

# Meeting the needs of rural and remote Australians for specialist medical care: issues and options

<sup>1</sup>RW Pegram, <sup>2</sup>JS Humphreys, <sup>3</sup>R McLean

<sup>1</sup>Executive Director, Primary Health Care Services, Central Northern Adelaide Health Service, Adelaide, Australia <sup>2</sup>Professor of Research, School of Rural Health, Monash University, Victoria, Australia <sup>3</sup>Associate Dean, School of Rural Health, University of Sydney, Dubbo, New South Wales, Australia

**ABSTRACT** Residents of Australia's rural and remote communities face increasing problems in accessing specialist care. This paper provides a comprehensive review of the issues and options for the provision of specialist care to non-metropolitan Australians.

**KEYWORDS** Australia; general practitioner; models; rural and remote ; specialist medical care; workforce

**LIST OF ABBREVIATIONS** Accessibility/Remoteness Index of Australia (ARIA), Australian College of Rural and Remote Medicine (ACRRM), Australian Medical Workforce Advisory Committee (AMWAC), information and communication technology (ICT), Medical Specialists Outreach Assistance Program (MSOAP), Royal Australian College of General Practitioners (RACGP), Royal Australasian College of Surgeons (RACS), Rural Doctors Association of Australia (RDAA), Rural, Remote and Metropolitan Areas (RRMA) Support Scheme for Rural Specialists (SSRS), University Departments of Rural Health (UDRH)

**DECLARATION OF INTERESTS** No conflict of interests declared.

**Correspondence to R Pegram,**  
Central Northern Adelaide Health  
Service, PO Box 1898, Adelaide SA  
5001, Australia

tel. +61 (0)8 8222 1430

fax. +61 (0)8 8222 1402

e-mail [pegrams@myisp.net.au](mailto:pegrams@myisp.net.au)

## INTRODUCTION

The health status of the six million Australians living in rural and remote communities is demonstrably poorer than that of metropolitan residents,<sup>1</sup> consistent with poorer access to primary, secondary and tertiary health services and lower utilisation rates.<sup>2</sup> This paper discusses how to meet the needs of rural residents for specialist medical care. First, we outline the implications of the diversity of the Australian 'rural' context for specialist care. Secondly, we discuss the issue of what exactly is specialist medical care. The final section describes current programmes, and discusses issues and options for ensuring equity of access to appropriate specialist medical care for rural Australians.

## THE AUSTRALIAN RURAL CONTEXT AND ITS IMPACT ON THE PROVISION OF SPECIALIST CARE

Australia occupies 5% of the world's land area (7.5 million km<sup>2</sup>) yet supports only 0.3% of the world's population (20 million people). Australia is highly urbanised with almost two-thirds of Australia's total population living in half a dozen capital cities and the majority within 50 kilometres of the eastern seaboard. Table 1 shows that state capital cities in Victoria, New South Wales and South Australia have more than two-thirds of the state's population. This high degree of

metropolitan primacy is reflected in the way the health system is designed and managed.

Rural and remote Australia comprises the spectrum from major provincial centres (with generally fewer than 100,000 residents) to small country towns (agricultural, forestry and fishing), tourist resorts, isolated mining communities, pastoral stations and indigenous outstations, and includes both the closely settled coastal farming regions as well as the sparsely settled areas of Northern and inland Australia. For the residents of these non-metropolitan communities, geographical distance and the issues of accessibility, impact significantly on economic activity, provision of services, the way of life and the level of social wellbeing of populations. The ways in which rural characteristics impact upon service delivery in relation to rural psychiatry are exemplified in an excellent review by Fraser *et al.*<sup>3</sup>

Various taxonomies have been used to categorise 'rural' and 'remote'. Table 2 describes the two most used classifications in Australia, neither of which was primarily developed for health system needs. Clearly, the choice of taxonomy affects the percentage of the population designated as rural or remote.<sup>4</sup> Regardless of specific delineation, however, the fundamental difficulty in providing rural specialist care in Australia is its population distribution – the catchment population is too small and too widely dispersed to expect private practice alone to provide services at reasonable cost to patients. With its

TABLE 1 Summary of Australian population by size of community (ABS 2001 census data).

Population size	Section of state*	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	AUSTRALIA
100,000+	Urban centre	4	2	4	1	1	1	0	1	14
	Population	4,266,551	3,290,365	2,174,129	1,002,127	1,176,542	26,048	0	309,799	12,345,561
	State %	67.0%	70.8%	59.5%	68.3%	63.6%	27.6%	0.0%	99.3%	65.1%
10,000-99,999	Urban centre	34	21	16	8	11	4	3	0	97
	Population	776,809	486,698	541,061	126,194	299,711	122,940	116,557	0	2,469,970
	State %	12.2%	10.5%	14.8%	8.6%	16.2%	26.9%	55.3%	0.0%	13.0%
5,000-9,999	Urban centre	33	19	16	3	7	3	2	0	83
	Population	238,140	138,648	108,589	23,660	46,831	21,219	11,964	0	589,051
	State %	3.7%	3.0%	3.0%	1.6%	2.5%	4.6%	5.7%	0.0%	3.1%
2,500-4,999	Urban centre	64	32	31	18	12	7	5	0	169
	Population	218,027	107,507	109,328	63,273	40,623	23,946	15,630	0	578,334
	State %	3.4%	2.3%	3.0%	4.3%	2.2%	5.2%	7.4%	0.0%	3.0%
1,000-2,499	Urban centre	110	70	75	32	36	21	5	0	349
	Population	170,884	108,514	117,446	47,826	56,134	35,552	7,241	0	543,597
	State %	2.7%	2.3%	3.2%	3.3%	3.0%	7.8%	3.4%	0.0%	2.9%
200-999	Urban centre	269	191	214	100	107	65	47	1	994
	Population	133,677	89,122	110,068	44,888	52,553	30,677	22,324	351	483,660
	State %	2.1%	1.9%	3.0%	3.1%	2.8%	6.7%	10.6%	0.1%	2.5%
Rural Balance	Population	566,053	423,348	492,629	158,529	176,942	95,344	34,656	1,797	1,949,298
	State %	8.9%	9.1%	13.5%	10.8%	9.6%	20.9%	16.5%	0.6%	10.3%
	Population	1,604	748	1,889	764	1,916	926	2,292	0	10,139
Migratory	State %	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	1.1%	0.0%	0.1%
	Urban centre	516	337	358	164	176	103	64	3	1721
	Population	6,371,745	4,644,950	3,655,139	1,467,261	1,851,252	456,652	210,664	311,947	18,969,610

\*Urban centre refers to Urban centre/Locality as defined by the Australian Bureau of Statistics.

**TABLE 2** Comparison of the categories for rural and remote of the RRMA classification and the ARIA.

The RRMA, which was developed in 1994, is based on Statistical Local Areas and straight-line distance measurements to determine remoteness. The ARIA, commissioned by the Department of Health and Aged Care in 1998, uses geographic information systems technology and determines the degree of remoteness of a community by the level of accessibility to services measured along the existing road network.

**RRMA classification**

Rural zone

RRMA 3 – Large rural centre (population 25,000–99,000)

RRMA 4 – Small rural centre (population 10,000–24,999)

RRMA 5 – Other rural area (population &lt;10,000)

Remote zone

RRMA 6 – Remote centre (population 5,000 or more)

RRMA 7 – Other remote area (population &lt;5,000)

population density of 2.5 persons per km<sup>2</sup>, the 6–7 million non-metropolitan Australians are widely scattered across vast rural and remote areas. Some remote communities are effectively cut off from the outside world for significant periods during the wet season. Electronic communications are unreliable, despite recent effort to improve the coverage and robustness of communication infrastructure in isolated areas.

**SPECIALIST MEDICAL CARE – CAN WE REALLY DEFINE IT?**

Australia has a federated system of government comprising six states and two territories, each of which has governance of certain aspects of political, legal, economic and social life, and an Australian Government which has constitutional responsibility for governance of other aspects, some of which are complementary. In the case of rural and remote health provision, this system of centrally organised and funded services provided by the Australian Government intersecting with diverse state and territory healthcare arrangements complicates the problems of delivering services effectively.<sup>5</sup>

Further complicating this Australian Government–State dichotomy is the mix of private and public service provision. The delivery of services in any given locality is the result of historical arrangements, private enterprise and the need to fulfil the promise of universal access to healthcare under the existing Australian Government-funded Medicare arrangement.<sup>6</sup> There is no guarantee of fully subsidised services in any locality, with the possible exception of fully publicly funded Aboriginal community controlled services.

**ARIA categories**

Highly accessible: (ARIA score, 0–1.84) – relatively unrestricted accessibility to a wide range of goods and services and opportunities for social interaction.

Accessible: (ARIA score, >1.84–3.51) – some restrictions to accessibility of some goods, services and opportunities for social interaction.

Moderately accessible: (ARIA score, >3.51–5.80) – significantly restricted accessibility to goods, services and opportunities for social interaction.

Remote: (ARIA score, >5.80–9.08) – very restricted accessibility of goods, services and opportunities for social interaction.

Very remote: (ARIA score, >9.08–12) – very little accessibility of goods, services and opportunities for social interaction.

It is difficult to define what constitutes specialist care in such a diversity of situations. In the private context the need for a referral effectively defines specialist care. However in public hospitals (which predominate in rural and remote areas), patients may be seen by specialists without any need for referral from a GP. However this situation is no different to that which occurs in any public hospital in rural or metropolitan areas – patients presenting acutely through the Emergency Department are seen by the relevant specialist after initial assessment by the Emergency Department staff.

It would be simplistic to define specialist care as only care provided by a specialist, where a specialist is defined by the various medical boards as a doctor registered with specific specialist qualifications. If a procedure or particular episode of care can be provided by either a generalist or a specialist, is this 'specialist' care? In rural areas many GPs perform complex medical tasks and some registered specialists consult as GPs. However this number is very small. For example, in a recent survey of rural specialist physicians fewer than 1% practised as GPs.

Complexity of care and skill level must also be taken into account.<sup>7</sup> In rural and remote areas in Australia, the distinction between specialist and GP care is blurred. A good example is major trauma, in which many rural and remote GPs have the skills (and often need) to undertake complex life support interventions while retrieval to larger centres is being organised. Indeed, the Australian College of Rural and Remote Medicine ([www.acrrm.org.au](http://www.acrrm.org.au)) has been lobbying for some time to have rural and remote medicine recognised as a specialty in its own right.

### The interdependence of specialties

Some specialists, such as visiting psychiatry, physician and paediatric services, can function independently in rural and remote locations. However, for procedural work, specialist services may depend on complementary GP services. For example, it is not uncommon for GPs to provide anaesthetic and after-care services for visiting procedural specialists. This allows patients to have their procedures in the community where their social supports are located. Local GPs provide an important support network. In a significant but decreasing number of communities, the GPs form a coherent specialist group by covering anaesthetics, obstetrics and surgical work from within the practice. In a few cases, the GPs perform complex procedures, such as laparoscopic surgery.

In the absence of any specific initiatives to encourage specialists into rural areas (as has occurred in general practice) there will continue to be an ongoing need for appropriately trained and skilled GPs to support the specialist workforce. In this sense, specialists are unlikely to force GPs out of procedural work in rural hospitals in the foreseeable future. However this situation assumes that the state and territory health departments (which are responsible for hospitals) will keep the smaller rural hospitals functioning at the same level (for example, by ensuring the nursing workforce can support the services with theatre and midwifery skills). If that does not happen, however, (and recent trends in New South Wales and Victoria evidence a significant diminution in the functions of small rural hospitals), it is irrelevant whether the specialist services can be performed by a specialist, a GP, or a combination of both. Closure of these rural hospitals results in a transfer of the cost of care to the patients and their families, who are required to repeatedly travel long distances to access the same level of care that urban citizens enjoy as a matter of course.

To counter this locational disadvantage and facilitate equity of access, states and territories have patient travel and accommodation schemes to provide financial assistance to offset expenses for rural residents who must travel to access medical services. For example, in Queensland, the patient travel subsidy scheme pays to assist travel by the cheapest available means, where the service is not available within a designated radius of 50 kilometres from the nearest public hospital. Patient Assistance Travel Schemes do not provide full reimbursement of expenses, however, and criticism has also been leveled at the slow retrospective reimbursement, patients not being provided with information about the scheme, the fact that distance-related reimbursement criteria are restrictive and minimum cost reimbursement thresholds are high, and regional differences in eligibility and administration of the scheme.<sup>8</sup>

An alternative arrangement might take the services to the patients. One example is the free public breast screening service in South Australia ([www.breastscreen.sa.gov.au](http://www.breastscreen.sa.gov.au)). The service has mobile units that travel to most rural areas to perform screening on site. However, if an abnormality is detected further follow up is conducted by specialist groups in Adelaide, at considerable cost to the patient. In specialities such as dermatology and psychiatry, telemedicine allows distance consultation and opinion to support the local GP – more so under the recent Enhanced Primary Care arrangements (details of which can be found at [www.seniors.gov.au/internet/wcms/publishing.nsf/Content/health-epc-index.htm](http://www.seniors.gov.au/internet/wcms/publishing.nsf/Content/health-epc-index.htm)).

In Western Australia, the quality of care provided by specialists in small rural hospitals has been compared to that provided in urban hospitals.<sup>9,10</sup> The study concluded that 'experienced surgeons operating on selected patients with good nursing care in small country hospitals have outcomes similar to urban hospitals.'

Ten years ago one of the solutions proposed to 'solve' the rural specialist shortage was that '...longer term objectives in the distribution of specialists can be met most effectively by programs of skill substitution. General practitioners' skill levels and training need to be upgraded'.<sup>11</sup> Today, the ongoing loss of procedurally trained GPs in rural areas is accelerating, not abating, with obstetrics being a prime example. Despite this, there are still those who see the need for ongoing support of specialist practice by GPs as essential. For example, AJ Green argues that 'the provisions of first-line surgical services in most rural towns will continue to rely on adequately trained GPs'.<sup>12</sup> Green also argues that outreach services from metropolitan hospitals will never provide an adequate cover because of distance and unreliability of access as during bad weather. An excellent review of specialist outreach clinics in primary care and rural hospital settings is provided by Bailie *et al.*<sup>13</sup>

## THE SPECIALIST WORKFORCE SUPPLY

### Workforce planning

In 1992, Harris noted that rural areas had 50% fewer specialists *per capita* than urban areas, and that those specialists were predominantly male and older than their metropolitan colleagues.<sup>14</sup> An overall assessment of the current situation shows that little has changed. The distribution of the various specialties across regions is described in detail in Medical Labour Workforce Statistics<sup>15</sup> (also available online at [www.aihw.gov.au/publications/hwl/mlf02/mlf02.pdf](http://www.aihw.gov.au/publications/hwl/mlf02/mlf02.pdf)).

Compounding this problem of rural under-supply of specialists, the question of whether solo rural specialist practice is sustainable in the long term is a vexed one. At present, there are around 15 solo consultant physicians

**TABLE 3** Specialist medical Colleges defined population catchment requirements for a viable resident service.

10,000–20,000	20,000–60,000	50,000–80,000	80,000 or more*
General Surgery	Gen. Physician/Cardiology(1)	ENT surgery	Urology*
Anaesthesia	Obs. Gyn*	Dermatology	Diag Radiology*
	Paed. Medicine*(2)	Rehab Medicine	Cardiology
	Psychiatry*	Neurology	Intensive care*
	Orthopaedic Surgery*	Thoracic medicine	Nephrology*
	Geriatric Medicine		Medical Oncology*
	Pathology		Radiation Oncology*

\*The College considers a minimum of two to three specialists are required in any one location to sustain a resident service.

(1) Cardiology may be provided by a general physician with an interest in cardiology.

(2) Population of 6-8,000 children required.

Source: (AMWAC 200s)

across the country, but it is highly unlikely that they will be replaced by local graduates when they retire. There is a combination of reasons for this contention. Firstly, with feminisation of the workforce, females are less inclined to go into rural practice than males. Secondly, current trainees are not inclined to work the long hours that solo rural practice requires. Thirdly, the current push towards safe working hours (supported by medical defence organisations) means that solo practice, particularly with onerous on-call arrangements, is unattractive. In contrast to rural physicians and surgeons who tend to run single person practices, rural anaesthetists and obstetricians and gynaecologists prefer group practices. Anaesthetists do not have an ongoing relationship with one patient but provide cover round the clock for public and private hospitals and therefore the group practice is the preferred model. On the other hand obstetricians have a definite ongoing relationship with their patients – for nine months or longer and possibly 24 hours a day – so a group practice allows them to take leave or have time off knowing that continuity of care will be jeopardised to the least extent. Their need to achieve a critical mass similarly impacts on the issue of service sustainability in rural areas as if the critical mass cannot be reached the single practitioner is likely to suffer burn-out rapidly and leave town.

The Australian Medical Workforce Advisory Committee is endorsed by Australian and state and territory governments to undertake workforce study and strategic planning for the future. Its Specialist Medical Workforce Planning report outlines a three stage process in workforce planning – describing the current arrangements, evaluating success of those arrangements and predicting future needs.<sup>16</sup> However, the complex detail of each element requires assumptions in the modeling – and the variability of the modeling outputs depending on assumption setting can be considerable.

Table 3 describes the professionally recommended populations needed to sustain resident specialist services of various types. These figures highlight the fact that to

access most specialist services rural and remote patients are required to travel to major centres or rely on periodic visiting services.

### Specialist training and source of specialists

Only within the last ten years in Australia has there been recognition that academically targeted training programs are necessary for those who wish to undertake rural practice, and that such training programs should be supported by the specialist colleges. This is particularly relevant for the 'big four' colleges – the Royal Australian College of Physicians (which trains consultant physicians and paediatricians), the Royal Australasian College of Surgeons, the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, and the Australian and New Zealand College of Anaesthetists. While other specialist colleges such as the Australian College of Emergency Medicine, the Royal College of Psychiatrists of Australasia, the Royal Australian and New Zealand College of Ophthalmologists and the Australian College of Dermatologists should also have an interest in rural training, in reality the number of training places in these specialties is so small and the workforce shortages in metropolitan areas so acute that this seldom occurs.

Some of the specialist colleges have been accused of maintaining exclusivity (and income) and not training enough specialists to meet the healthcare needs of the population. While this may have had an element of truth previously it must be realised that the training positions are not funded by the colleges but by the state and territory health departments, and now all colleges are requesting more funded positions to allow them to meet needs. It is likely that most new funded positions will be in metropolitan rather than rural hospitals, where more infrastructure and support exists, but many rural hospitals claim that they can provide a broader and better training experience with more 'hands-on' than occurs in metropolitan training positions, particularly base hospitals in regional centres.

**TABLE 4** Australia's rural context and the provision of medical specialist care.

Rural hierarchy	Specialist programs	Examples
State capital cities & other metropolitan areas (100,000)	Super-specialties	
Regional centres (25,000-99,999)	Specialists to varying degrees	Regional training places for specialists
Rural centres (5,000-24,999)	Loss of specialists and deskilling of proceduralists	Support scheme for specialists; MSOAP (area of need concept)
Small rural communities (<5,000)	Primary care and evacuation of severe trauma	QLD – Flying surgeon & Obstetrician; MSOAP (area of need concept)
Isolated remote communities	Primary care and evacuation of severe trauma	Royal Flying Doctor Service

The Royal Australasian College of Surgeons has pioneered the way with a dedicated rural surgical training stream and a rural section within the college ([www.surgeons.org](http://www.surgeons.org)). The Royal Australasian College of Physicians, while recognising that rural training is specific and having developed a specific rural curriculum, has had much less success in attracting trainees to its training program. The Royal Australian and New Zealand College of Obstetricians and Gynaecologists and the Australian and New Zealand College of Anaesthetists do not currently have specific dedicated rural training programs.

As with GPs, there has been some need to utilise overseas trained doctors in rural and remote areas, as Australian graduates are not easily persuaded to take up residence in the more remote locations. This complements the 'fly in, fly out' visiting arrangements. However, there is an ongoing debate about ensuring quality and competence as well as the difficulty of providing mentoring and support for new doctors while they get to know the Australian system and community. The recent case of an overseas trained surgeon in Bundaberg in which it is alleged that a number of patients died as a result of inadequate surgical treatment, has increased the concern for health jurisdictions for medical colleges and the public about the matter of overseas trained specialists.<sup>17</sup>

## HOW SPECIALIST MEDICAL CARE IS CURRENTLY PROVIDED TO RURAL AUSTRALIANS

Table 4 provides an outline of the hierarchy of specialist arrangements by geographical location, each of which is discussed below.

### Capital city and Metropolitan areas (RRMA 1 and 2)

Most specialist services are available in most metropolitan areas. The exceptions are 'super-sub-specialties' which, because of highly specialised skill requirements and low volume of patients, are limited to particular centres, such as in the case of paediatric cardiac surgery. For these super-sub-specialties arrangements exist for costs to be transferred between states. Most of these high level sub-specialties require equally highly trained technical and nursing backup and, as such, are primarily limited to the larger teaching hospitals. There is also an expectation that training in these areas will require some overseas experience, preferably in internationally recognised centres of excellence. Not all trainees return to Australia after training.

Most metropolitan teaching hospitals have developed dedicated rural catchment areas for outreach and retrieval services. Over the last decade this has extended to rural placements for specialist training for registrars. While generally viewed positively, it should be noted that in the past such placements were often seen by registrars as 'second prize' in the bid for training positions at the more highly regarded tertiary centres.

Over the last decade there has also been a parallel development in academic infrastructure with the establishment of a number of rural clinical schools linked to the medical faculties. University Departments of Rural Health have also been established, creating links in multidisciplinary training areas that extend the rural workforce planning to allied health and nursing.<sup>18</sup>

### Regional (RRMA 3)

Regional Australia incorporates major provincial population centres. These centres usually have a base hospital with varying levels of specialist services available. Most specialties are covered, (although not all sub-specialties are practised) with retrieval arrangements in place for transfer of serious cases, often after initial stabilisation. Consulting specialties are represented to varying degrees with diagnostic and imaging services covering all but the more highly specialised services.

Specialists in regional centres often provide outreach services to smaller towns in their catchment region and also back-up advice to GPs in these locations.<sup>19</sup> It is also not uncommon to find private hospital and private specialist services alongside the public health infrastructure in these provincial centres.

In Queensland, a state with a comparatively decentralised population based in several centres along the east coast, there has been greater effort develop of a regional hub framework model.<sup>20</sup> This regional network approach attempts to map services against

population needs and specifically targets service development to areas of deficiency.

General practice services in larger regional centres tend to be a hybrid between urban practice characteristics and the more traditional multi-skilled rural GP. Anecdotally, some GPs see the development of specialist services as a pressure to downgrade the clinical privilege scope of GPs in the public hospital system. Indeed, in larger centres, admitting rights for GPs are becoming increasingly scarce.

#### Rural (RRMA 4-6)

The distinction between rural and regional communities is not always clear-cut. However, as Table 2 shows, rural centres comprise towns of up to 25,000 people (more typically around 7–10,000). Specialist services here are provided by a mix of visiting specialists, metropolitan hospital outreach services and arrangements for patient transfer to regional centres when required. Pathology and imaging services can vary, often depending on the status of the local hospital and the distance of the community from a larger centre. Increasingly in recent years, de-skilling of rural GPs is a concern in these locations. Procedural GPs have been traditionally important but this may be declining with fewer trainees wanting to do this extra training and increasing political pressure to downgrade regional/rural hospitals.

#### Remote (RRMA 7)

Remote communities rely on limited visiting services (for example, once a month specialist fly-in, fly-out services), services provided by the Royal Flying Doctor Service and telemedicine communication (See Gruen *et al.* 2005<sup>21</sup>; Royal Flying Doctor Service, 2004<sup>22</sup>). These services support the primary care workforce practising within these communities. Some isolated small communities may not have a GP and rely on remote area nurses, aboriginal health workers and limited allied health staff. Many of these communities have a high Indigenous population characterised by very poor health status.<sup>23</sup> In this case it is an ongoing challenge to address the problem of the most needy having the poorest access to services.

#### GPs as specialists

Recent research undertaken by the RDAA highlights four key areas that underpin the viability of rural medical services – the professional dimension (ongoing professional support), the economic dimension (business viability), the organisational dimension (system infrastructure support), and the family and social dimension (support systems for spouse and children of professionals).<sup>24</sup> Service sustainability in rural and remote communities requires that each of these dimensions must be satisfied. As health care in Australia is still strongly underpinned by a private market model, a major challenge

for governments is how to ensure access to services as a service obligation in situations where markets fail. The report also notes that;

'Data collated by the Australian Rural and Remote Workforce Agencies Group (ARRWAG) in May 2002 indicates there are 3,840 doctors in general practice in RRMA 4–7 across Australia, and 1,387 reported providing obstetric, anaesthetic or surgical services. The data clearly indicate the feminisation of rural general practice with the proportion of female doctors increasing from 12% of those over 55 years of age to 44% of those under 35. This has significant implications for the procedural workforce which has hitherto not been very attractive or practical for many women'.<sup>24</sup>

Some GPs practise in all of the specialty areas, whereas in group practices there is often distribution of special skills. For example, one GP may do most of the anaesthetic work while another does surgery/trauma. This makes finding suitable locums very difficult where such skills are harder to find in the locum workforce.

### RECENT INITIATIVES TO IMPROVE SPECIALIST MEDICAL CARE TO RURAL AUSTRALIANS

This section highlights a number of government programs designed to support specialist services in rural areas. While the list is not exhaustive, it nonetheless indicates the range of strategies being implemented. (Further details can be found at [www.health.gov.au](http://www.health.gov.au))

#### Medical Specialists Outreach Assistance Program

The Medical Specialists Outreach Assistance Program was one of a range of specific rural health initiatives introduced by the Australian Government Department of Health and Ageing in its 2000 Regional Health Strategy. The program was re-funded for a further four years in 2004. Medical specialists outreach assistance program provides funding to allow the development of new specialist outreach services to communities that would otherwise not have direct access. The program was administered at a state and territory level by the Rural Workforce Agencies. Administration and delivery of the program in each state and territory differs and rural communities have varying levels of involvement in the development of the services. This 'national framework–local implementation' approach is common to many rural programs in Australia.

One initiative of the second phase of the program was to allow rural specialists who had been providing outreach services prior to the initiation of the first round of funding to apply for funding for their services – the absence of this arrangement in the first version had been a cause of significant concern to specialists. Previously, fundings provided under MSOAP covered the costs of transport,

accommodation and infrastructure costs. The costs of individual patient services are not covered with the expectation that the specialist services would be billed under the pre-existing Medicare arrangements in the same way as other Commonwealth funded private health services are provided.

### Support Scheme for Rural Specialists

The Support Scheme for Rural Specialists was funded by the Australian Government in 2002 with the aim of supporting continual professional development activities for rural specialists. Applications were received from individual specialists, groups of specialists and rural organisations within medical colleges and inter-disciplinary programs were encouraged. The funding is relatively modest, in the order of \$2 million per year but the programs that have been funded have generally been considered positively and the program is being refunded on a yearly basis.

Queensland has a long history of innovative specialist care to small rural and remote communities, particularly in regard to providing mobile and outreach services.<sup>25-8</sup> The Flying Specialist Services, founded in 1959 by the Queensland Health Department, provides specialist medical care to rural and remote areas in Western Queensland, including consultations and elective and emergency surgery,<sup>29,30</sup> while the Flying Obstetrician and Gynaecologist Service and Anaesthetist Service operate in remote areas of the state.<sup>31</sup> The Far North Regional Obstetric and Gynaecological Service in Queensland has proved cost effective in providing improved access to services to both indigenous and non-indigenous clients and improved antenatal and gynaecological care through the services of a visiting specialist traveling by road or air.<sup>32</sup>

## SOME KEY AREAS FOR ACTION

The Rural Doctors Association of Australia has recently established a Rural Specialists Group. This group has identified a number of areas requiring attention in relation to sustaining the rural specialist workforce, including the following.

### Rosters and locum arrangements

Quality care demands that safety issues are recognised. These relate to both personal safety when working at night and the necessity for limits on doctors working hours in the interests of their health and that of their patients. For specialists, effective after hours systems must include:

- consistent and adequate remuneration for after hours services and on-call commitments for service providers;
- collaboration between medical practitioners, hospitals and communities;

- standards, protocols and training for all staff including structured and subsidised programs for skills development and maintenance;
- integrated communication and transport systems;
- appropriate facilities and equipment in hospital setting;
- community education to inform expectations and demand.

Ideally, after hours rosters should be no more than one in four, except for brief and infrequent periods. A one in four roster requires the full complement of specialists or a partial complement plus GPs who are prepared to be involved. However the exigencies of working in more remote areas dictate that this is not always possible, and to insist on this requirement may result in the closure of essential services. Hence in these areas, doctors required to work a continual one in two or one in three roster must be supported by triage back-up, locum relief and specific recreational leave. In smaller sites, it is possible for the specialist to offer a purely consultative service during business hours and the after-hours cover is entirely by general practitioners. As a general principle there should be development of locum programs to enable doctors who provide significant after hours services to have six weeks recreational and two weeks study leave annually.

### Infrastructure support and information and communication technology

It is critical for the relevant health service to provide the human and physical infrastructure necessary to support the working of specialists – radiology, pathology, junior medical staff, as well as trained nursing and allied health staff. Relevant administrative support is also required as rural specialists undertake more administrative work than their metropolitan colleagues and visiting specialists must undertake this in their own time without remuneration.

Information and communication technology is becoming increasingly important in rural areas both from the point of clinical practice and for continuing professional development purposes. Information and communication technology support for rural specialists, similar to the broad banding, computer software and online connectivity provided by the Department of Health and Ageing to rural GPs, is required.

In recent years, the potential for information technology to help bridge the gap between distance and isolation and health care has been realised through the rapid growth of telehealth or telemedicine. Based on interactive audio-visual communication systems, telehealth or telemedicine enables effective diagnosis, treatment and many other health care activities across vast distances.<sup>33</sup> Ideally it provides a cost-effective way of delivering effective health care without the need for excessive travel for remote patients, while at the same time enhancing interaction

between health workers and specialist consultants.<sup>34</sup> Examples include neonatology education.<sup>35</sup> However, the limited robustness of the technical infrastructure in remote settings remains a limiting factor in the widespread use of telemedicine. This situation is improving with the increasing use of satellite communications where landlines are not reliable.

### Networks

The Australian Government's Regional Health Strategy established rural clinical schools (RCSs) in order to provide a rural oriented education and research infrastructure. These clinical schools were funded for nine university medical faculties. Predicated on the belief that this rural experience would increase the return to rural medical practice on completion of their training, the program required that 25% of the students of the medical program would undertake 50% of their training rurally. In addition, ten university departments of rural health (UDRHs) have also been established. These UDRHs cover nursing and allied health as well as medicine, provide an inter-professional focus, focus on research with a particular emphasis on population health and also seek to address indigenous health issues.

Two sorts of networks, not mutually exclusive, need to be improved. The first are clinical networks between rural and metropolitan specialists and hospitals, while the second is networking with RCSs and UDRHs. Specialists tend to have a strong ethos of teaching and research, and links through university departments should allow both of these to occur more easily.

Specialists rely upon GPs for referral of patients and for ongoing follow-up. In addition, they rely on metropolitan specialist networks for a range of supports, including a source of second opinions, a line for referral for their sicker patients, a place to undergo up-skilling when necessary, and a source of locums when they go on holidays or undertake up-skilling. These networks need to be developed and supported. Exchanges between rural and metropolitan based specialists can also provide both professional relief and additional services to rural communities. This has been successfully used in general practice locum relief programs.

### Rural groups within colleges and rural training

In order to recruit a rural specialist workforce, it is necessary for appropriate training to be undertaken. While many rural specialists feel disenfranchised by their colleges, some have developed rural groups that offer varying ranges of assistances to the rural specialists. The Royal Australasian College of Surgeons is probably the most advanced, and offers a good locum service and a rural specialist training program.

Most rural specialists are supportive of the need for a skilled GP workforce, particularly permitting GPs to gain procedural skills in surgery, anaesthetists and obstetrics. The existing training pathways should be actively promoted and general practitioners should be confident that if they undertake training, the issue of indemnity will be resolved. Collaboration between the specialist colleges and the RACGP and ACRRM therefore needs to be strengthened.

At the other end, the trend to super-specialisation in training and practice downgrades the importance of producing 'generalist' specialists, who are more likely to be both useful and viable in rural communities

### Promotion of successful models

Successful models of sustainable rural practice need to be examined as the basis for ensuring sustainable specialist services for rural communities. In contexts in which success has occurred specialists have been actively involved in decision making. It follows that rural specialists have a vital role in clinical governance, particularly service development and resource allocation, and decision making at a local level.

### Reimbursement

While reimbursement and incentive payments may be less of an issue for rural specialists than rural GPs, economic considerations are nonetheless important. The priority accorded may vary from specialty to specialty. In general, however, given limitations on the ability of patients to make use of their private hospital insurance and corresponding low private insurance rates, the potential income for rural proceduralists is considerably less than their city-based colleagues. The main issue here is competition for recruitment of local specialists – why join a rural practice when it is possible to earn much more doing the same sort of work in a large city? Some may trade off lower income in exchange for lifestyle advantages, but invariably they would need a very accommodating and supportive family.

Another consideration for younger practitioners is the likely need to move back to a city environment as their children age. If their income stream has not been commensurate with their city based colleagues, they may find themselves at a disadvantage when trying to make such a move to a more costly metropolitan environment. For those who choose to stay rural, additional costs are incurred if they send children to city schools, as well as the cost of maintenance of professional standards for rural specialists. Given these circumstances it is hardly surprising that some rural specialists are seeking to emulate rural GPs in order to gain a rural fee loading.

## CONCLUSION

This paper has provided a brief description of the patterns, problems and current solutions to the provisions of specialist services in Australian rural and remote communities. The current situation is a complex mix of historical arrangements, innovations and private/public enterprise. All of this is occurring in the context of similar pressures for other health professionals, including nursing, allied health and general practice, often critical to the effective delivery of medical specialist care. In many ways the key issues are similar to other countries where there are relatively small dispersed populations, such as Canada.<sup>36</sup>

The population distribution in Australia dictates that there will be an ongoing need for outreach services, supported by local infrastructure. However, where this becomes increasingly difficult due to workforce, technical requirements, or simply cost, there will be ongoing pressure to centralise specialists' services to regional population centres. This has significant access and equity implications for patients and their families in terms of time, money and health status through treatment delays. Nevertheless, rural and remote populations have a right to access the range of care that most urban citizens take

for granted. These issues are particularly acute for rural and remote Indigenous populations where cultural complexity adds to the mix of challenges.

It is clear that no single group – the two levels of government, the workforce agencies, the local health authorities, or the colleges – has all the levers of change to make a difference by itself. Unfortunately at times one group may blame another for not taking action. Rarely will such action be productive. There is however an increasing move to collaborative arrangements across the groups, and some of the initiatives that have been described above bear testament to this. Given that the colleges produce the workforce (and provide it with continuing professional development), the rural workforce agencies provide the data on which to make decisions, and government funds the training and provides the training sites, a three-way coalition with the colleges providing significant leadership must be the preferred model.

In a country so highly urbanised as Australia it is easy for the health system to 'think city' and, indeed, many health graduates do just that. The challenge is to continue to produce enough generalists and specialists with the skills, confidence and willingness to provide care to rural and remote communities.

## REFERENCES

- 1 Australian Institute of Health and Welfare. *Australia's Health 2004* (Ninth biennial health report of the Australian Institute of Health and Welfare, paper 2004a). Canberra; 2004.
- 2 Sadkowsky K, Hagan P, Kelman C, Liu C. *Health services in the city and the bush: measures of access and use derived from linked administrative data*. Occasional Papers: New Series Number 13. Canberra: Commonwealth Department of Health and Aged Care; 2001.
- 3 Fraser C, Judd F, Grigg M et al. Rural Psychiatry – Special issues and models of service delivery. *J Dis Man Health Outcomes* 2002; **10(12)**:771–81.
- 4 Humphreys JS. Delimiting 'rural': implications of an agreed 'rurality' index for health care planning and resource allocation. *Aust J Rural Health* 1998; **6**:212–6.
- 5 Department of Health and Aged Care. *Health and Aged Care in Australia* (paper 1999a). Canberra, Commonwealth of Australia.
- 6 Department of Health and Aged Care. *Health financing in Australia: objectives and players*. Occasional Papers: Health Financing Series Volume 1 (paper 1999b). Canberra.
- 7 Humphreys JS, Jones J, Jones MP et al. The influence of geographical location on the complexity of rural general practice activities. *Med J Aust* 2003; **179**:416–20.
- 8 McGrath P. The patient transit assistance scheme: a case for social work advocacy. *Australian Social Work* 2000; **53**:13–19; McGrath P. The administration of the patient transit assistance scheme: equity and access from the medical superintendents' perspective. *Just Policy* 2001; **22**:48–55.
- 9 Aitken RJ, House AK, House J, Hughes-Anderson W, Rankin SL. Analysis of the outcomes of a visiting surgical service to small rural communities. *Aust N Z J Surg* 2003; **73**:833–5.
- 10 Hughes-Anderson W, Rankin SL, House J et al. Rural residents' utilisation of health and visiting specialist health services. *Rural and Remote Health* 2 (online), 2002: 119. (Available from: <http://rrh.deakin.edu.au>).
- 11 Stocks N, Peterson C. *Rural Health and Specialist Medical Services*, NCEPH Discussion Paper Number 9, 1994; Canberra.
- 12 Green AJ. Surgical services and referrals in rural and remote Australia. *Med J Aust* 2002; **177**:110–11.
- 13 Bailie RS, Gruen RL, Knight SE, Weeramanthri TS. *Specialist outreach clinics in primary care and rural hospital settings* (review), The Cochrane Collaboration, John Wiley and Sons; 2005 (available at <http://www.thecochranelibrary.com>).
- 14 Harris MG. *Specialist Medical Services for rural and remote Australia. Final Report to Rural Health Support, Education and Training program*. University of Wollongong; Canberra; 1992.
- 15 Australian Institute of Health and Welfare. *Medical Labour Force 2002*. AIHW (National Labour Force Series No.30). Cat. No. HWL 30. Canberra; 2004.
- 16 Australian Medical Workforce Advisory Committee 2003. *Specialist workforce planning in Australia* (Report 2003.1). ANWAC; Sydney; 2003.
- 17 Van Der Weyden MB. The Bundaberg Hospital scandal: the need for reform in Queensland and beyond. *Med J Aust* 2005; **183(6)**:284–5.
- 18 Lawson KA, Chew M, Van Der Weyden MB. A revolution in rural and remote Australia: bringing health education to the bush. *Med J Aust* 2000; **173**:618–24.
- 19 Fraser C, Judd F, Grigg M et al. Rural Psychiatry – Special issues and models of service delivery. *Dis Manag* 2002; **10(12)**:771–81.
- 20 Queensland Rural Medical Support Agency. *Solutions to the Provision of Primary Care to Rural and Remote Communities in Queensland*. QRMSA: Brisbane; 2004.
- 21 Gruen RL, Weeramanthri TS, Knight SE, Bailie RS. *Specialist outreach clinics in primary care and rural hospital settings* (review), The Cochrane Collaboration, John Wiley and Sons; 2005 (available at <http://www.thecochranelibrary.com>).
- 22 Royal Flying Doctor Service. *Annual Report*. RFDS: Sydney; 2004.
- 23 Australian Institute of Health and Welfare and Australian Bureau of Statistics. *The health and welfare of Australia's Aboriginal and Torres Strait islander people*. AIHW/ ABS: Canberra; 2004.

- 24 Rural Doctors Association of Australia. *Viable Models of Rural and Remote Practice*. RDAA: Canberra; 2004.
- 25 Biggs WW, Taylor BL. Anaesthesia and the flying surgeon service 25 years on. *Med J Aust* 1987; **294**:233–5.
- 26 Kweder A. Aerial medical services in Australia. *Int Surg* 1971; **56**:137B–139B.
- 27 Cummins CFA. The flying surgeon service. *Med J Aust* 1961; **2**:341–4.
- 28 Biggs WW, Cummins CFA, Whiting JC. The first half-million miles. *Med J Aust* 1994; **162**:348–53.
- 29 Queensland Health. *Flying Specialists Services Review Report*. Queensland Health: Brisbane; 1993.
- 30 Leaming DB, Smith GA. The flying surgeon service of Queensland. *Med J Aust* 1971; **8**:387–90.
- 31 Baker JW, Buttini MJ. The flying obstetric and gynaecology service in rural Queensland: its first two years. *Med J Aust* 1991; **154**:578–82.
- 32 Dudgeon GI, Humphrey MD, Smith WJ. FROGS – the development of a specialist outreach service. *Aust Health Rev* 1993; **16**:268–72.
- 33 Blignaut I, Gasser L, Watson J. *Networking North Queensland: an e-health revolution in the bush. Proceedings from the 6th National Rural Health Conference*. National Rural Health Alliance: Hobart; 2001.
- 34 Van Gool K, Haas MR, Viney R. From flying doctor to virtual doctor: an economic perspective on Australia's telemedicine experience. *J Telemed Telecare* 2002 **8**:249–54.
- 35 Whitehall J, Blignaut I, French C et al. Telemedicine in neonatology: lessons from North Queensland. *Aust J Rural Health*. 1998; **6**:140–3.
- 36 Marchildon GP. Canadian health system reforms: lessons for Australia? *Aust Health Rev* 2005; **29**(1):105–19.

### FURTHER READING

- Alexander C, Fraser J. Medical specialists servicing the New England health area of New South Wales. *Aust J Rural Health* 2001; **9**:34–7.
- Cord-Udy N. The Medical Specialist Outreach Assistance Programme in South Australia. *Australas Psychiatry* 2003; **11**: 189–94.

## Myre Sim Student Bursaries



Applications are invited from **medical students of the University of Edinburgh** for a limited number of bursaries of up to £750.

A bursary is intended to contribute towards the expenses of an eight week elective period of study and research, either in the UK or overseas, during an attachment with a physician holding a non-academic post.

Applications should be made at least six months before the commencement of the elective period and a short paper reporting on the project or studies undertaken will be required.

### Further details and application forms are available from:

Mrs Roselin Combe  
 Secretary to the Myre Sim Committee  
 Royal College of Physicians of Edinburgh  
 9 Queen Street  
 Edinburgh EH2 1JQ  
 E-mail: r.combe@rcpe.ac.uk  
 Direct Tel: 0131 247 3601