Doing the Sums:
Will there be a future health workforce for rural and remote Australia?

A concise overview of past and present rural and remote General Practice workforce trends

An information paper produced for the Australian Rural and Remote Workforce Agencies Group (ARRWAG) Policy Forum in March 2006.

This paper does not represent an ARRWAG policy. The purpose of this paper is to provide information to participants at the policy forum and to guide future policy development.

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Executive Summary

The purpose of this paper is to provide a concise overview of past and present trends in Australian general practice and the implications for the rural and remote general practice workforce. More particularly, this paper is designed to provide information about the trends and how they may affect the general practice workforce supply in the future. It will consider current and anticipated future workforce supply requirements and trends together with an exploration of factors that influence medical workforce supply and demand.

It is not the intent to provide or suggest possible or potential solutions. This is the challenge for workforce planners and the medical community. The aim has been to provide an overview of general practice trends utilising data from a number of comprehensive and lengthy reports and summarize the trends and issues. This information will hopefully be helpful in informing the development of policy and planning efforts.

As the compilation of information will show, there are a number of disturbing facts about general practice workforce shortages in rural and remote areas of Australia. The following summary is based upon information produced from key sources of information about health workforce issues including: Medicare Australia (formerly HIC); Australian Medical Workforce Advisory Committee (AMWAC); General Practice Education and Training (GPET); Committee of Deans of Australian Medical Schools (CDAMS); the Medical Training Review Panel (MTRP); Australian General Practice Training (AGPT) and data compiled by the Rural Workforce Agencies (RWAs) for the Australian Rural and Remote Workforce Agencies Group (ARRWAG).

AN OVERVIEW OF KEY FINDINGS

1. There is a generational shift in the GP workforce

GPs both male and female are electing to reduce hours worked and place lifestyle ahead of work much more than older generation GPs. A decrease in the number of hours worked by GPs will lead to a reduction in the number of services provided in rural and remote communities even with some increases in the overall number of providers.

- 37.4% of GPs are working less than 0.5 of a Fulltime Workload Equivalents (FWE) based on billings through Medicare.[i]
- Female GPs comprise 36.63% of the general practice workforce in terms of numbers but only provide 25.91% of the total FWE.[ii]
- The number of GPs by headcount nationally provide 0.727 of a FWE.[iii]
- GPs aged 45 and above are carrying 65.59% of the general practice workload.[iv]

2. There is increasing demand for GP Services

Due to an ageing Australian population there has been and will continue to be an increase in diseases, medical conditions and disabilities associated with age, this is likely to increase demand for GP services.[v]

3. The GP workforce is ageing and increasingly feminised

The Australian General Practitioner workforce has an ageing and a more feminised General Practitioner workforce, this is leading to an increasing tendency to work and train part-time.

- A significant proportion (36.3%) of general practice trainees are undertaking their training on a part time basis.[vi]
- Because female doctors (and by inference female registrars) are less likely to work in rural and remote areas, it can be expected that it will be more difficult for Australian General Practice Training to attract a significant proportion of general practice registrars to work in rural and remote areas.[vii]
- That compared with national averages, female GPs are underrepresented in rural and remote areas.[viii]

4. General Practice workforce shortages continue to exist

There is a shortage of GPs overall, but the uneven distribution of shortages has meant that rural and remote Australia is particularly undersupplied.

- The estimated shortage of GPs in 2002 was in the range of 800 to 1,300.[ix]
- The shortage of between 800 to 1,300 translates into an annual requirement of between approximately 1,100 and 1,200 workforce entrants between 2007 and 2013.[x]
- Most RWAs, based on forward projections anticipate discrepancies between the available supply of GPs and anticipated demand over the next 5 to 10 years and predict an increased shortage of GPs in rural and remote locations.
- That the numbers of vacancies in rural and remote locations are tending to increase.[xi]

5. Newcomers to the GP workforce will not fill the gaps

There are significant discrepancies between AMWAC projections regarding the number of GPs needed and the number of registrars currently training for general practice.

- Currently it is estimated that there are 700 entrants per year based on those entering the workforce in recent years as Australian GP trainees and as overseas-trained doctors. When the annual requirement is estimated at between 1,100 and 1,200 we are still short between 400 and 500 entrants each year.[xii]

6. General Practice Training places are not being filled

- Over the last three years the number of general practice training places filled were less than the number of places available.[xiii]
- It is estimated that it will take at least five years for the number of graduating medical students to match the number of training places available.[xiv]

7. Adequate support needs to be provided to the increasing numbers of medical graduates

- The substantial increase in medical graduates from 2009-2010 will challenge the capacity of hospitals and training providers to provide adequate support and supervision for interns and trainees. Therefore a simple increase to the number of undergraduate training places will not provide a rural and remote medical workforce solution if these increases are not adequately supported.

8. There is a declining interest in general practice training

- That there are many options for medical graduates and that general practice will continue to experience difficulties in attracting sufficient applicants.[xv]

9. The rural pathway option is not attractive to many applicants

- It is difficult to attract GP registrars to the rural pathway.[xvi]

10. Rural and remote Australia is reliant upon those doctors compelled to work in rural and remote area

A significant proportion of the current rural and remote workforce is compelled to work in these areas. If medical registration requirements change these doctors may choose to work elsewhere.

- 25% of GPs practicing in rural and remote locations are compelled to do so as a result of Provider Number legislation requirements or bonding conditions.[xvii]

Introduction

Throughout the 1990s and into the early 2000s the prevailing wisdom was that the Australian General Practice workforce was in a condition of oversupply, although it was acknowledged that there was an undersupply in rural and remote areas. The Australian Medical Workforce Advisory Committee (AMWAC) 2000[xviii] estimated that in 1998 there was a national excess of GPs above the supply benchmark of 1,070. AMWAC also estimated there was a shortage of 1,240 GPs in rural and remote areas and a supply in excess of benchmark level of approximately 2,300 GPs in metropolitan areas.

The contention that Australia had an overall oversupply of General Practitioners became increasingly challenged in the early 2000s culminating in a report commissioned by the Australian Medical Association and undertaken by Access Economics in 2002[xix]. The report *'An analysis of the widening gap between community need and the availability of GP services'*, suggested that there was an overall shortage of GPs in Australia as well as misdistribution. The report also contended that shortages of GPs were by no means confined to rural and remote areas but were becoming increasingly apparent in provincial and outer urban areas. The report stressed that it was not only the number of doctors that was important, but also the number of hours they are willing to work. They also suggested remuneration initiatives to attract GPs to work longer hours and the use of complementary practitioners such as practice nurses.

Today, there is increasing concern about a number of trends that point to a worsening of this situation. The sections that follow will provide information on trends according to a range of key data sources. As outlined in the Executive Summary, this information, when compiled together provides reason for concern.

However, in order to provide a context for this information, it is important to acknowledge that our current understanding of a growing shortage of general practitioners is based on differing approaches to workload measures.

Traditionally, these estimates were based on measures that determined need according to population ratios, [xx] but it was obvious that this measure would not account for the variations across geographic areas/regions or for the variations in the number of hours worked by individual doctors.

As a result, the concept of a full-time workload equivalent (FWE) was developed by the Health Insurance Commission (now Medicare Australia). A FWE value is calculated for each doctor by dividing the doctor's Medicare billing (Schedule fee value of claims processed by the HIC during the reference period) by the mean billing of full-time doctors for the reference period. [xxi]

Using some of these more recently developed measures, the problems become more obvious and clearly demonstrate the impact of increasing numbers of part-time practitioners.

The current GP workforce

AMWAC 2005 DATA

Taking into account previous criticisms, AMWAC in 2003-2004 again undertook an analysis of the general practice workforce in Australia. This review included a comprehensive series of consultations with stakeholders across Australian and the incorporation of additional data sets including data compiled by RWAs for the Australian Rural and Remote Workforce Agencies Group.

Major findings reported by AMWAC 2005[xxii] in relation to the Australian general practice workforce included:

- In 2002, there were approximately 22,000 GPs in Australia and more than 80% of the workforce was vocationally registered. The distribution of the GP workforce by state and territory closely followed the population distribution, with 70.4% of the workforce in major cities.

- The average age of GPs was 48.6 years and the majority (60.9%) were aged between 35 and 54 years. More than a third of the workforce (37.0%) was female and female GPs were, on the average, seven years younger that their male counterparts.

- GPs work an average of 41.1 hours per week. Females GPs worked, on average 13.6 fewer hours per week than male GPs did. GPs in major cities worked the fewest number of hours per week – 40.0 hours per week on average. Average hours worked increased progressively with rurality and remoteness, with GPs in very remote areas averaging the highest work load – 49.2 hours.

- A large proportion of GPs (40.3%) worked in practices of five or more GPs and 15.9% worked in solo practices. Most GPs worked in private rooms (78.1%) followed by 5.5% who worked in acute care hospitals, 3.1% in 24 hour clinics and 3.0% in non residential health facilities. The remaining 10.3% worked in a variety of other settings.

AMWAC Modelling

Modelling of the supply and demand for general practice services was undertaken by PricewaterhousCoopers (PwC). The GP modeling group – part of the AMWAC general practice working party – provided advice on this modeling work. The modeling group was also asked to consider the projections of GP supply and demand and the requirement for new entrants to the GP workforce to the year 2013. These projections were developed by the National Health Workforce Secretariat (NHWS). Complete details of this modeling, the underlying assumptions and results from projections are provided in the full AMWAC 2005 report and the accompanying technical paper[xxiii xxiv].

Based on the modeling and projections, AMWAC contended that their key findings were:

- an increase in demand for GP services:
- an overall shortage of the GP workforce, coupled with its continued uneven distribution
- a decrease in hours worked by the GP workforce
- an ageing GP workforce
- the estimated shortage of GPs in 2002 was in the range of 800 to 1,300

AMWAC also contended that:

- This shortage of between 800 to 1,300 translate into an annual requirement of between approximately 1,100 and 1,200 workforce entrants between 2007 and 2013. The current estimated entrants are in the range of 700 per year based on those entering the workforce in recent years as Australian GP trainees and as overseas-trained doctors.

AMWAC also suggested that the GP shortages may be alleviated by:

- additional Australian GP trainees
- overseas-trained doctors
- maximising the workforce participation of existing GPs
- new models of care

Problems with AMWAC recommendations

An exploration of the data and trends listed above suggest that there are some significant disparities between what AMWAC is recommending and what is happening in general practice training. AMWAC recommendations that suggest that between 1,100 and 1,200 workforce entrants are required annually from 2007 and 2013 are largely beyond the capacity of Australian General Practice Training to provide. Even if funding for additional training places was made immediately available, data would suggest that the declining attraction of general practice as a speciality would not attract numbers anywhere in the vicinity that AMWAC recommends. Similarly, the infrastructure and support mechanisms to cater for a suggested 500 increase in general practice trainees does not exist, particularly so in rural and remote communities.

Other suggestions by AMWAC to alleviate GP shortages are also problematic. The suggestion that overseas-trained doctors (OTDs) may be part of the solution is questionable. Recent actions and processes introduced by state and territory Medical Registration Boards indicate that Australia will become increasing less attractive to OTDs in a world market that is very competitive.

Furthermore, maximising the workforce participation of existing GPs sounds good in theory, but how do we achieve this? Data suggests that there is considerable underutilisation of existing capacity. Perhaps we need to look at contracting GPs to provide a specific number of services for a specific period of time outside their normal practice.

New models of care is a very generic term and non-specific solution. AMWAC does not define what it means by new models of care, and in some ways it sounds like a proxy for substitution. While substitution, in some cases may be necessary in light of the trends revealed previously, we would suggest caution as it is difficult to comprehend the logic of taking people from one area of workforce shortage (e.g. Nursing) to supplement another area of workforce shortage (e.g. General Practice).

FULL TIME WORKLOAD EQUIVALENT (FWE) DATA

For the 2002-2003 reference period, the FWE value for vocationally registered doctors was $221,864.[xxv] At the national level, for the 2004 calendar year there were 22,484 medical practitioners providing one or more general practice type services through Medicare equating a FWE total of 16,349.7. These figures represent a decrease of 296 medical practitioners (or FWE of 561.4) from the 2003 period. Table A in the appendix displays the percentage of total FWE provided by age category and gender, the trends evident nationally include:

- The majority (36.40%) of the general practice workload is being carried by practitioners in the 45 to 54 age category (males 26.70%, females 9.70%).
- The next most productive group is the 35 to 44 age category who carry 26.55% of the total workload.
- Practitioners in the 55 to 64 age category carry 21.82% of the total workload.
- Practitioners over 65 carry 7.37% of the total workload while those aged under 35 carry 7.87% of the total national general practice workload.
- Although there is decrease of 296 practitioners from 2003, the proportion of workload distribution has not altered significantly.

An alternate method of analysing the data can be undertaken by exploring the proportion of FWE provided by headcount (number of practitioners) and gender. The results of this analysis are displayed in the Appendix as table B. A summary of the trends evident include:

- 37.46% of the total headcount (available general practitioners) worked less than 0.5 of a FWE. For males 16.84% worked less than 0.5 FWE and for females 20.62%. The workload contribution for this group was 15.43% of total FWE.
- 35.14% of practitioners provided between 0.5 and 1 FWE (23.23% males and 11.91% females). The workload contribution for this group was 35.97% of total FWE.
- 27.40% of practitioners carried a workload greater than 1 FWE. The workload contribution for this group was 48.59% of total FWE.
- Nationally, female practitioners comprised 36.63% of the general practice workforce in terms of numbers and provided 25.91% of total FWE.

Nationally, the total FTE for 2004 was 13,924.6

With an increasingly part-time workforce it is important to analyse workforce numbers using measures like the FWE. Without such measures, doctors working part time and therefore providing fewer services are considered as full time doctors which does not accurately reflect the situation.

RURAL WORKFORCE AGENCY DATA

Data compiled by Rural Workforce Agencies[xxvi] indicate that there has been an increase in the number of rural and remote medical practitioners from 3,903 in 2002 to 4,186 in 2004 (7.25%). However, data also indicate that over the same period, average total hours worked declined from 46.65 hours in 2002 to 43.68 hours in 2004. In theory, this equates to a loss of 285 fulltime equivalent doctors and suggests that increases in numbers are being counterbalanced by a decline in total hours worked. Data also indicates that female practitioners comprise 29.7% of the rural and remote medical workforce and that this is less than the national average female participation rate of 36.6 percent.

It also needs to be appreciated that a significant proportion of the rural and remote medical workforce are compelled to work in Districts of Workforce Shortage (DOWS) in order to obtain access to the Medicare schedule. AMWAC (2005)[xxvii] states that there are now more than 1,500 restricted OTDs with approvals to work in general practice and that these are largely in rural and remote areas

Data maintained by Health Workforce Queensland[xxviii] indicates that as at 30th November 2005, 217 or 21.8% of the 993 medical practitioners working in RRMA 4 to 7 locations were required to work in an Area of Need. In addition, there are also an unknown number of Australian and overseas trained doctors who are subject to provider number restrictions or are bonded to work in a rural or remote location. It is conservatively estimated that at least 25% of the rural and remote medical workforce in Queensland are compelled to work in these locations.

In the 2001-2004 triennium all Rural Workforce Agencies were required to develop a workforce plan for their state/territory. An essential part of this planning included projections of future supply and demand for GP services. Although methodologies employed were not identical, the following section will provide an overview of the results of the projections undertaken.

The New South Wales Rural Doctors Network (NSWRDN)[xxix] estimated that there would be a shortfall of GPs in rural and remote areas of New South Wales (RRMA 3 to 7) of between 275 and 410 GPs by 2012. Even though it estimated a net increase in the number of rural and remote GPs, shortages would occur due to a decrease in average clinical hours worked combined with increased demand for services due to population increases.

Rural Workforce Agency Victoria (RWAV)[xxx] estimated that between 2002 and 2012, the supply of GPs in rural areas (RRMA 3 to 7) would need to increase by 311 to account for a growing and ageing population and reduced general practice work hours. They also estimated that an attrition rate of 6% represents a need for an additional 84 GPs by 2012.

The Western Australian Centre for Remote and Rural Medicine (WACRRM)[xxxi] estimated that by 2012, the difference between projected need and projected availability of GPs in rural and remote Western Australian could be as high as 220 to 230 doctors. Additionally, they noted that the availability of GPs to 2012 will be predominantly affected by the low number of Australian trained GPs currently entering the rural workforce together with an already marked trend towards reduction in participation rates of those already in the workforce.

The Rural Doctors Workforce Agency (RDWA)[xxxii] in South Australia estimated that in rural and remote areas of South Australia (RRMA 4 to 7), the difference between need and supply of GPs may be as high as 133 GPs by 2008. The estimates of unmet demand were developed based on several projection scenarios that considered a range of parameters. These included GP age and gender, GP lifestyle – retirements, hours worked and duration of stay in rural areas – entry to and exit from the workforce and productivity.

Health Workforce Queensland[xxxiii] (formery Queensland Rural Medical Support Agency) estimated that by 2012 the potential GP shortfall in rural and remote Queensland (RRMA 4 to 7) could range from 79 to 178 GPs. These estimates were based on a range of assumptions around current supply and requirements, estimated growth in requirements and changes in hours worked by GPs.

Vacancy data maintained by Rural Workforce Agencies also provide a useful insight into potential workforce problems and shortages. Data as displayed in Table C of the appendix indicates an increase in the number of GP vacancies between November 2005 and March 2006 in all states except South Australia and the Northern Territory.

Australian General Practice Trainees – The next workforce

ACIL Tasman[xxxiv] in their evaluation of the regionalization of general practice vocational training in Australian provides the background as detailed below:

Since the introduction of the *Health Insurance Amendment Act (No.2) 1996*, all new general practitioners must achieve Fellowship of the Royal Australian College of General Practitioners (FRACGP) in order to gain access to an unrestricted vocational registration (VR) Medicare provider number. Prior to the major training reforms, the RACGP was solely responsible for the provision of GP training.

Stemming from the findings of the Ministerial Review of General Practice Training in 1998, the Minister for Health announced a package of reforms that involved significant changes to the structure and delivery of general practice vocational training in June 2000. The major elements were:

- the establishment of a government owned company which would hold the funds for all post-graduate general practice vocational training; and
- the regionalisation of the management and delivery of training, with encouragement for a wider range of training providers to participate under a contestable GP training model.

In response to this decision, General Practice Education & Training Limited (GPET) was founded in March 2001 to implement the regionalised and contestable GP vocational training program - to be known as the Australian General Practice Training Program (AGPTP). In January 2002, GP training under the regionalised training program commenced.

In addition to establishing GPET and a regionalised system of GP training, the reforms announced in 2000 also:

- increased the quota of available first year training places from 400 to 450, effective from 2001;
- introduced a dedicated Rural Pathway (covering RRMA 4 to 7 locations);
- introduced a mainly-urban General Pathway; and
- provided financial incentives for Rural Pathway registrars.

Since the AGPTP became operational in 2002, the Australian Government has introduced a range of other initiatives that have affected the operation of the AGPTP. These initiatives include:

- the creation of new Rural Clinical Schools;
- increasing the quota of first year training places from 450 to 600, effective from 2004;
- requiring GP registrars on the General Pathway to undertake six months training in an eligible outer metropolitan practice.

General Practice Training Intakes

Perceptions throughout the 1990's that the general practice workforce was in a condition of oversupply, led to a capping of available GP training places. While the number of training places has subsequently been increased, the number of submitted applications has remained relatively steady and has not increased in line with additional places available. Data as displayed in Figure 1 provides details as to the number of applicants from 1998 to 2006, the number training places available, the number of rural pathways acceptances, the number of unfilled rural pathway places and the total number of training places filled.

Figure 1: GP Training Program applications 1998-2006

Year	No. of submitted Applicants	No. Training Places	Rural Pathway Acceptances	Unfilled Rural Pathway places	Training places filled
1998	729	400			
1999	695	400			
2000	756	400			392
2001	764	450			429
2002	661	450		9	457
2003	630	450	190	10	455
2004	701	600	209	50	557
2005	679	600	179	71	532
2006	709	600	232	28	558

Sources: GPET, March 2006, personal communication; ACIL Tasman. (2005); Australian Medical Workforce Advisory Committee (2005)

Note: Unfilled rural pathway places can be a little misleading due to GPETs use of an over-allocation model.

A quick analysis of the data displayed in Figure 1 would suggest that:

- There is a declining interest in general practice training.
- The rural pathway option is not attractive to many applicants.
- The number of unfilled rural and general pathway places is an issue of considerable concern.

Additional data reported in the ACIL Tasman evaluation includes:

- General Practice training applicants, on average, are in their early 30s and are predominately female (57% in 2005). Approximately 35 per cent of applicants are IMG doctors. In 2005, 28 per cent of applicants were under the 10 year moratorium.
- Given the provisions of Section 19AB of the *Health Insurance Act 1973 (theAct)* it is not surprising to find that the Rural Pathway, with 81 IMG registrars commencing training in 2004, has the highest number and proportion of International Medical Graduates (IMGs).
- A study commissioned by the Department of Health and Aged Care (2001)[xxxv] highlighted that males and females have notable differences in the levels and types of participation in the workforce. For example, compared to men, women are:
  - more likely to work fewer hours over their working lives; and
  - less likely to work in rural and remote areas.

- The results of this study highlight that the feminisation of general practice has important implications for the general practice workforce and GP training. Because female doctors tend to work fewer hours than their male counterparts they can be expected to see fewer patients and hence more doctors are required to meet the health requirements of the Australian community.
- Because female doctors (and by inference female registrars) are less likely to work in rural and remote areas, it can be expected that it will be more difficult for Australian General Practice Training to attract a significant proportion of general practice registrars to work in rural and remote areas.

Data provided to the Medical Training Review Panel[xxxvi] indicates that in 2005, 690 or 36.3% of total general practice trainees (N1905) were undertaking their training on a part time basis.

Australian Medical Graduates – The future workforce

CDAMS and Medical Training Review Panel data

Data sourced from the Committee of Deans of Australian Medical Schools (CDAMS) website provides information as to the number of domestic students graduating from Australian Medical Schools for the period 1990 to 2004. These are displayed in Table D of the Appendix. This data indicates that the number of Australian medical graduates has remained relatively steady over the past decade.

Lennon (2005)[xxxvii] has noted that a key strategy of the Australian Government in addressing medical workforce shortages has been to increase medical school places in existing medical programs and open new medical schools.

Since 2000, the number of publicly funded medical school places across the tertiary education sector has increased by more than 30%. It is projected that, as a result of various initiatives, the number of Australian students completing university medical studies will grow from 1,300 in 2005 to 2,100 early next decade – an increase of more than 60%.

While this increase in medical student places is welcome, it will be some considerable time before many of these students enter the workforce. Data from the Medical Training Review Panel[xxxviii] indicates that in 2005 there were 1898 first year training positions available across all specialties with a similar number expected in 2006 (see Table E in the Appendix). The number of training positions available is considerably higher than the current number of medical graduates and would suggest that general practice will continue to struggle in attracting sufficient applicants into the future.

It is also likely that the increase in medical graduates will generate increased pressures on training hospitals in terms of providing adequate supervision and training for interns.

What's being done?

To give credit where credit is due, the Australian Government and the Department of Health and Ageing have embarked on a variety of initiatives to strengthen the rural and remote medical workforce and address maldistrubtion. A summary of these initiatives as outlined by Sims and Bolton[xxxix] in General Practice in Australia: 2004 is outlined below

In 1996, the Australian Government introduced a number of initiatives aimed at more actively managing the market for GP services, in particular to deal with market failure in non-metropolitan areas. In that year restrictions were introduced on assignment of provider numbers to new graduates and temporary resident overseas-trained doctors. This, along with zero growth in the number of GP registrars, led to a slowing in growth of the GP workforce. Together with the workforce maldistribution discussed above, this created a need for intervention to ensure an adequate GP workforce in areas of undersupply. A range of strategies has been implemented over the last five years. Some of these are primarily workforce related and others have workforce components. These are summarised here, along with a brief statement describing their relevance to the workforce.

- The establishment of Rural Workforce Agencies (RWAs) in 1998 to provide incentives for, and to support, rural practice (this includes the development of better measurement of rural workforce activity, particularly of services not funded by Medicare). These RWAs have developed tracking systems that provide locally specific information on workforce gaps, such as procedural services in smaller communities.
- A Bonded Medical Places (BMP) scheme, which supports medical undergraduates in return for a commitment by them to work in an area of need. This increases the potential pool of graduates committed to work in these areas.
- Granting of provider numbers to overseas-trained doctors to work in areas of need. This provides a short-term additional workforce pool, as undergraduate measures will take some time to generate trained GPs.
- Funding of regional medical schools at James Cook University in Townsville and the University of New South Wales' Greater Murray Clinical School. These include affirmative action programs that preferentially give places to students from rural backgrounds.
- The Rural Australia Medical Undergraduate Scholarship (RAMUS) Scheme, which is an unbonded program available to students of rural origin.
- Funding of ten University Departments of Rural Health across Australia. This initiative provides a decentralised infrastructure to better support workforce development in the health professions in rural areas.
- Funding for general practice registrar positions tied to rotations in rural areas.
- Provision of incentive payments to GPs who agree to work in areas of need. This program was recently extended from rural to selected outer metropolitan areas.
- Additional medical school and general practice training places. This recognises that, increasingly, graduates are choosing not to work full-time. Therefore, the system needs to generate higher numbers of graduates to ensure replacement and workforce growth commensurate with the health needs of a growing population.

- Allowing otherwise ineligible practitioners to bill under Medicare if they provide after hours services: the Approved Medical Deputising Service (AMDS) program.
- Funding for practice nurses, particularly in areas of undersupply of GP services. This scheme was expanded in July 2004 to include subsidies to employ other health professionals such as Indigenous health workers and physiotherapists, allowing capacity building in primary care and some workforce substitution, without impacting on general practice incomes or control.

The list above is not exhaustive. Other initiatives introduced by the Australian Government have included:

- Funding to recruitment agencies (including RWA's) to attract an additional 725 appropriately qualified overseas-trained doctors to be working in Australia by 2007.
- The provision of funding through the state and territory workforce agencies for the training and support to doctors on the Rural Locum Relief Program (RLRP) and 5 year programs.
- An increase in the number of rural clinical schools from 10 to 13.

Conclusion

Despite the initiatives listed above, data and trends presented earlier in this paper suggest that the future for general practice and in particular rural general practice remains problematic. Data from AMWAC suggest that there is an increase in demand for GP services combined with an ageing GP workforce. Data also indicate that there is a decrease in hours worked by GPs and an estimated shortage of between 800 to 1,300 GPs in 2002.

Data from Medicare Australia indicate that over 37% of GPs are working less than 0.5 of a Fulltime Workload Equivalent in terms of Medicare billings and that females, while comprising 36.6% of the GP workforce, provide 25.9% of the GP workload. Data from General Practice Education and Training and the Medical Training Review Panel indicate that over a third (36.3%) of general practice trainees were undertaking their training on a part time basis in 2005. Data also suggests that for the last three years (2004 to 2006) that the number of GP training places filled was less than the number of training places available and that this shortfall was evident in both the rural and general pathways.

Data from the Medical Training Review Panel indicate that the number of first year training places available across all specialities (1898 in 2005) is considerably higher than the current number of medical school graduates. As a result, there appears to be a declining interest in general practice training as evidenced by the decline in the number of training places filled over the past three years.

Data from CDAMS indicate that females now comprise over 55% of medical school intakes. Similarly, data from GPET indicate that general practice trainees are predominantly female (57% in 2005). As female doctors tend to work fewer hours compared to their male counterparts (estimated 13.6 hours fewer hours per week by AMWAC), implications are that they can be expected to see fewer patients and hence more doctors will be required to meet the health requirements of the Australian community.

AMWAC has suggested that based on the estimated shortage of between 800 and 1,300 GPs in 2002 that approximately 1,100 to 1,200 workforce entrants will be required each year between 2007 and 2013 with current entrants estimated at 700 per year. This estimate is quite sobering and probably impossible to achieve. Evidence suggests a declining interest in general practice training with the number of training places filled less than the number of allocated places. While the number of medical school places has been increased and a number of new schools brought online, the major impact of these increases will not be seen to 2009-2010. It is uncertain if the increase in medical school graduates will translate into an increase in general practice applicants given the choice of other specialities available. It is also anticipated that the increase in medical school graduates will challenge hospitals and other training providers in terms of having an adequate infrastructure and resources to supervise, train and support the increased number of interns/trainees.

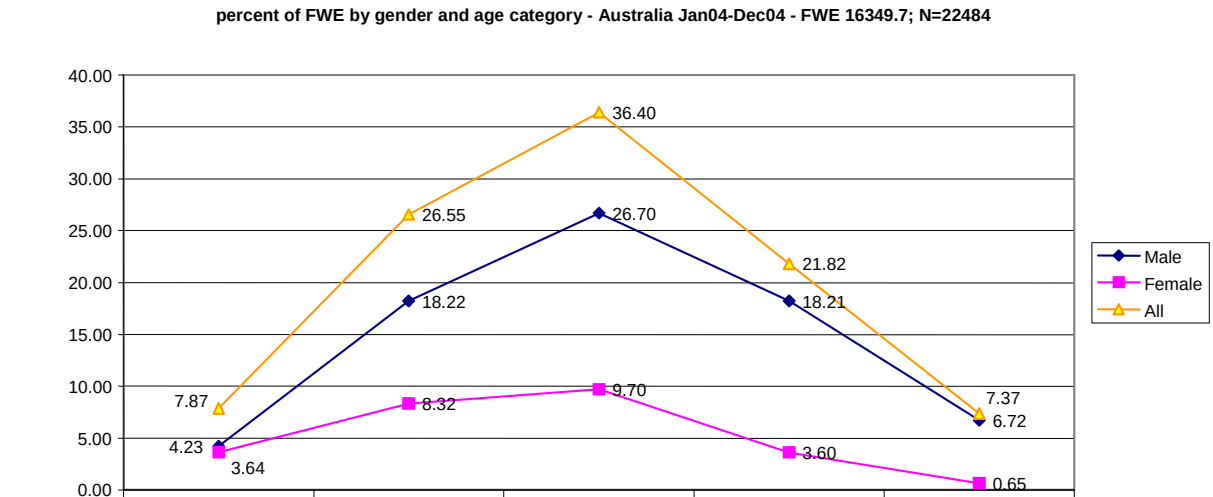
Projections compiled in 2003 by state/territory Rural Workforce Agencies suggests that by 2012 the shortfall of GPs in rural and remote areas could be in the vicinity of 1018 to 1346. These projections are largely based on anticipated increased demand for services, a decrease

in hours worked, population increases and generational changes in GP work preferences and patterns. It is also noted that a significant number of rural and remote GPs are compelled to work in rural and remote areas and are not necessarily there on a voluntary basis. This again adds to the fragility of general practice in rural and remote Australia.

What stands out in the data presented throughout this paper is a significant difference between estimated GP requirements as projected by AMWAC and available supply. The numbers simply do not correlate. With GPET currently unable to fill available GP training places, the implied increase of 500 to 600 additional GP training places would be unachievable even if funding was immediately available. While the increase in medical school places and anticipated graduates is welcome, there are potential difficulties in the capacity of training hospitals to adequately support and supervise these new interns. This resource and supervision issue will also impact downstream as doctors commence general practice and/or other speciality training.

Appendix

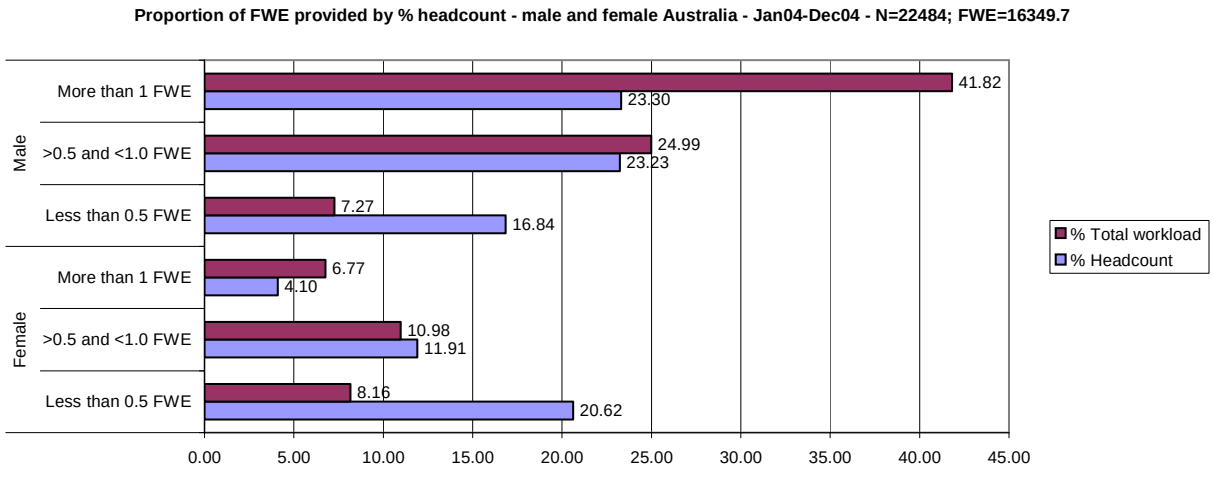
Table A: Percentage of total FWE by age category and gender 2004



	< 35	35-44	45-54	55-64	65+
Male	4.23	18.22	26.70	18.21	6.72
Female	3.64	8.32	9.70	3.60	0.65
All	7.87	26.55	36.40	21.82	7.37

Source: National HIC data1st January 2004 to 31st December 2004[xl]

Table B: Proportion of FWE provided by headcount – male and female (National)



	Female			Male		
	Less than 0.5 FW	>0.5 and <1.0 FW	More than 1 FWE	Less than 0.5 FW	>0.5 and <1.0 FW	More than 1 FWE
% Total workload	8.16	10.98	6.77	7.27	24.99	41.82
% Headcount	20.62	11.91	4.10	16.84	23.23	23.30

Table C: Rural vacancies by state/territory in the past three months

	November 2005	March 2006	Difference
Victoria	91	94	+3
Queensland	54	65	+11
New South Wales	135	156	+21
Western Australia	45	63	+18
Tasmania	15	27	+12
South Australia	20	20	0
Northern Territory	30	23	-7

Source: ARRWAG 2006 – Data file

Table D: Medical Course Graduates Time Series 1990-2004, Domestic Students

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Flinders	49	62	60	56	67	55	53	72	56	56	54	54	58	56	67
UNSW [a]	189	172	5	143	139	144	155	156	134	145	157	158	165	159	163
Tasmania	36	30	38	45	47	36	46	52	42	45	56	54	53	45	55
Queensland	208	197	198	200	201	209	209	219	211	224	191	220	220	215	225
Newcastle	63	53	52	54	71	61	75	56	62	65	60	65	65	59	65
Adelaide	82	90	107	91	93	95	97	96	93	103	98	90	84	81	94
Melbourne	142	165	156	191	169	165	189	161	168	184	190	193	174	206	179
Monash	123	117	136	133	124	138	153	131	131	132	125	129	150	145	144
Sydney [b]	34	162	154	217	212	210	242	197	205	201	137	119	185	188	190
UWA	104	105	108	101	107	97	111	104	117	101	127	121	110	112	105
JCU [c]															
ANU [d]															
NDU [e]															
Griffith [f]															
Bond [g]															
TOTAL	**1030**	**1153**	**1014**	**1231**	**1230**	**1210**	**1330**	**1244**	**1219**	**1256**	**1195**	**1203**	**1264**	**1266**	**1287**

[a] Change from 5 to 6 year course affected 1992 graduate numbers.

[b] Change from 5 to 6 year course affected 1990 - 1991 graduate numbers.

[c] No graduates at JCU until 2006

[d] No graduates at ANU until 2007

[e] No graduates at NDU or Griffith until 2008

[f] No graduates at Bond until 2009

Source: CDAMS - Medical Student Statistics 2005. http:/www.cdams.org.au/pdf/med_stu_Stats_05.pdf

Table E: Estimated first year training positions/trainees likely to be available in the next year, by medical college/faculty/vocational training organisation and year, 1997-2005

College/faculty	1997	1998	1999	2000	2001	2002	2003	2004	2005
Anaesthetists	145	165	148	141	158	134	219	153	159
Dermatologists	13	8	6	9	14	15	12	3	17
Emergency Medicine	120	121	150	150	98	115	91	108	122
General Practitioners	400	400	410	450	450	450	600	624	626
Medical Administrators	20	20	20	20	20	21	27	27	27
Obstetrians & Gynaecologists	55	55	50	50	50	47	47	48	56
Ophthalmologists	21	24	18	18	18	26	28	25	22
Pathologists	50	43	49	48	71	54	44	46	58
Physicians - Adult Medicine	148	118	192	204	166	184	228	257	274
Physicians – Paediatrics & Child Health	59	43	68	68	50	48	63	97	89
Physicians – Occupational Medicine	12	-	10	-	-	-	8	-	-
Physicians – Public Health Medicine	24	24	24	-	-	16	15	18	12
Physicians – Rehabilitation Medicine	13	14	19	20	25	27	29	29	30
Psychiatrists	118	122	118	117	126	127	106	115	142
Radiologists – Radiodiagnosis	43	50	62	41	41	34	37	21	9
Radiologists – Radiation Oncology	-	4	-	11	12	6	10	14	15
Surgeons	128	139	139	162	184	185	188	197	240
Total	**1369**	**1350**	**1483**	**1509**	**1483**	**1489**	**1752**	**1782**	**1898**

Note: Intensive Care data not available

Source: Medical Training Review Panel. (2005). *Ninth Report* (notes accompanying this table have been omitted and can be accessed from the MTRP report).

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Endnotes

[i] Hicstats (2005). Medical Workforce Report (data file) – August 2005. Canberra: HIC.
[ii] Ibid
[iii] Ibid
[iv] Ibid
[v] Australian Medical Workforce Advisory Committee. (2005). *The General Practice Workforce in Australia: Supply and Requirements to 2013, AMWAC Report 2005.2*. Sydney.
[vi] Medical Training Review Panel. (2005). *Ninth Report*. Canberra. p.32
[vii] Department of Health and Aged Care. (2001). The Australian Medical Workforce. Occasional Papers New Series No.12, August 2001. Canberra: DHAC.
[viii] Health Workforce Queensland, & New South Wales Rural Doctors Network. (2005). *Rural Workforce Agencies Minimum Data Set Report as at 30th November 2004*. Brisbane: HWQ.
[ix] AMWAC (2005) Op Cit.
[x] Ibid.
[xi] See Table C in the Appendix.
[xii] AMWAC (2005) Op Cit.
[xiii] Medical Training Review Panel. (2005) Op Cit.
[xiv] Medical Training Review Panel. (2005) Op Cit and Table D in the Appendix.
[xv] Ibid.
[xvi] See figure 1.
[xvii] Health Workforce Queensland. (2005). *Overview of the Queensland Rural and Remote Medical Workforce - Minimum Data Set Report as at 30th November 2005*. Brisbane: HWQ.
[xviii] Australian Medical Workforce Advisory Committee (2000). The General Practice Workforce in Australia: AMWAC Report 2000.2. Sydney.
[xix] Access Economics (2002). An analysis of the widening gap between community need and the availability of GP services. Canberra: Access Economics.
[xx] Traditional measures of medical workforce supply and requirements have tended to use doctor to population ratios (DPRs) for determining need for GPs[3]. This approach normally involves the application of an existing or desired ratio of workforce size to population. However, AMWAC acknowledges that factors other than population size (e.g., level of morbidity, sex, ethnicity, socioeconomic indicators, income and environment together with the age and gender composition of the medical workforce) impact on population need for medical services. As such, AMWAC suggests that DPRs (based on headcounts) are useful mainly for descriptive purposes and should not be used to determine future workforce requirements or for benchmarking purposes. Headcounts can also be misleading for workforce planning and analysis due to variations among geographic areas in the proportions of doctors working full-time, part-time or casual.
[xxi] A previous measure developed by the HIC was Full-time Equivalent (FTE) which is used to assign a practitioner as casual, part-time or full-time based on levels of billings over a given reference period. However, based on the HIC definition of full-time as a billing income of $86,727 or more over a 12 month period (2003-2004)[4] the measure attracted criticism as it was considered that this income level was too low for most full-time GPs[5]. Use of FWE is claimed to overcome this limitation and in contrast with a FTE, a FWE can be fractional and exceed a value of 1 whereas FTE is capped at 1. For example, HIC billings of $342,000 would derive a FWE value of approx 1.5 while HIC billings of $166,000 would derive a FWE value of 0.75. These values are adjusted annually and are sometimes recalculated in retrospect by the Department of Health and Ageing.
While HIC data does have some limitations in that it is time delayed (usually six months before reliable data is available) and does not capture services not claimable through Medicare or the Department of Veteran Affairs (estimated at 9.1% by Britt et al., 1999)[6], it is probably more reliable (although less detailed) than self-reported data collections undertaken by agencies such as the Australian Institute of Health and Welfare and the Australian Bureau of Statistics. This is due to the fact that it is based on the ($) dollar value of claims over a given reference period and does not depend on an incomplete, imputed snapshot at a given point in time. Following some recent changes in methodology the HIC data contained in this paper also includes Department of Veteran Affairs (DVA) activity.
[xxii] Australian Medical Workforce Advisory Committee. (2005) Op Cit.
[xxiii] Ibid.
[xxiv] PriceWaterhouseCoopers. (2005). *Australian Medical Workforce Advisory Committee (AMWAC) & AMWAC General Practice Working Party General Practice Workforce Modelling Technical Paper*. Sydney.
[xxv] Australian Government Department of Health and Ageing. (2005). *RFT 127/0405 - Request for tender for a medical workforce profile project*. Canberra: ADOHA.
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[xxxvi] Medical Training Review Panel. (2005) Op Cit.
[xxxvii] Lennon, B. (2005). *Medical Workforce Expansion in Australia - Commitment and Capacity.* Paper presented at the 9th International Medical Workforce Collaborative Conference, Melbourne.
[xxxviii] Medical Training Review Panel. (2005) Op Cit.
[xxxix] Sims, G., & Bolton, P. (2005). The supply and distribution of general practitioners, *General Practice in Australia: 2004*. Canberra: CDoHA.
[xl] Hicstats (2005) Op Cit.