new roles for the medical profession and other health care workers;

- technology giving patients opportunities to compare their own health system with those of other countries. Doctors will need to develop tools for measuring their own performances and those of their colleagues. They will need also to utilise more evidence-based treatment; and

- the need for all health professionals to adapt to technological change, the increased participation of women and the growing diversity of work. Women now make up over half of medical graduates and one third of hospital staff in the UK. Part time work, flexible working hours and career breaks for parenting may conflict with traditional models such as the independent contractor in general practice and intensive training for junior hospital doctors (Dargie et al 2000).

Some implications from these scenarios could be firstly a need to add continuing skill acquisition to current arrangements whereby professional bodies and institutions control training and recruitment of professionals. Secondly, more interventions could be performed by nurses and other technicians and possibly further medical responsibility transferred to 'medical assistants' in some settings. Thirdly, it could result in a changing role for GPs in treatment and management of chronic conditions particularly in the elderly. Finally it could result in less demarcation between professions and some generic training (Dargie et al 2000).

The National Health Service (NHS) has always planned the supply of practitioners on the basis of advice and evidence from advisory committees. But it appears that this approach is slow to identify and react to issues outside the perimeter of overall supply. And while there have been a number of recent reports acknowledging the need to change traditional approaches to education and practice, there has yet to be acceptance that other recently identified problems must be addressed in tandem. For example, increased emphasis on training in a general practice setting has put strain on inner city practices while rural practices are under used. Similarly, while medical student enrolments have been discussed constantly, the reality that student distribution does not reflect population distribution has been ignored. And it has not sufficiently assessed the consequences on hospital operating environment of *The European Working Time Directive* which places limits to the working week for doctors in training. Finally, there seems to be little acknowledgment that as European countries move towards undersupply of practitioners that medical workforce policy will have to address a situation similar to that faced by Canada.

The New NHS Plan Of July 2000

Following intense consultation and exploration of new health and social policy came the publication of the new NHS plan notable for its commitment to a significant increase in resources. Workforce planning targets include:

- 7,500 more consultants and 2,000 more GPs;
- 20,000 extra nurses and 6,500 therapists; and
- 1,000 more medical school places.

The development of primary care services is central to the plan, with increased practitioner numbers and support for single-handed practices via quality-based contracts. Numbers of specialist registrars are also to be significantly increased and from 2002 the Government will centrally fund all specialist registrar posts provided that agreement can be reached with the medical colleges and other bodies on curricula and criteria for training recognition.

Efforts will be made to ensure that the NHS receives the maximum contribution possible from the expanded consultant workforce. New contract arrangements for hospital

doctors will include discretionary payments in return for increased productivity and newly qualified consultants will be required to work exclusively for the NHS for seven years following graduation.

The Senior House Officer grade, which occupies the trainee from the end of his/her internship to entry into higher specialist training, will be reformed to provide better and broader educational experience and reduction in inappropriate workload.

In summary, by 2004 there will be more doctors in the NHS working in new ways under new contracts. Of note, their ability to deliver redesigned services for patients will be partly dependent on development of new roles for nurses and other NHS staff (Hicks 2000).

6.2 NEW ZEALAND

Traditionally, the health systems of New Zealand and Australia shared a number of features, including:

- publicly provided services funded through taxation;
- public provision of the bulk of secondary and tertiary care;
- significant private markets in primary care and long-term care of the elderly;
- fee-for-service funding of primary medical care;
- GPs acting as 'gatekeepers' to secondary services; and
- specialist medical staff free to work for public or private providers.

A series of dramatic reforms in New Zealand commencing in the early 1990s took that country in different directions in terms of funding, regulation and delivery of services. One aspect of the reform process was the formation of independent medical practice associations (IPAs), which now include more than 70 per cent of GPs. These associations have involved a new financing approach of budget holding by private competitive entities. Malcolm considers that the important achievement of IPAs however has been the development of a collaborative infrastructure bringing doctors together, in a new sense of collective professional accountability and sensitivity to quality and peer review (Malcolm 1998).

Within the hospital system since 1998 there has been a shift towards greater workforce flexibility and provision for more options for different health professionals to work cooperatively. The Coalition Government stated a commitment to improving access and providing better quality services and was amenable to use of alternative providers and facilities to improve quality and efficiency. As such it committed to examination of legislation that affected the health workforce to investigate possibilities for health professionals to work in new areas, be more flexible and better meet community needs.

The Labour Government elected in late 1999 has instituted further changes to New Zealand's health system. The government supports social outcomes in health and has developed a new strategy taking into account the type of medical and health workforces which will best serve the needs of a changing population base. The inadequacies in delivery of 'front line' health services to rural communities are a focus. A trial is underway of a telephone consultation line staffed by nurses and aiming to provide rural patients with immediate access to health advice. Rural medical workforce policy is being considered around four principles:

- recruitment and retention of appropriately skilled professionals;
- maintenance of practitioners' skills through continuing education programs for doctors and nurses;
- development and continuation of quality of service through the appointment of special directors to oversee rural health and provision of financial support for communities to retain services; and
- provision of sustainable lifestyles for rural practitioners and their families, with provision of locum support and bonuses (Ministry of Health 2000).

Additionally, the new government seems to be continuing the move towards empowerment of primary care practitioners which began with the establishment of IPAs by developing policy that emphasises preventative care and taking services out of hospitals and relocating them in the community. It is hoped that this strategy may help to alleviate the loss of doctors caused by migration and challenge the dominance of specialists and a clinical culture which it has been argued has impeded realisation of positive health outcomes.

The government's integrated care strategy emphasises the health of populations rather than individuals, has a strong emphasis on involvement of Maori people and overall is driven by what one analyst calls 'health goals'(Malcolm 2000). Concern has been expressed that the medical workforce has not been adequately trained to deal with this new approach and a Health Workforce Committee has been appointed to consider ways in which education, training and deployment of medical personnel can best serve the interests of an integrated system.

Prior to the 1990s, health professionals were seen as one of the problems of the health sector in New Zealand. As experiments in competition focused health delivery revealed the value of cooperation in achieving satisfactory medical outcomes for patients and providers, they also revealed the pivotal role medical professionals play in developing solutions to dilemmas. The New Zealand health system continues to face similar dilemmas to the other countries in this study, but it appears to have taken a new approach in addressing them which is clearly based on an organised, integrated primary care methodology which presents new challenges for the medical workforce. It remains to be seen if the solutions already in place, and those to be considered by the new workforce committee will deliver a system that makes best use of human resources and produces better health outcomes.

A new statutory body has just been established to advise the New Zealand Government on key health workforce issues and strategies. The Health Workforce Advisory Committee will provide advice on national goals for the health, including medical workforce, and recommend strategies to develop an appropriate workforce capacity.

6.3 CANADA

The Canadian health system is predominantly publicly financed through taxation and services are privately delivered. The system provides universal access to comprehensive coverage for necessary hospital, in-patient and out-patient medical services. Because the Canadian Constitution invests control of health with the provinces, the Federal Government's role essentially involves setting and administering standards for the system through the Canada Health Act and assisting in financing provincial plans through fiscal transfers. Individual Provinces and Territories are responsible for planning, financing and evaluating hospital care, medical and allied health services and some aspects of prescription care and public health.

Most doctors in Canada are private practitioners who work either individually or in group practices. They are generally paid on a fee-for-service basis and submit claims directly to provincial health insurance plans for payment. General practitioners, who account for the majority of practitioners, are the initial point of contact with the health system for most patients, and control access to specialist services, hospital admissions, diagnostic testing and prescription drugs.

Concerns about an impending oversupply of practitioners led Canada to reduced its medical student intake in the late 1980s. Together with significant practitioner emigration (mostly to the US) [38] and retirement this led to declining supply and ultimately concerns emerging in the late 1990s of future shortages.

Canada, like Australia, New Zealand and the United States, faces major problems of maldistribution for reasons that have been identified as common to the four nations. First, practitioners tend to concentrate in areas which provide a greater range of educational, religious cultural and recreational opportunities for themselves and their families and opportunities of work for their spouses. In Canada, like Australia, this has meant undersupply in rural and some urban areas. Second, the demands of rural practice which often lead to practitioner 'burn out' cannot compete with the opportunities urban practice affords.

Some solutions advanced to practitioner shortages have concentrated on domestic issues advocating more career flexibility for doctors, increased medical school funding, regulated tuition increases and better financial support systems for students. Various initiatives, such as financial incentives and to a lesser extent educational measures, have been employed to try and attract practitioners to undersupplied areas. Other

[38] In 1998 the loss was 248, equally split between GPs and specialists.

solutions have targeted the recruitment of international medical graduates through temporary employment authorisation. Of note, some provinces have mechanisms restricting practise in urban areas of oversupply.

Additionally, the medical workforce in Canada is affected by developments in the United States. As managed care, which makes greater use of GPs, becomes more widespread in the United States the possible impact on the Canadian workforce could be devastating if a successful campaign is launched to attract Canadian GPs south (Duphinee 1996).

In 1999 the Canadian Medical Forum established two taskforces to address the short and long-term issues in medical practitioner supply and health care delivery. The taskforces found that:

- increased demands for medical services can be directly attributed to expanded health knowledge and technology;

- changes in the delivery of health care resulting in shorter hospital stays and same day surgery have placed a greater burden on doctors and home care nurses to provide follow up care. The result has been increased GP workload in visits and telephone consultations;

- medical workforce supply will not keep pace with population growth given current medical school enrolment and projected doctor retirements;

- the aging of Canada's population will significantly impact on the medical workforce. By 2030 more than 25 per cent of Canada's population will be over 65;

- doctors are aging and as a result retirements will accelerate in the next 10-15 years so that by 2021, 43 per cent of practitioners will be over 55, a phenomenon that reflects the increased medical school enrolments of the 1960s and the numbers of immigrant graduates recruited at that time;

- there is an increasing number of women in the medical workforce. With women working on average fewer hours than their male counterparts, medical school enrolments need to increase by between four and five per cent; and

- doctors are recognising the need to balance work with community and personal needs. As in Australia and Britain, assumptions about the long hours that hospital staff traditionally work are being questioned.

It was concluded that in conjunction with an immediate increase in current medical school enrolment, measures needed to be adopted to retain and repatriate Canadian practitioners. The number of government funded residency positions had to be augmented and a formal and continuing process involving various government and medical institutions needed to develop recommendations on the number of entry positions for under- and post-graduate programs. Finally, issues of distribution had to be addressed through new models of delivery.

The Second Task Force has begun to look at issues of distribution of doctors and alternative health care delivery models. It has initially reiterated that workforce distribution is an extremely important issue for patients, governments and providers conceding firstly that the stresses of shortages are now apparent in urban as well as rural and remote areas and in many specialties.[39] Waiting lists have grown and there has been a significant increase in doctors recruited on 'temporary employment authorisation.' In short, doctor morale is low.

Further suggestions for future directions to solve some of the dilemmas of workforce planning in Canada have advocated fundamental restructuring of allocation mechanisms, transfer of responsibility for service provision in rural areas to Academic Health Centres and use of more non-medical personnel (Barer and Stoddart 1999). The latter solution is itself problematic not only because of familiar demarcation disputes, but also due to shortages of these practitioners.

It is anticipated that primary care reform will improve workforce distribution and may alleviate some of the need for foreign recruitment of GPs. However, these reforms will not be implemented immediately, therefore it is likely that the rate of overseas recruitment will remain the same for the next few years.

The Federal Government introduced amendments to the Immigration Act in 2000, which will lift the current immigration restrictions on medical practitioners as an occupational group. Although these imigrating doctors will not necessarily be licensed, their presence will put pressure on licensing authorities and provincial governments to change assessment procedures and opportunities so that they can gain entry to practise. Licensing authorities may need to develop a more sophisticated assessment.

The Royal College of Physicians has decided to allow for the assessment and eventual certification of specialists trained outside of North America. Lack of certification could complicate overseas recruitment and dissuade specialists from immigrating. This is the reverse of a decision made in 1997 to cease these procedures.

The Labour Mobility Chapter of the Agreement on Internal Trade in Canada requires provinces to comply by removing inappropriate barriers to professionals moving between provinces. Globalisation and the advent of international trade agreements are increasing the mobility of professionals between countries. Therefore, there are more opportunities for doctors to move to Canada from elsewhere (Buske et al 2000).

More broadly, a Commission on the Future of Health Care in Canada is inquiring into Canada's public health care system. The Commission will recommend long-term policies and measures to ensure the sustainability of Canada's universal publicly-funded health system in providing quality services which strikes the appropriate balance between health prevention and maintenance.

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[39] For example, anaesthesia, psychiatry, radiology, obstetrics and radiation oncology.

6.4 THE UNITED STATES

The United States health system differs markedly from Australia's. It is based on employment-related health cover and underwritten by tax concessions. A third of the population is underinsured and about 14 per cent have no medical insurance cover[40].

Traditionally, medical practitioners have been part of a private fee-for-service market and have worked in small groups with complete control over where they locate their practice. In countries such as the UK, where the State plays a significant role in medical care, practitioners cede entrepreneurial autonomy but retain clinical autonomy. However, in the United States the medical profession has demanded entrepreneurial as well as clinical autonomy, and has allied itself with business rather than the State. Preservation of this entrepreneurial aspect has yielded American doctors generally higher incomes than their counterparts in other nations[41].

Concerns about practitioner shortage dominated workforce policy in the US from the 1950s to the mid 1970s. Consensus among administrators and the medical profession during that period was that more doctors were needed to provide for growth in the population generally, to provide more services in rural and inner city areas, and with the introduction of the Medicare and Medicaid programs, to meet anticipated associated increases in demand for services (Institute of Medicine 1996).

Access to care is seen by Americans as the second most important health issue after finance. For decades, solving the dilemma of workforce under supply was seen as the solution. It appears that although overall supply has improved, access is still inadequate with shortages in rural and inner cities worsening. Various efforts have been made to deal with the problem including allocation of federal funding to doctors locating in rural areas, but resolving supply does not overcome numerous other barriers for patients especially those relating to financial access.

There is acknowledgment also that an (overall) oversupply of doctors could be absorbed if at any time there is enactment of legislation in the United States to provide universal access to care. But this development appears unlikely, particularly given the failure of the Clinton reforms. Equally, developments in the use of non-medical personnel will possibly decrease the numbers of doctors required, although recently concern has surfaced that an oversupply of nurse practitioners and physician assistants will also contribute to general clinician oversupply.

Certainly managed care organisations are integrating more nurse practitioners and physician assistants into their systems and doctors are increasingly looking to share responsibilities with non-medical practitioners. As a result, there has been an increase in

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40 Over 37 million people lack insurance. The majority of these are full-time workers with families.

41 For example, doctors in Canada in 1989 earned 55 per cent of United States physician incomes and in the UK the figure was 31 per cent. These figures are affected, however, by variations in the mix of specialists and general practitioners that are not consistent across nations (Cited in Hughes Tuohy 1999).

non-medical enrolments, which has outstripped enrolments for interns. Predictions are that non-medical professional workforce over the next 15 years will grow from 223,500 in 1994 to 443,000 in 2010. [42]

The original intention of the institution of non-medical professions was to address the problem of maldistribution, and numerically their admittance to the workforce equation means better supply of staff capable of delivering services in rural areas. But the barriers to non-physician participation are similar to those cited by rural doctors – more patients, longer hours, support of a smaller cohort of similar professionals, limited choice of social opportunities, absence of opportunities for academic development and lower incomes (Anderson and Hampton 1999).

A wide variety of policies and programs have been implemented to try and increase the number of practitioners practising in under-serviced areas. Service-contingent scholarships and loan repayment programs are among the most popular approaches. Under these programs, doctors and other health professionals receive assistance in payment for educational expenses in exchange for practise in a medically underserved area for a specific period of time. The oldest and most well-known of these is the National Health Service Corps. In the 1990s there were initiatives by the Association of American Medical Colleges (AAMC) to increase the number of minority students in US medical schools by 2000. However, there has been a decrease in numbers up until 1999 (Coffman et al. 2000). There is evidence that, should programs to increase minority enrolments be successful, they will alleviate maldistribution to some extent, as it appears graduates from minority groups are prepared to practise in underserviced areas.

Another area of current workforce concern is the mix of generalists and specialists, with family or general practitioners comprising only 13 per cent of the medical workforce. The goal is a 50:50 mix, however many argue that the current excess of specialists is not problematic and there will be a need for more specialists in the future (Coffman et al. 2000).

The United States health system continues to suffer from lack of access to care for citizens combined with escalating costs and, in medical workforce planning terms, from production of a workforce that does not make optimal use of resources. This means it is continually searching for ways in which it can improve quality of delivery and efficiency in return for over $1 billion spent each day on health care. A recent innovation has involved moving away from management of their own patients in hospitals by primary care providers to a system in which patient care is devolved to the care of a group labelled hospitalists – hospital-based general practitioners. This is a controversial departure from convention made within an increasingly competitive industry. While one goal of the model is to improve health outcomes, another is to decrease the types and amounts of resources used in patient care. It has yet to be proven if either goal can be reached (Showstack et al 1999).

[42] 223,500 is equivalent to 85 practitioners per 100,000 and 443,000 is 143 practitioners per 100,000 population (Cooper 1997).

Unlike many countries, the US has no national medical workforce policy. Policy-makers and the media generally explore health workforce issues only when shortages of health professionals are perceived to exist, or in the context of addressing health care needs. Over the past several years for example, journalists have focused primarily on difficulties hospitals are experiencing in recruiting nurses. Current federal policy initiatives emphasise oral health and mental/behavioural health. Many medical organisations have called for a national workforce planning process to allocate funding on the basis of national workforce priorities, but to no avail. Federal medical workforce policy is limited primarily to modestly funded programs that seek to increase the number of primary care practitioners, improve the geographic distribution of the workforce and increase the number of doctors from disadvantaged backgrounds (including racial/ethnic minorities). Recently, workforce experts and policymakers in rapidly growing States have begun to ask whether or not the US is training a sufficient number of medical students and some have called for increases in medical school enrolments (Coffman et al. 2000).

CHAPTER 7 – CONCLUSIONS, KEY ISSUES, KEY QUESTIONS

7.1 INTRODUCTION

Previous chapters have looked at national medical workforce policy, planning and outcomes. They show the complexity of planning a large and heterogeneous workforce, with a team of workforce players whose objectives and imperatives are in many ways shared, but in other areas divergent; and with limited levers for effecting change held at the Commonwealth level. They show the importance of balancing supply and population need, with too many practitioners draining scarce public dollars from the health system and too few practitioners creating unequal access and unnecessary suffering. Add to this the challenge of very long lead times for effecting change, imposed by the length of medical training [43], and workforce planning is revealed as an exercise in patience and sustained focus.

In broad terms, our macro planning of the workforce is well advanced, with mechanisms for data collection and workforce monitoring and projection established, and the structure of the workforce coming into balance via declining growth in the GP metropolitan workforce and increased training numbers in other specialties.

Geographic maldistribution is proving more difficult to overcome, and is likely to remain a problem, consistent with the experience of countries such as Canada, the US and New Zealand. Over the last decade we have gradually put in place a large range of mechanisms aimed at increasing the supply of practitioners in rural areas, as described in Chapter 5, some of them obligatory (in the case of provider number restrictions) and others aimed at improving training for and the attractiveness of rural and remote practice.

Some initiatives have clearly had a positive effect, in particular the provider number restrictions. Others have been less successful and many have yet to be evaluated. While there is anecdotal evidence of a measure of success in efforts to retain rural practitioners, financial incentives alone will clearly be neither successful nor feasible in significantly improving rural practitioner supply; choice of employment location is too heavily determined by lifestyle choices and a complex interaction of personal factors. The rural clinical school network is expected to counter some of the disincentives to rural practice, by providing supported exposure to rural practice for future medical students as well as research opportunities and peer networks for the existing workforce.

Progressive evaluation over the next five-ten years of the range of rural workforce mechanisms in place will improve our understanding of what works and what does not. Criteria for measuring their impact will need to be developed, and critical examination made of the synergy of the policy package: are initiatives competing, do some inhibit the intended outcomes of others, and how are they playing out within the health system? A critical and difficult question for medical workforce policy and the health care system more broadly, is what should be our benchmark of adequate access to health care?

[43] Between eight and 12 years on average.

The non-primary care specialist workforce has both similar and distinct distribution issues. Its geographic maldistribution is broadly similar in cause and effects to that of the GP workforce, with the added factor of greater requirements for sustainable rural practice affecting many disciplines (discussed in 3.3.2). As noted in Chapters 4 and 5, balancing supply and demand in individual disciplines is progressing well overall. Slow progress in remedying the size and distribution of the workforce in some fields however, causes continuous concern for governments for both health access and competition policy reasons, with application of the latter policy to workforce planning shortly to be examined.

A further issue in relation to the specialist sector is the balance of practitioner supply in the public and private hospital systems, future monitoring will show the extent to which targeted increases in specialist training numbers and other recommended policy changes adopted by AHMAC will be successful in resolving shortages in the public hospital system. Uneven distribution across the two sectors may require consideration of government intervention to ensure adequate workforce supply in the public sector.

The shortage of doctors applying for hospital non-specialist positions is a significant problem which has not eased since the introduction of the provider number restrictions, contrary to expectations. AMWAC's current reviews of this part of the workforce should provide a better understanding of the reasons for this imbalance and enable strategies to be developed to counter it. These will need to be considered alongside two other hospital workforce issues:

- the workforce supply implications of moving some prevocational and specialist training from the teaching hospitals to community settings; and

- the appropriate and desirable long term role for occupational trainees in the public hospital system.

The key supply issues over the next few years will therefore be continuing rural undersupply and hospital shortages. If the current extent and type of workforce intervention does not achieve the distribution, access and quality of care which is judged to be sufficient, other courses will need to be examined. International approaches to similar workforce problems should be watched with interest, including:

- the introduction of centralised funding and coordination of vocational training in the UK;

- the UK's replacement of large numbers of hospital non-specialist doctors with specialists and a requirement for new specialists to work for seven years in the public sector after graduation;

- the continued development in the US of substitution - by nurse practitioners and physician assistants - to ease medical workforce shortages;

- the planned development in the UK of generic health practitioners;

- the proposed lifting of immigration restrictions to increase the number of doctors entering Canada; and

- New Zealand's development of population focussed integrated care with capitated funding and its attendant restrictions on private practice, which may offer a new approach to our access and equity problems.

At home, the forthcoming review of AMWAC may also bring into focus the range of future options. The review, recently initiated by AHMAC, is to consider (*inter alia*) the Committee's performance to date, as well as:

- future national medical workforce planning needs, taking account of the relationship between the medical workforce, the wider health care workforce and broader health system issues; and

- the suitability of AMWAC – including its structure and methodology - for meeting future medical workforce planning needs, taking account of:

    - access to and utilisation of evidence-based data;
    - need for independence and access to broadly-sourced advice;
    - international experiences; and
    - current issues including the changing medical workforce, the implications of the application of the *Trade Practices Act 1974* and competition, and corporatisation of medical practice.

7.2 ADDRESSING BARRIERS TO WORKFORCE CHANGE AND SERVICE DELIVERY INITIATIVES

A consistent barrier to addressing workforce imbalances is created by the sharing of responsibility for health care funding between the Commonwealth and State and Territory Governments, particularly where initiatives require flexible funding or collaboration between providers who are funded from different sources. Governments have begun to address this barrier by experimenting with pooled funding arrangements, however further development of this capacity to pool resources will improve our ability to direct assistance to geographic areas and other groups, and reduce inequities in medical care access.

A further barrier is the fee-for-service rebate structure under Medicare, which as noted earlier, has limitations as a mechanism for remunerating practitioners including in the context of quality and addressing medical underservicing of certain groups. It has limitations, for instance, in terms of encouraging health prevention and promotion efforts by GPs. We have gone some way to overcoming this, for example with the 'blended payments' and Enhanced Primary Care items which reward GPs who spend time and resources addressing the ongoing health needs of patients. However, there is scope to take this further.

Stereotypical perceptions about practice in underserviced communities are a barrier to redistributing the workforce. Historically, prestige in clinical and medical research work has been attached to the oldest medical schools and particularly to the major metropolitan teaching hospitals. The network of rural clinical schools and University Departments of Rural Health which are being established will create a quality rural infrastructure which will help to break these historical barriers. It is hoped that a range of other factors, such as the public support and momentum to address the manifest disadvantage of Indigenous Australians, the increasing breadth of experience gained at all levels of medical education, and the range of other initiatives discussed in this paper, will all help to broaden the aspirations of new generations of doctors.

Related to this is a perception in Australia that rural practitioners need to be 'super doctors', a notion which discourages both graduating and experienced practitioners from working in rural areas. The consistent inclusion of rural experience and training in all areas of medical training will help to counter this.

There is a need to manage the expectations of the community in relation to service levels. Not unnaturally, there is a perception that rural communities should be afforded the same access to medical services as urban populations, viz. a doctor available at all times. While governments are spending very large amounts of money on the improvements in workforce provision in rural areas discussed in 5.3 [44], our extreme population dispersion simply puts this ideal level of access beyond our reach. At the local level, such expectations place great pressures on rural doctors, a further discouragement to practise in small communities. Increasing emphasis in recent years on working with individual communities in determining their particular health care needs and alternative ways of meeting them, will assist in managing expectations by not only creating more efficient and effective care systems, but by improving community understanding of the service planning challenge.

While the increasing proportion of female doctors in Australia is a positive workforce trend, the barriers to women taking up rural and remote practice need to be addressed. As touched on earlier, the steadily growing proportion of female practitioners, and their preference for urban general practice, have implications for geographic and structural imbalances in the medical workforce and hence for adequate serving of rural and remote and Indigenous communities, particularly in terms of female patients' preference for female practitioners. Women are deterred from rural practice by concerns about personal safety, lack of a peer group, lack of emotional support, lack of family support, lack of access to confidential health care, and the restriction on mobility of many women related to the careers of partners (AMWAC 1996.7). Ways of countering these disincentives need to be found.

[44] In 1999-2000, overall Commonwealth expenditure relating to rural health (that is, medical services and health and aged care more generally) was in the order of $6,207 million, approximately 25.9 per cent of the estimated $23.935 billion the Commonwealth spent on health in that year. Of this, $5,918 million was provided to rural and remote areas under mainstream programs (such as the Medicare rebate system). In addition, $289 million was for special initiatives targeted at rural and remote locations. This included $180.9 million for programs targeted to the entire rural and remote population and $107.7 million for specific expenditure on indigenous health programs. A range of new rural initiatives in subsequent Federal Budgets will significantly increase this expenditure over the next few years.

Barriers to women entering some of the specialist disciplines are evident in the figures set out in 3.2.4. The greater flexibility offered by general practice training and employment to accommodate family responsibilities appears to be a significant factor in the preference of female practitioners for this field. Other specialist colleges have made efforts to improve the flexibility of their training programs, however other strategies may need to be considered, such as mature age entry into specialist training, part time work accreditation and shorter training. There may be scope, for example, to move the focus from time-based training to competency-based training. Also of benefit would be greater numbers of women in educational roles and decision-making bodies, for both role model and mentoring purposes and to ensure that the needs of women are adequately represented.

Of singular importance is the need for progress in improving servicing by the medical workforce of Indigenous communities. This can only occur within the context of an integrated health care policy framework appropriate to the historical and political backdrop of Indigenous disadvantage, which in turn needs a context of community development, enhancement of health leadership capacity and community control over decision-making.

Strategic approaches such as a partnership between hospitals and Indigenous primary care providers may lead to better access and provision of appropriate health services. Northern Territory Health Services has recently demonstrated that integrating services while increasing community programs can reduce demand for acute care in hospitals and improve health status through earlier provision of primary health care. The Aboriginal and Torres Strait Islander Coordinated Care Trials have also attempted to address these essential weaknesses in current medical (and more general health care) servicing, but the impact of these arrangements is still localised and much remains to be done to arrange a more effective partnership between community based and existing mainstream services.

Medical practitioners have a critical role to play in achieving progress in these directions, and workforce policy needs a focus on increasing both interest in, and skills for, Indigenous health. Our system of medical education must produce more doctors who are better equipped not only for clinical and preventative Indigenous health care, but to contribute to inter sectoral liaison and advocacy, to ensure that the policies and activities of other sectors, such as education, transport, taxation and housing, are monitored and assessed for their potential impacts on the community.

7.3 EMERGING ISSUES

As our monitoring and forecasting tools and workforce planning capacity continue to improve, there are policy refinements to consider.

Arguably we can and should be moving to a situation of greater national self-sufficiency in workforce supply. There is a real risk that our dependence on OTDs to meet specific workforce shortages discourages action to address sectoral workforce issues. International mobility of the medical workforce is inevitable and has clear advantages,

but are there costs nationally, and perhaps internationally, of significant reliance on a foreign workforce? What is the optimal level of movement of practitioners in and out of our workforce, and what risks are associated with remaining substantially reliant on OTDs?

Total self-sufficiency presents the obvious challenge of establishing mechanisms to ensure even distribution of a locally trained workforce. It is relatively easy (although costly) to increase medical school places, but experience shows that the vast majority of any additional practitioners trained will end up practising in urban areas. One solution is to carefully target medical school increases through programs such as the Rural Medical Bonded Scholarships, or alternatively to introduce broader provider number controls to ensure equitable practitioner distribution.

Our increasing use of 'community-up' approaches to health care service design and delivery will inevitably require new workforce perspectives, including a move away from traditional discipline-based workforce planning structures to more functional approaches. In mental health for example, rather than asking how many psychiatrists are needed, we may consider firstly the best skill mix to deliver services to a particular community.

It is widely recognised that current workforce planning processes are limited in so far as they rely on projections based on traditional practice models, without serious exploration of emerging or alternative service models. The role and scope of a specific medical practice is significantly influenced by the system in which the practitioner works and his or her access to other health professionals. Systemic and institutional changes in health care, such as closing of outpatient departments and the development of acute assessment units in hospitals, can significantly alter service models and therefore impact on projected workforce requirements. This complex inter-relationship requires further consideration, and will be quite a challenge considering that the rate of change across the health sector is rapid yet the pipeline for medical training is lengthy.

Similarly, a growing trend toward super-specialisation in medicine has been observed in a number of countries. It reflects several factors, including expanding scientific knowledge, relative financial rewards and the concentration of practitioners in wealthy urban areas. However super-specialisation poses real problems for rural communities which are best served by surgeons and physicians with generalist skills. At the same time there are concerns about progressive deskilling of metropolitan GPs. This trend needs to be monitored to determine whether it meet the needs of the population and if not, how it can be addressed.

Clearly the question of the balance between regulatory and incentive-based means of effecting workforce change will remain of ongoing importance. The latter have been favoured by governments and the profession in Australia, to a greater extent than in some other countries. This preference must continue to be weighed against the ultimate priority of government to guarantee adequate health care service delivery to all members of the community, and the best health outcomes which can be secured for finite tax dollars.

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