3 Background

The UDRH Program and the RCS Program were designed as workforce strategies to address the shortage of health practitioners within rural and remote Australia. Their separate but parallel development in the late 1990s followed a growing recognition of the worsening shortage of medical and other health practitioners in rural Australia, and was accompanied by the growth of peak bodies and professional colleges, such as the Australian College for Rural and Remote Medicine (ACRRM) and the Services for Australian Rural and Remote Allied Health (SARRAH), which advocated for additional support for health professionals in order to retain services in rural communities. All of this occurred in a national climate of decreasing services to rural communities among other sectors, including banking and retail services, which had created a sense of crisis regarding the viability of rural Australia.

The challenge of providing adequate health services to people in rural and remote Australia has existed since the earliest days of the nation. As the country has experienced ebbs and flows in population growth, the question of how to provide well for people outside of metropolitan areas has been debated, not only with regard to health care but also with regard to basic services such as transport, banking tele-communications and retail services. Within the last ten years, Australia's significant health workforce shortage has been mirrored by a decline in rural population. Due to a variety of forces including drought, the 'flight' of young people from rural communities, and restructuring within the agricultural sector, many localities within rural Australia have lost population to urban areas. Figure 2 below highlights the extent of rural population decline, with approximately 60% of non-urban statistical local areas (SLAs) losing population between 2001 and 2006 (light-coloured areas indicating SLAs experiencing a decline in population).

Figure 2 – Population increase in Australia, June 2001 to June 2006

Source: ABS, Regional Population Growth, Cat. No: 3218.0.
The issues affecting the provision of health care in areas where population density is low, settlements small, and distances large are aggravated by ‘problems of isolation, population transience and the high capital costs of infrastructure. Coupled with this is the ongoing difficulty of recruiting and retaining an appropriate workforce’ (Wakerman et al, 2006).

The recent Report on the audit of health workforce in rural and regional Australia (Department of Health and Ageing 2008a) aimed to provide an up-to-date picture of health workforce distribution in rural and regional areas, although it was limited in coverage to those professions currently registered in all States and Territories and for which current data across States and Territories are broadly comparable, as well as being those occupations that are covered under the Medicare Benefits Schedule. The report found that, with the exception of nurses, the availability of medical and health professionals in rural and regional areas was generally low to very poor. This maldistribution is compounded by changing workforce characteristics, including a trend towards fewer working hours and an ageing working population (Department of Health and Ageing 2008a). Other studies have indicated that reported access to services is also worse in rural and regional areas (see for example Hausdorf et al 2008).

It is difficult to consider rural health without acknowledging the unacceptable health care outcomes experienced by Indigenous Australians, 47% of whom live in rural and remote Australia (Australian Bureau of Statistics 2008). In most cases, rural health strategies have endeavoured to integrate with Indigenous health strategies, with varying degrees of success.

Wakerman et al (2006) suggest that rural health care policy since the early 1990s has been driven by two key assumptions:

- that the health of rural and remote populations is worse than their urban counterparts; and
- that healthcare resources are substantially less available to rural and remote populations than to urban populations.

These assumptions are borne out by evidence; people living in rural and remote Australia experience significant health disadvantages, and mortality increases with remoteness. It has also been suggested that high mortality in remote areas is exacerbated by reduced access to health care leading to lower utilisation, which in turn has a negative effect on health outcomes (Australian Institute of Health and Welfare 2008).

Specific policies have been identified to address these issues, and rural health measures became a part of annual health budgets from the early 1990s. The most significant focus of such policy developments has been to improve the rural health workforce shortage, with some success, partly due to the investment the Commonwealth Government has made towards this goal. In addition, there have also been efforts to directly address specific health issues in rural areas (Wakerman et al 2006).

3.1 Development of rural health policy

3.1.1 National Rural Health Strategy

The current trajectory of rural health reform at a national level can be traced back to 1991, and the first National Rural Health Conference, which laid the ground work for a national approach to rural health issues (Commonwealth of Australia 1992). In 1994, the Australian Health Ministers' Conference endorsed the first National Rural Health Strategy, seeking to provide a framework for coordination of Commonwealth, State and Territory rural health initiatives (Australian Health Ministers’ Conference 1994). The strategy was subsequently updated in 1996 (Australian Health Ministers’ Conference 1996).

The broad goals of the National Rural Health Strategy were to guide provision of equitably accessible rural health services that were tailored to the needs of rural communities. The Strategy also sought to provide a mechanism for identifying and addressing agreed health priorities, and measuring progress towards rural health goals.
3.1.2 Healthy Horizons

*Healthy Horizons, a framework to guide the development of health programs and services in rural, regional and remote Australia* (National Rural Health Alliance 1999) and its successor *Healthy Horizons: Outlook 2003-2007* (National Rural Health Alliance 2003) built on the original National Rural Health Strategy, revising and refining the framework for development and implementation of rural health initiatives.

*Healthy Horizons* acknowledged that demands on the health system as a whole had shifted. In response, the system itself was moving towards strengthening the capacity of community-based primary care services as the foundation of the health system. There was a recognition that rural health also needed to adapt to this new approach. *Healthy Horizons* originally set out seven interdependent policy objectives, which were reaffirmed in the 2003-2007 document:

- improve highest health priorities first;
- improve the health of Aboriginal and Torres Strait Islander peoples living in rural, regional and remote Australia;
- undertake research and provide better information to rural, regional and remote Australians;
- develop flexible and coordinated services;
- maintain a skilled and responsive health workforce;
- develop needs-based flexible funding arrangements for rural, regional and remote Australia; and
- achieve recognition of rural, regional and remote health as an important component of the Australian health system.

*Healthy Horizons* was a collaborative policy framework developed by the Australian Health Ministers’ Advisory Council’s National Rural Health Policy Sub-committee and the National Rural Health Alliance; it is a unique as a document jointly owned by Government and by key stakeholders including rural health consumers.

3.1.3 Regional Health Strategy and the Rural Health Strategy

In 2000, the Commonwealth Government secured the support of the Australian Health Ministers for a *Regional Health Strategy* incorporating a range of interventions addressing three main themes:

- increasing and strengthening the rural health professionals workforce;
- enhancing rural education and training for health professionals; and
- increasing health services into regional Australia (Department of Health and Ageing 2000).

The four year *Regional Health Strategy* was announced in 2004, building and in some cases expanding on the successes of the *Rural Health Strategy* (Department of Health and Ageing 2004). At that time, funding for the University Departments of Rural Health and the Rural Clinical Schools Programs was included under these Strategies, as were a range of scholarship and financial support programs for medical and health professional students.
3.1.4 National Health Workforce Strategic Framework

In 2004, the Australian Health Ministers’ Conference (AHMC) released the National Health Workforce Strategic Framework, which described key principles and strategies that should underpin a strategic approach to addressing issues relating to the national health workforce.

The Framework referenced a number of sector specific documents, including Healthy Horizons, and paid particular attention to issues affecting rural Australia, identifying three key recurrent themes in previous work; demographic change in Australia (with the health workforce and consumers), new technologies and health care, and empowered consumers (Australian Health Ministers’ Conference 2004).

AHMC outlined a vision for a sustainable, skilled and well-distributed health workforce with a population health focus, and described seven key principles that supported this vision. These can be paraphrased as self sufficiency of workforce supply; distribution achieving equitable access; supportive and attractive health workplaces; cohesion between health, education, vocational training and regulatory sectors to support lifelong learning; recognition of changing professional roles; population and consumer focussed health policy; and collaboration between all health policy stakeholders.

3.1.5 Productivity Commission’s report on health workforce

In 2004, the Council of Australian Governments (COAG) directed the Productivity Commission to undertake a review of Australia’s health workforce, taking into account the work of the AHMC. The Commission’s brief was to identify improvements to institutional, regulatory and funding arrangements in the health care context (Productivity Commission 2005).

The Commission acknowledged in its research report of 2005, Australia’s health workforce, that Australia faced significant supply and demand challenges relating to its health workforce, and suggesting four key policy responses:

- reducing underlying demand for services through public health strategies;
- increasing education and training places for some professions;
- improving workforce retention and re-entry; and
- improving productivity and effectiveness of the health workforce.

A major reform proposed by the Commission was the implementation of national registration for the health professions, a recommendation accepted by COAG which will be implemented in 2010. The scheme will cover physiotherapy, optometry, nursing and midwifery, chiropractic care, pharmacy, dental care (dentists, dental hygienists, dental prosthetists and dental therapists), medicine, psychology and osteopathy (Council of Australian Governments 2008a).

The national registration and accreditation scheme aims to facilitate workforce mobility, reduce “red tape”, facilitate quality training and assessment of overseas trained professionals, promote access to health services and have regard to continuous development of a flexible, responsive and sustainable workforce, and to allow innovation in both education and service delivery (Council of Australian Governments 2008a).

The Commission also acknowledged the specific challenges facing health workers in rural and remote Australia, in particular: limited access to professional support, fewer professional development opportunities; lower housing standards; fewer education and employment opportunities for other family members; and social isolation. Many rural health service employers also face significant difficulties recruiting and retaining staff, with a subsequent impact on both access to and continuity of care for health care consumers (Productivity Commission 2005).

In response to these issues, the Commission identified two promising strategies for rural health workforce development – education and training in rural and remote areas, and ‘block funding’ models to support provision of comprehensive health services (Productivity Commission 2005).
Since publication, the Productivity Commission's report has been influential in shaping the health care debate, with COAG having accepted most of the key recommendations contained in that report. Discussions are continuing with regard to the most effective implementation of the recommendations.

In 2007, Hepburn and Healy surveyed 41 Australian health policy experts and stakeholders, seeking views on the Productivity Commission's recommendations, and the 2006 COAG health workforce reform. Health status improvements were identified as an important outcome measure to health workforce reform; however the authors made the observation that:

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\text{[i]t cannot be assumed that improved health will naturally result from 'more' health workers or 'more' health care. Training and performance of the workforce, combined with its quality, distribution and support within the broader health system, is likely to do more to influence health status than the number of health professionals alone (Hepburn and Healy 2007).}
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### 3.1.6 National Health and Hospital Reform Commission

The establishment of the National Health and Hospital Reform Commission is potentially one of the most significant reform initiatives in recent times. The NHHRC was established in February 2008 to develop a long-term health reform plan. The Commission will provide advice to Government on performance benchmarks and practical reforms to the Australian health system to meet a range of long-term challenges, including access to services, the growing burden of chronic disease, population ageing, costs and inefficiencies generated by blame and cost shifting, and the escalating costs of new health technologies (National Health and Hospital Reform Commission 2007).

In April 2008, the NHHRC produced its first report, *Beyond the blame game: accountability and performance benchmarks for the next Australian Health Care Agreements*, in which it provided a framework for the next round of Health Care Agreements between the Commonwealth and the States and Territories (National Health and Hospital Reform Commission 2008). The proposed framework describes service design principles (generally relating to what health consumers want from the system) and governance principles (generally how the system should work):

\[
\text{[R]ecommended service design principles are: people and family centred; equity; shared responsibility; strengthening prevention and wellness; value for money; providing for future generations; recognising broader environmental influences that shape our health; and comprehensive. [The NHHRC's] governance principles are: taking the long term view; safety and quality; transparency and accountability; public voice; a respectful and ethical system; responsible spending on health, and a culture of reflective improvement and innovation (National Health and Hospital Reform Commission 2008).}
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The *Beyond the blame game* report also identified twelve ‘critical challenges’ for the health system, selected because they represent areas where the need for change is both well understood and widely documented (National Health and Hospital Reform Commission 2008).

‘Critical challenges’ of particular relevance for this report are: the need to improve distribution of, and equitable access to, services; ensuring adequate numbers of well-trained health professionals, and promoting research. In relation to the latter, the report makes particular mention of the difficulties in finding sufficient and appropriate clinical placements for health professionals in training, and of the lack of ‘protected time’ for those in teaching and research roles.

Building on the principles and critical challenges already identified, the Commission aims to provide a long-term plan for the health system, which addresses the need to:

- a) reduce inefficiencies generated by cost-shifting, blame-shifting and buck-passing;
- b) better integrate and coordinate care across all aspects of the health sector, particularly between primary care and hospital services around key measurable outputs for health;
- c) bring a greater focus on prevention to the health system;
d) better integrate acute services and aged care services, and improve the transition between hospital and aged care;

e) improve frontline care to better promote healthy lifestyles and prevent and intervene early in chronic illness;

f) improve the provision of health services in rural areas;

g) improve Indigenous health outcomes; and

h) provide a well qualified and sustainable health workforce into the future (National Health and Hospital Reform Commission 2008).

In theory, the final report of the Commission (due in June 2009) will represent a synthesis of different strands of policy, including rural health (f above) and workforce development (h) by taking a holistic analysis to the complexities of the national health system. The desired outcome is a blueprint for fair and sustainable health service provision into the future.

3.1.7 Key recent initiatives

The 2007-2008 Commonwealth budget announced a range of measures under the banner ‘Supporting rural and regional Australians’, which included funding for the University of Wollongong Rural Clinical School, the establishment of the Dental School at Charles Sturt University, and other measures aimed at retaining and enhancing the rural health workforce.

The Rudd Government’s first budget in 2008-2009 included key initiatives in health care reform, most notably the National Health and Hospitals Reform Commission and a $10 billion Health and Hospitals Infrastructure Fund, both signalling a reform agenda. It also delivered on Labor’s election commitment to fund “GP Super Clinics” (which will include teaching and training facilities) and increased support to medical and allied health professionals undertaking placements in rural areas, doubling the number of placements available to medical students through the John Flynn Placement Program and increasing scholarship support available for allied health workers, mental health nurses and psychologists (Department of Health and Ageing 2008b). This additional funding is a recognition of the difficulties faced by students in undertaking rural placements, as well as an acknowledgement of the importance of rural exposure in influencing students’ career decisions.

An Office of Rural Health has also been established within the Department of Health and Ageing (Primary Care and Ambulatory Division), partly in response to the Audit of health workforce in rural and regional Australia (Department of Health and Ageing 2008a), with a mandate to drive rural health reform. The Office of Rural Health has been charged with the review of 60 rurally-targeted health programs, as well as the remoteness classification scheme commonly used to determine eligibility for many programs (Roxon 2008a).

Most recently, at its July 2008 meeting, COAG agreed to roll out the first 4,500 of a planned 50,000 vocational education and training places in priority health professions (Council of Australian Governments 2008b).

3.1.8 Summary of recent rural health policy developments

Providing rural health is a challenge; rural and remote locations have intrinsic characteristics which make traditional (usually urban) models of funding and providing health care inappropriate or less effective (Wakerman et al 2006). It is known that, in general, health status declines with increasing rurality, as do access to and utilisation of health services (Australian Institute of Health and Welfare 2008). Although a causal relationship has not been established, these factors underpin the rationale for much rural health policy. However, as many have acknowledged (Department of Health and Ageing 2004, Murray and Wronski 2006), it is not a simple matter of providing more health services in the bush. Rurally-focussed health models, including training models, need to be developed which address the specific and varied needs of rural and regional Australia (and especially the needs of Indigenous Australians).
Many rural health care policy initiatives seek to address either workforce supply or workforce demand factors (although some initiatives address both sides of this equation). Policy that aims to address demand-side factors seeks to decrease demand on the health system, generally through a population health approach aimed at promoting health and wellbeing, preventing disease, and detecting and intervening early where disease occurs to reduce overall mortality. Other demand-reduction strategies include programs to develop better self-management skills in people with chronic illness. The trend toward preventive health care and the population health approach is evident in health policy over the last 15 years.

Workforce-supply strategies include those aimed at increasing the number of professionals in the workforce, improving the distribution of that workforce,¹ and rationalising the distribution of skills and responsibilities through innovative models of care. Other workforce supply strategies include the use of new technologies to increase the efficiency or the reach of services.

Workforce policy itself is shifting from a predominant focus on the medical sector, adopting a broader perspective on the health workforce as a whole which recognises that professional roles and role boundaries continue to change, and that healthcare is a collective responsibility. A key contributor to this change is the increase in team-based, interdisciplinary or multidisciplinary care provision which involves different health professionals working together, ideally in a coordinated way. The trend to a greater recognition of multidisciplinary care itself reflects in part the increasing expectations by health consumers.

At their core, these policies and strategies share a goal of contributing to a health workforce that is able to meet rural health consumers’ needs by providing the right mix of skills, in the right place, at the right time.

3.2 Rural health workforce training, recruitment and retention

3.2.1 Overview

The Productivity Commission’s research report, Australia’s health workforce (2005), discussed in section 3.1.5, highlighted significant supply and demand challenges relating to Australia’s health workforce. Education and training strategies were flagged as key responses to address capacity and distribution issues in rural health systems. In this section, literature regarding national and international recruitment and retention initiatives is presented to demonstrate the evidence supporting the establishment of the University Departments of Rural Health and Rural Clinical Schools Programs. The following questions formed the basis of the literature review:

What is known about developing effective health workforce strategies for improving rural health services?

What examples or models of education have been demonstrated to enhance rural recruitment of medical, nursing and/or allied health workers?

What is already known in the published literature about the activities, output and effectiveness of the RCSs and UDRHs specifically?

What other initiatives to improve the rural health workforce in Australia have demonstrated success in recruitment and retention?

This section focuses predominantly on Australian studies, but key international findings are also considered where they are relevant to the Australian context.

¹ See McDonald et al 2008 for a recent review of different financing models to address access issues for patients with complex needs; they found that while individual financial incentives are widely used in Australia, they were not always effective in rural areas. “Alternative funding arrangements, such as capitation and contracting could be more widely adopted in Australia to enhance access to care for vulnerable population groups without fundamentally changing the overall fee-for-service financing arrangements.”
The literature appears to indicate strongly that training programs which selectively recruit and admit health and medical students with a sense of rural background and/or a stated intent to practice rurally can make a positive contribution to the rural workforce (Somers, Strasser and Jolly 2007, Australian Medical Workforce Advisory Committee 2005, Dunbabin and Levitt 2003, Laven and Wilkinson 2003). Students may also be more likely to enter practice in an area closer to their place of study (McDonnel Smedts and Lowe 2007, Gum 2007, Veitch et al 2006, Rosenblatt et al 1992). However, recruitment and admission strategies need to acknowledge and address challenges faced by rural students in accessing tertiary health education. These include socio-economic disadvantage, geographic isolation, separation from family and friends, and perceptions of social exclusion (Durey, MacNamara and Larson 2005).

The ‘rural pipeline’ approach appears to be generally supported by the evidence, although most literature relates to the medical sector (see for instance, Worley et al 2008, Hsueh et al 2004, Curran and Rouke 2004, Dunbabin and Levitt 2003). This approach involves strategies which respond to pre-tertiary education factors (e.g. targeted recruitment of rural students, preferential admissions and rural scholarships) as well as undergraduate and then postgraduate training factors (e.g. regional location, rural curriculum, and rural placements). However, the specific contribution of undergraduate and postgraduate training factors has not been clearly identified, primarily due to lack of controls for known predisposing factors to rural practice including rural background (Ranmuthugala et al 2007).

Promisingly, a very recent study by Worley et al (2008) found increased intent to practice rurally among students in rural community-based and regional hospital-based medical education streams after adjusting for age and rural background.

Short rotations or introductory exposure to rural settings might have a positive influence on stated interest in rural practice or intent to practice rurally among health profession students (Crichley et al 2007, Guion et al, 2006, Newbury et al, 2005, Courtney 2002). There also appears to be evidence of a link between longer rural placements or rotations and rural recruitment for internships (Ranmuthugala et al 2007, McDonnel Smedts and Lowe 2007, Veitch et al 2006, Denz-Penhey et al 2005, Dunbabin and Levitt 2003).

While there is uncertainty about the long-term contribution to workforce recruitment and retention, rural curriculum and rural exposure may develop a more ‘rural-ready’ workforce, that is, one which is prepared for the rigours, isolation and variety of rural medical practice (Eley et al 2008, Murray and Wronski 2007, Veitch et al 2006). Rural medical students’ academic results are comparable to urban-based students, indicating that a rural pathway does not necessarily compromise quality of teaching, a significant early concern of sceptics (Walters et al 2006, Maley et al 2006, Worley, Esterman, and Prideaux 2004).

Finally, the literature suggests that the capacity of the teaching system to sustain increasing numbers of students is limited, but manageable with innovative approaches and appropriate resourcing (Sen Gupta et al 2008, Maley et al 2007), although more recent voices have sounded notes of caution (Wallace 2008, Schwartz 2008).

3.2.2 Activities, output and effectiveness of rural workforce training initiatives

The RCS and UDRH Programs (and other rural workforce initiatives such as scholarship/bursary schemes for students with a rural background) are based on the proposition that students with a rural background, and/or students who are provided with a positive experience of rural practice during their undergraduate training are more likely to choose to practice in a rural area after graduation. Other goals for the Programs include tailored preparation of students for the particular nature of rural practice and a more intensive and experiential learning experience (Eley et al 2008).
The RCS Program seeks to improve supply of medical professionals to non-metropolitan Australia by creating medical education infrastructure in rural and regional centres, and by providing 25% of Australian Government-supported medical students with a rural focus for at least one year of their clinical training (Eley et al 2008).

It can be helpful to conceptualise the phases of a health practitioner’s working life as demarcated by stages of education and training, from secondary education (where early career directions may be set), through university and early professional education (where those directions are altered, refined and/or consolidated), through to continuing professional development required of most fully-qualified health practitioners (where particular interests may be honed). This is, of course, a somewhat simplified illustration, and there are significant variations between the professions. However, the importance of starting early to encourage rural secondary school students to consider health careers can have an impact on students’ decisions to pursue tertiary education and particularly to consider a health-related profession (Durey, MacNamara and Larson 2005).

A vertical integration approach aims to coordinate education and training at each of these different stages; one example of an attempt to support vertical integration from general practice is the ‘Curriculum for Australian General Practice’, which defines curricula for GPs at four stages of their working life, from medical student, prevocational doctor, vocational general practice registrar, and fully-qualified GP (Royal Australian College of General Practitioners 2007).

Interventions which aim to influence career decisions by health professionals are pitched somewhere along this continuum; for example, it may be hypothesised that providing positive rural exposure during tertiary (undergraduate) education can consolidate and strengthen existing intent to practice rurally or sway the uncommitted (National Rural Health Alliance 2008, MacRae, van Diepen, Paterson 2007, Hseuh, Wilkinson, Bills 2004).

The UDRH Program aims to encourage future health professionals to consider practising in a rural area through providing short placement and training opportunities for health science students from the nursing, medical and a range of allied health disciplines. The Program also provides support to health professionals currently practising in rural settings. In general, the UDRH Program has a greater multidisciplinary focus than the RCS.

The UDRH and RCS Programs are primarily focussed on tertiary education, but some sites may also take a vertically integrated approach, becoming actively involved at other stages. For example, university departments of rural health and/or rural clinical schools may offer continuing professional development to health professionals working in rural areas, may liaise with or provide support to intern/graduate year training programs, or may contribute to postgraduate or vocational training (e.g. as part of a consortium with a regional training provider to provide training for GP registrars).

In 2007, there began a phased national increase in medical student university places by 605 and nursing places by 1,000. Overall, there has been an increase in medical students from 1,200 per year in 2000 to more than 3,000 in 2008 (Walters and Worley, 2006). The recent Report on the audit of health workforce in rural and regional Australia (Department of Health and Ageing 2008a) indicates that there were 379 medical students studying in 14 rural clinical schools in 2006, and that university departments
of rural health provided 510 medical placements, 615 nursing placements and 370 allied health placements in the first half of 2007.2

Dunbabin and Levitt (2003) noted that the number of rural-origin medical students in Australia had increased from 10% of the total in 1989 to 25% in 2000, and that rural high school students were being encouraged to consider careers in medicine. In addition, selection criteria were being developed based on a stated intention to enter rural practice. Nevertheless, ‘it is not clear to what extent undergraduate or graduate rural exposure has on choice of practice location as many of the initiatives in this area, such as UDRH and rural clinical schools, are relatively new’ (Dunbabin and Levitt, 2003:12).

The Rural Undergraduate Support and Co-ordination Program (RUSC) is one of the many initiatives developed to encourage students to undertake rural placements. It is a funding program established by the Department in 1993 to promote rural general practice as a career through providing rural placements to medical students, establishing rural health clubs to encourage rurally-focussed medical and nursing students, and to increase the level of rural health teaching available through Australian medical schools. (Department of Health and Ageing 2002). Participating universities are required to provide 4 weeks of RUSC-funded rural placements to all medical students (whether they intend to practice rurally or not). A target was established that 25% of all medical students should be of rural origin, a target that has largely been met nationally, although there is some variation across universities. Other initiatives, such as the Rural Australia Medical Undergraduate Scholarship (RAMUS), the Rural Allied Health Undergraduate Scholarship (RAHUS), the Medical Rural Bonded Scholarship Scheme (MRBSS) and others have been created to provide further encouragement for students to consider rural health careers. Surveys of medical students with a RAMUS (Rural Australia Medical Undergraduate Scheme) scholarship indicated that in 2007 92% of students believed that the scholarship, with its focus on rural exposure and mentoring from a rural clinician, had increased their intention to practice rural medicine (National Rural Health Alliance 2008).

Jones et al (2005) undertook a study at the University of Melbourne RCS in order to identify medical students’ reported barriers to training at an RCS. Their study confirmed the fact that some RCSs have difficulty filling places due to student preferences for particular, mainly metropolitan, clinical schools. Further barriers were identified, including the need to stay in a metropolitan area due to family or relationship commitments, social networks; work commitments; transport issues or financial hardship (see Jones et al, 2005: 273).

In its wide-ranging study into the Australian medical workforce, the Productivity Commission, amongst its recommendations, called for a more appropriate allocation of clinical training costs according to the benefits accruing to the various parties; greater reliance on explicit payments to those providing infrastructure support or training services; and the removal of regulatory and other barriers that could impede the efficiency and effectiveness of clinical training outcomes (Productivity Commission, 2005: 110).

Lyle et al (2007) conducted a survey of health faculties from the University of Sydney about activities and assets supporting rural health education and workforce development, and used the findings to identify potential gaps and opportunities for an institutional level response. The authors concluded that a rural curriculum framework would assist with student learning and the attainment of a broader set of educational objectives, including a greater appreciation of the context of rural practice. Further, they suggested that it would be beneficial to provide an agreed level of, or access to, support for all students across the university before, during and after their rural placement. An important step to achieving this outcome would be ‘improved communication and sharing of resources between faculty and program teams responsible for managing rural attachments and student teaching…organised at an institution-level and particularly supported by the UDRHs and RCS’ (Lyle et al, 2007: 231).

A nationwide study into medical education was carried out by the then Department of Education, Science and Training beginning in 2006, involving broad stakeholder consultations and empirical research into the state of undergraduate medical education, including clinical education3. The submission by the then Australian Rural and Remote Workforce Agencies Group (ARRWAG) cited

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2 UDRH placement numbers quoted are for placements of at least two weeks duration.
3 see http://www.dest.gov.au  "Medical Education in Australia Study"
student satisfaction surveys conducted amongst the student members of ARRWAG’s National Rural Health Network which indicated that rural placements improved their education, particularly in terms of ability to communicate with patients (Australian Rural and Remote Workforce Agencies Group 2006).

In a study carried out in Queensland, Eley et al (2007) suggest that exam performance of RCS students demonstrate ‘as good or better results compared with urban counterparts, and student-based research shows that interest in rural medicine as a career increases after rural clinical placements’. This suggests that students who undertake a period of clinical training in a rural location are not disadvantaged academically and, in some cases, receive a better or more positive educational experience than their urban colleagues.

3.2.3 What factors predict recruitment to the rural workforce?

*Personal characteristics predictive of rural practice among health professionals*

This section considers factors which are considered to be predictors of rural practice among health professionals, including personal characteristics such as rural background, spousal background, age and gender. Much of the evidence relates to medical professionals, although there is some indicative international evidence that is suggestive of similar factors applying across the professions.

*Rural background*

Rural background among medical students is well established as the single most significant predictor of a subsequent career in rural areas (Australian Medical Workforce Advisory Council 2005, Dunbabin and Levitt 2003, Hsueh, Wilkinson and Bills 2004, Laven and Wilkinson 2003), and this association appears to be confirmed through early data from the rural clinical schools (Worley et al 2008, Veitch, Underhill and Hays 2006, Orpin and Gabriel 2005).

There is also recent international evidence from the United States which appears to confirm a similar association in other professions. Daniels et al (2007) collected data from 765 graduates of 12 health disciplines, and identified strong associations between a rural upbringing and first and subsequent rural practice choices after graduation.

In Australia, Hegney et al (2002) surveyed 146 rural and remote nurses who had recently resigned from Queensland Health, finding that previous exposure to rural life was a compelling reason to seek out rural and remote practice. Playford, Larson and Wheatland (2006), in a longitudinal study examining the effect of rural placements on later career choices among 429 nursing, physiotherapy, human communication science and occupational therapy students in Western Australia found a strong association between previous experience living in the country and returning to rural areas for employment. A small qualitative study of rurally practising occupational therapists in NSW suggested that rural background was an influencing factor in the decision to work rurally (Lee and Mackenzie 2003).

Many studies use different definitions for what constitutes ‘rural’ as well as what a ‘rural background’ entails. There are also variations in policy definitions: the RUSC Program definition is five years consecutive or cumulative rural residence from the first year of primary school (Anon, 2005) while the Australian Medical Workforce Advisory Committee defines rural background as having lived in a rural area (RRMA 3-7) for a minimum of five consecutive years or eight cumulative years (Australian Medical Workforce Advisory Council 2005). The latter definition is used by the RAMUS program and has empirical support for its validity: Laven et al (2005) found that rural general practitioners were two to three times more likely to meet this definition.

Tolhurst, Adams and Stewart (2006) argued that a limitation of previous studies lay in the fact that they commonly treated the rural experience as homogenous, whereas the author’s research indicated that ‘students’ interest in rural practice differed according to the remoteness of the community and the size of the town; and they responded differently to experiences in different locations.’

While rural doctors are up to four times more likely to have a rural background than their urban counterparts, 34% to 64% of rural doctors have an urban background (Tolhurst et al 2006); another study suggests that around one-fifth of urban background allied health students in Western Australia choose rural practice (Playford, Larson and Wheatland 2006). A stated intent to practice in a rural area
has been found to be the only other independent predictor of later rural practice (Somers, Strasser and Jolly 2007), and is strongly associated with rural origin (Somers and Strasser 2002).

Somers, Strasser and Jolly (2007) considered students' self reported ‘sense of rural background’ and examined the correlation to years of rural upbringing, identifying a 5-year rural upbringing as the threshold at which a sense of rural background developed. They also identified a cohort of students with between 4 and 8 years of ‘rural background’ who do not express strong intent to practice rurally, nor were they committed to urban practice; the authors suggest that 4-8 years of rural upbringing may represent a turning point for the influence of years of rural upbringing on expressed intent to practice rurally.

The literature provides substantial support for training programs that selectively recruit and admit health and medical students with a sense of rural background and/or stated intent to practice rurally (Somers, Strasser and Jolly 2007, Australian Medical Workforce Advisory Council 2005, Dunbabin and Levitt 2003, Laven and Wilkinson 2003).

**Perceptions of a rural health career and lifestyle**

Adams et al (2005) found that factors which influenced student attitudes to rural practice related to ‘friendliness and support in rural areas; isolation and socialisation problems associated with living and working in rural areas; enjoyable aspects of living in a rural area; and opportunities that working in a rural area provides.’

Rural background students tend to have a more positive perception of rural life and rural practice compared with urban students, with poorer perceptions associated with negative media (Azer, Simmons and Elliott, 2001). Medical students have also been found to hold concerns about rural practice that are similar to those voiced by rurally practising GPs; specifically citing a lack of professional support at the systems level, including lack of support for: continuing medical education relevant to rural practice; dealing with the higher risks associated with procedural work; medico-legal issues. Students and GPs also identified workforce shortage issues such as long hours and availability of locums as impacting negatively on rural practice (Eley et al 2007b).

Notwithstanding these perceptions, rural GPs generally report greater job satisfaction than their urban counterparts (Ulmer and Harris 2002). Rurality has also been associated with higher levels of job satisfaction among non-GP staff in general practice clinics, including allied health staff (Harris et al 2007).

Hemphill et al (2007) have proposed that current recruitment strategies to address rural workforce needs would benefit from a new approach informed by marketing theory; they suggest that ‘current research has misdiagnosed the nature of the retention and recruitment of rural GP problem by inaccurately defining the GP market’. The authors suggest that perceptions of rural practice could be more positively influenced through marketing ‘the practice, not the region’, in other words focussing on the benefits of the business rather than the rural environment which may evoke images of overworked and stressed GPs working in isolation. Approaching rural practitioner recruitment through market segmentation and identifying customer perceptions of value may challenge more traditional perspectives of health services as a social benefit outside of the market; however, recently Schwartz (2008) concurred with the market approach, suggesting that as government policy has failed to address the rural workforce crisis, market forces should be allowed to influence workforce strategies.

While rural students are more likely to end up in rural practice, they face a number of barriers to education leading to a career in health. Durey, MacNamara and Larson (2005) summarised these barriers as:

‘[a] lack of information about the range of health careers available, the cost of tertiary education for families, social dislocation and a perceived lack of support structure for students at university. These are underpinned by cultural assumptions about gender, occupational roles in rural communities and professed lack of academic ability.’

Students are on the whole not well-informed about health careers; while ‘self-interest’ has been found to be the strongest influencing factor in career choices for rural secondary school students, there is
some evidence that strategies such as health careers workshops can positively influence career decisions among pre-university students (Buikstra and Eley 2007), as can contact with working professionals (Williams, D’Amore and McMeeken 2007).

The evidence appears to provide support for strategies that aim to facilitate entry to health professional undergraduate training by students with rural backgrounds; however, such strategies need to consider the particular challenges faced by rural students in accessing tertiary health education (Durey, MacNamara and Larson, 2005). Selective admissions biased in favour of rural students combined with scholarships/bursaries and other supports appear to be effective (Ranmuthugala et al 2007).

**Spousal background**

Some studies have also found an association between rural medical practice and the background of a practitioners’ partner or spouse (Laven et al 2003, Rabinowitz et al 1999a). Laven et al (2003) found the association to be greater with a spouse’s background than with the practitioner’s. The relevance of a partner’s background is supported by subsequent qualitative research exploring factors which might create interest in rural practice among urban background students (Tolhurst, Adams and Stewart 2006). There is some evidence that spouses may have significant influence over decisions to remain in or leave rural practice (Mayo and Matthews, 2006).

However, in contrast to these findings, a multidisciplinary, longitudinal study by Daniels et al (2007) found no significant association between health professionals’ spousal background and choice of rural practice location.

**Other issues**

Factors which may be predictive of rural medical practice include age at admission to training, with rurally-inclined students likely to be older (Worley et al 2008, Wilkinson et al 2003). Gender may also be a factor, with rural doctors more likely to be male (Laven and Wilkinson 2003, Wilkinson et al 2000).

Quality of teaching and the educational experience at their selected university also remain of significant importance to medical students (Jones, DeWitt and Cross, 2007), although the Australian and international evidence suggests that academically, rural stream students tend to do as well or better than their urban stream counterparts (Schauer and Schieve 2006, Maley et al 2006, Worley, Esterman and Prideaux 2004).

### 3.2.4 Rural training/education interventions

The Australian Medical Workforce Advisory Committee (2005) has found that there was good evidence to support programs of rural education and training as a rural recruitment strategy, a position also taken by the Productivity Commission (2005). Hsueh, Wilkinson, and Bills (2004) systematically reviewed undergraduate interventions which were successful in promoting rural health among medical students, and observed that there was strong evidence to support a ‘chronological sequence’ of interventions, with the most effective programs utilising a combination of strategies which respond to pre-admission factors as well as medical school factors including rural placement or training.

The currently favoured approach to rural (medical) recruitment through education and training is encapsulated by Dunbabin and Levitt (2003), who described the ‘rural pipeline’ involving ‘recruiting students from rural backgrounds, delivering training in the regions, rural curriculum providing repeated rural exposures, and building regionally based postgraduate training pathways.’ The authors identified four key US programs which have informed much of the evidence for rurally focussed medical schools.

(a) The **WAMI** program at the University of Washington, established in 1971, preferred rural students, who were provided with rural area exposure at both pre-clinical and clinical stages of training and were supported during rural family medicine programs. The program’s outcomes included a higher proportion of rurally practising graduates, and a higher proportion of primary care practitioners (Adkins et al 1987).

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*WAMI is an acronym for Washington, Alaska, Montana and Idaho – the participating States in the program.*
(b) The University of Minnesota established the Rural Physicians Associate Program (RPAP) in 1971, consisting of a 9-month elective rotation in a rural community supported by a scholarship. Participants in the program were more likely to practice rurally than non-participants, although these results were not adjusted for rural origin (Verby et al 1991).

(c) In 1974 Thomas Jefferson College established the Physician Shortage Area Program (PSAP), which incorporated a selective admissions policy (rural background and intent to practice rurally) and a tailored, rurally focussed education program. The PSAP students were four times more likely at graduation to practice rurally, and seven to ten times more likely to choose to practice family medicine in a rural area (Rabinowitz 1999b).

(d) The University of Illinois established the Rural Medical Education Program (RMED) in 1993, which sought to build on the experiences of earlier programs, and incorporated a longitudinal, multifaceted approach incorporating active recruitment and selective admission of rural students with an indicated interest in family medicine, rurally-focussed curriculum, support and evaluation. After 6 years, RMED had graduated 39 physicians; 69% had gone into family practice, and a total of 82% had selected primary care residencies (Stearns et al 2000).

Since Dunbabin and Levitt’s 2003 paper, another key paper from the State University of New York has been published. An evaluation of the Rural Medical Education Program (RMED) of the State University of New York Upstate Medical University completed in 2004 found that 26% of former RMED students practiced in rural locations compared with 7% of non-RMED students. RMED involved a 36-week clinical experience in rural communities for medical students (Smucny et al, 2005).

Hsueh et al (2004) undertook a literature review which considered the effectiveness of ten undergraduate medical programs designed to increase rural career choice, and found that the effective medical undergraduate rural programs did not rely on ‘one isolated strategy but with a chronological sequence of interventions. The most effective programmes consider both pre-medical school and medical school educational factors.’

Curran and Rourke (2004) also undertook a less formal review which provided more support for the ‘pipeline’ approach, identifying that ‘rural student recruitment, admissions policies, rural-oriented medical curriculum, rural practice learning experiences, faculty values and attitudes, and advanced procedural skills training’ are areas where universities can influence students towards rural careers in general practice.

There is some support for the notion of rurally ‘orientated’ university faculties or departments; a key study by Rosenblatt et al (1992) which examined characteristics of medical schools and their graduates in the United States found that the ‘organization, location and mission of medical schools is closely related to the propensity of their graduates to select rural practice’.

However, the most recent review of the evidence relating to the effect of rural exposure (mostly from the United States, but also from Australian sources) has adopted a more conservative position, noting that:

‘[r]ural-orientated medical training programs in the USA that selectively admit students from rural backgrounds and who intend to practise as family practitioners have demonstrated success in increasing uptake of practice in rural/underserved areas. However, in examining the specific contribution of rural exposure towards increasing uptake of rural practice, the evidence is inconclusive, largely due to the failure to adjust for these critical independent predictors of rural practice...’ (Ramuthugala et al 2007)

Ramuthugala et al also made the point that most of the Australian evidence about rural health professional training is limited.

‘Few [Australian] studies attempt to identify the influence of specific aspects of rural training programs (in terms of nature, timing, frequency and duration) on uptake of rural practice. Others fail to distinguish between structured short-term rural placements and the longer-term residential rural exposure. In addition, there is a need to distinguish between...’
undergraduate and graduate medical schools in assessing the impact of rural exposure on career intentions.’ (Ranmuthugala et al 2007)

This inconsistency of findings and a lack of precision in identifying contributing factors have also been highlighted elsewhere (Playford, Larson and Wheatland 2006, Brooks et al 2002).

Other authors have also noted that while there appears to be evidence supporting the value of rurally-focussed programs, this evidence is inconsistent, and does not support the notion that any rural exposure will provide a positive influence (Orpin and Gabiel, 2005). Rather, the provision of a high-quality, well-supported learning experience is required to build positive perceptions about rural practice (Jones, DeWitt and Cross 2007, Eley and Baker 2006, Azer, Simmons and Elliott, 2001).

Rurally-orientated training experiences have been found to ‘solidify existing rural affiliations’ (Woloschuk and Tarrant, 2002) among rural background allied health students in the United States; however this is not a universal effect. Orpin and Gabriel (2005) surveyed 147 first year and 87 final year students at the University of Tasmania about their awareness of attitudes to rural practice, and found that over two-thirds felt that rural coursework ‘had actually influenced them away from such a career’; this pattern was evident in students from both urban and rural backgrounds. The authors emphasised the need to ensure that rural coursework is carefully designed to build a positive impression of rural practice among students.

Much of the literature about specific strategies or programs relates to medical training, and there is limited evidence from Australia from the allied health and nursing sectors. In examining factors contributing to rural practice among nursing and allied health students, Playford, Larson and Wheatland (2006) commented that ‘few longitudinal studies have addressed the impact of rural placements on allied health or nursing graduate choices, despite the fact that rural placements are being encouraged for these students and that most are qualified to enter the rural workforce immediately following graduation.’

In Australia there are significant differences in the nature and level of support provided to different professions, and particularly allied health students as a group compared with medical students, making direct comparisons of program effectiveness more difficult (Turner and Lane 2006, Struber 2004). Turner and Lane (2006) surveyed 379 members of university rural health clubs, aiming to identify and compare support provided to medical and health science students going on rural placements. Medical students were found to receive significantly greater support to undertake rural placements, particularly in relation to the provision of accommodation.

Introductory/brief rural exposure

The nature, duration and setting of ‘rural exposure’ varies significantly, placing some limitations on what generalisations may be made from the evidence. There have been examples in Australia in the medical and allied health sectors relating to introductory rural experiences and short placements (Crichley et al 2007, Newbury et al, 2005, Lyle et al, 2006, Playford, Larson and Wheatland 2006, Courtney et al 2002).

Crichtley et al (2007) reported on evaluative data from a mandatory rural health module for medical students, which involves a one day workshop on Indigenous cultural safety; a short-term community placement (3 days); an Indigenous placement (3 days) and a small rural community placement (2 weeks). While 86% of participating student were from metropolitan backgrounds, ‘almost half of respondents (47%) indicated that the course increased their interest in rural practice, and over half of the students (51%) indicated that they plan to practise rurally, would consider it for a short time or seriously consider it in the future’. Students in the placement indicated that factors that would encourage them to take up rural practice emphasised the importance of rural- and GP-associated clinical experiences, as well as the need for positive role models and welcoming communities.

Newbury et al (2005) describe the development of ‘rural weeks’ for first- and second-year medical students, which are designed to introduce students to rural practice and/or Indigenous culture, and to induce students to choose rural placements in later years. Evaluative data was collected from students (and others involved) which was suggestive of an increased interest in rural practice. Actual subsequent uptake of rural training pathways was not investigated.
Lyle et al (2006) describe the approach of the University of Sydney’s Broken Hill University Department of Rural Health (BHUDRH), which coordinates placements for health science students from the University of Sydney, but also from 21 other universities. The BHUDRH has continually refined their activities resulting in an increase in students each year, from 140 students in 1998 to 271 students in 2005 (339 student weeks in 1998 and 912 student weeks in 2005) (Lyle et al 2006). While there has not been a published evaluation of the program, the authors contend that a sustainable, quality program has been developed, and the potential impact is very significant due to the high volume of placements undertaken. The BHUDRH is currently participating in a student tracking study to monitor future career pathways of allied health students which is expected to provide more robust evaluative data.

Playford, Larson and Wheatland (2006) investigated the work locations of students across 12 disciplines after graduation, and found an association with completion of a short (less than 4 weeks), voluntary clinical placement. The authors suggested that the finding in favour of short placements may be due to reducing social dislocation for urban-based students, as well as reducing the secondary costs of a rural placement such as loss of work income, and transportation and other relocation costs.

Courtney et al (2002) evaluated a clinical placement scheme for nursing students as a recruitment strategy for rural and remote health care services. Analysis of pre- and post-surveys identified a greater increase in the number of rural-placement students intending to seek employment in a rural setting, compared to those who undertook a metropolitan placement. Of those students who undertook a rural placement and who did not have a rural background, the study found that ‘over half... indicated their intention to work in a rural setting following their clinical placement.’

Guion et al (2006) reported on a United States program providing community placements in rural areas for multidisciplinary teams of allied health students in their final year. Student responses to the program were highly positive, and a key outcome was that three-quarters of participants indicated after the placement that they would consider working at the placement site. The multidisciplinary nature of the placement may have contributed to the apparent early success of the program; the value of initiatives which promote teamwork and interdisciplinary collaboration as workforce measures has been advocated in Australia (Harris et al 2007, Struber 2004).

There is some evidence suggesting that short rotations or introductory exposure to rural settings might have a positive influence on stated interest in rural practice or intent to practice rurally among medical and allied health students (Crichley et al 2007, Guion et al 2006, Newbury et al 2005, Courtney 2002), although of Australian studies only Playford, Larson and Wheatland (2006) and Gum (2007) appear to have examined actual practice following graduation (allied health and nursing students). While Playford, Larson and Wheatland’s (2006) study found an association between short placements and subsequent rural practice six months after graduation, although Schoo et al (2005) noted that ‘many young allied health graduates seek rural positions to start their career, and, as a result, rural regions have been described as “professional nurseries”. Unfortunately, many graduates leave or intend to leave their rural positions’.

**Long rotations/regionally based training**

Australian studies of longer placements have generally been confined to the medical sector, although even these remain limited. Dunbabin and Levitt (2003) found that the evidence indicated that the experiences of medical students, particularly during residency training, had a ‘significant role’ in rural career decisions. Their study focused on North American medical school programs, arguing that Australia is lagging behind other nations in developing an evidence base for rurally-orientated training programs for medical professionals.

In contrast, Ranmuthugala et al (2007) found that the evidence for ‘rural exposure’ during training was generally inconsistent and inconclusive, largely because of failure to control for rural background or to identify which elements of the training experience had an impact.

The review by Ranmuthugala et al (2007) preceded a 2008 study by Worley et al, comparing the career paths of medical students in Flinders University’s Parallel Rural Community Curriculum (PRCC) with those of students from regional hospital and metropolitan hospital clinical schools. Students who completed the PRCC were 19 times more likely, and students from regional hospital stream were four times more likely, to choose a rural career than metropolitan-based students (Worley et al 2008), even
after adjusting for age at admission and rural background. The authors note the limitations of their study and caution against generalising to other institutions, but conclude that the study ‘provides evidence that clinical attachments designed to increase the rural and remote medical workforce do fulfill this objective’. Eley and Baker (2007a) have also suggested a link between RCS education and subsequent intern choices among medical students, with RCS students more likely to choose an internship in a rural or regional hospital. However, neither study assesses longitudinal change in intent to practice over time.

McDonnel, Smedts and Lowe (2007) reported that the Northern Territory Clinical School, based in Darwin, had been effective in contributing graduates to the Territory workforce, with 54% of graduates completing their intern year in the Northern Territory, a figure that rose to 70% for students admitted under a quota program (for Aboriginal and Torres Strait Islander or Northern Territory residents). The authors suggest that the preliminary data ‘supports the concept that “training locals locally” has had positive outcomes for the Northern Territory health workforce’.

Veitch et al (2006) analysed the career aspirations of James Cook University’s first cohort of medical students, and found that intention to practice rurally remained consistently high (around 65%) over the course of medical training. The authors noted that two-thirds of students (64%) chose internships in northern Queensland although the majority of internship placements within the State were located in southern Queensland, indicating a high preference for rural and remote training. The study may provide evidence that students are more likely to choose a regional medical school such as James Cook University’s because they are either from the locale or are already interested in rural practice.

A comparative review of the evaluative data from two RCSs’ rotational programs has suggested that students who are provided with longer rotations in rural settings are more likely to take up rural careers (Denz-Penhey et al 2005). The authors concluded that ‘good rural experiences and teaching and learning opportunities are not sufficient in themselves. Students’ emotional attachment to rural living comes from experience related to time and the connection to local people that comes as a result of time spent in the community’ (Denz-Penhey et al 2005).

However, this finding is to be contrasted with a longitudinal study of over 429 health science (non-medical) graduates from the University of WA which provides evidence for an association between shorter rural placements of less than four weeks and subsequent rural employment (Playford, Larson and Wheatland 2006). This study also found that in general, students who participated in voluntary rural placements were more likely to be subsequently employed in a rural area.

In another non-medical example, Gum (2007) reports on a small pilot program provided for nursing students through Flinders University Rural Clinical School, and reports that 8 of 11 graduating nurses (73%) trained in a rural area were retained in the region.

Eley and Baker (2006) noted a discrepancy between high levels of student satisfaction with their educational experience at the University of Queensland Rural Clinical School and subsequent internship choices, and identified an association with ‘adverse perceptions of their future workforce environment and professional support’.

There appears to be contrasting evidence of a link between longer rural placements or rotations and rural recruitment or internships (Ramnathugala et al 2007, McDonnel Smedts and Lowe 2007, Veitch et al 2006, Denz-Penhey et al 2005, Dunbabin and Levitt 2003), with no conclusive finding as to the most beneficial length of rural placements.

University rural health clubs

There is little evidence that university rural health clubs have a direct impact on rural career choices (Turner and Scott 2007), although there are some anecdotal reports of a positive impact (Rintoul and Wilczynski 2005). An unpublished evaluation report by then Urbis Keys Young found that 71% of surveyed university rural health club members felt that the clubs had had a positive impact on their motivation to pursue rural practice, while 82% reported a positive impact on their knowledge about rural health work (Rintoul and Wilczynski 2005). Membership of a rural health club is self-selecting (apart from certain scholarship holders); these findings may represent a consolidation of existing interest in a rural career.
Postgraduate placements

The ‘pipeline’ approach to rural recruitment includes a proactive interest in placements for graduate students; rural and regional teaching hospitals clearly have a role in providing rural experiences to doctors in their intern years, and associations between rural internship and subsequent rural general practice have been identified.

Dunbabin, McEwin and Cameron (2006) reported on a cadetship program in rural NSW which ensured that junior doctors spent two of their first three postgraduate years in a rural hospital, and found that the program was an ‘effective link between medical school and rural practice, particularly rural general practice’.

Peach, Trembath and Fensling (2004) undertook a retrospective review of the location where doctors who had completed a regional internship were working, and found that interns at Bendigo Base Hospital ‘were three times more likely to enter non-metropolitan general practice’, many locally, although they found no association for graduates who had pursued specialist practice.

A preference for general practice is associated with a higher likelihood of rural practice by medical practitioners (Dunbabin, McEwin and Cameron 2006). The Prevocational General Practice Placements Program (PGPPP) is designed to provide junior medical officers with a community rotation, and through exposure to general practice, increase the likelihood of subsequently pursuing a career in general practice (Grace and Bradford 2007). Brett (2008) argues that such community placements for postgraduate doctors have a role to play in recruiting future GPs, but require specific supports.

Capacity considerations

The paradox of how to support increasing numbers of students and clinical rotations in rural areas where the workforce is already under pressure has been highlighted, and the need for a more widely engaged ‘teaching health system’ articulated (Murray and Wronski 2007). There is some evidence to suggest that appropriately designed and supported models are emerging that acknowledge and address the workforce constraints, although resourcing may be an issue (Lyle et al 2007).

Sen Gupta et al (2008) describe an 8-week rural internship program provided by James Cook University in which ‘the contribution to patient care by senior students and junior doctors may lead to a consultant-registrar-resident model, in which experienced rural doctors function as consultants providing advice, support and tuition rather than predominantly face-to-face patient care’. The authors report positive feedback from clinical supervisors and nursing staff who indicate that the students make a net contribution to the team, and are missed between rotations. This type of model suggests that students’ clinical and educational needs can be met without placing undue pressure on an already stretched rural workforce.

A small study relating to a pilot program by the University of Queensland, which sought to place third year medical students (of a 4-year graduate entry program) in isolated solo general practices, found no statistical differences between their performance and that of their peers at the metropolitan or rural hospital based clinical schools. While the study was very small (3 students), the authors contend that the results suggest that isolated rural general practice could provide a more substantial role in medical student education.

McNamara (2007) has argued that the university departments of rural health contribute significantly to local training capacity in rural areas, and describes the value of a network of pharmacist academics, positions which have goals including specific provision of academic support and mentoring to students on placement. McNamara contends that these types of rural academic networks can play a meaningful role in ‘developing individual professions in rural and remote areas, and a multidisciplinary academic environment supports and augments this potential.’

Quality of teaching and the educational experience at rural clinical schools also remain of significant importance to medical students (Jones, DeWitt and Cross 2007). Teaching in rural communities presents new challenges for rural clinical schools; however, the evidence suggests that the educational experience provided by rural clinical schools in regional areas is at an equivalent academic standard compared to metropolitan alternatives (Walters et al 2006, Maley et al 2006, Worley, Esterman, and Prideaux 2004).
Worley, Strasser, and Prideaux (2004) conducted a retrospective survey of students who had completed an entire clinical year in either a rural primary care setting or a hospital based setting, and found that the primary care cohort reported higher levels of exposure to common conditions and no significant difference in opportunities to undertake common procedures. In the same study there was, however, a positive correlation between self-reported experience and competence. The authors concluded that ‘rural primary care is an excellent setting for high quality clinical and educational experiences’.

Maley et al (2006) described the RCS of Western Australia model of embedding small cohorts of students in multiple remote sites for an academic year, commenting that the ‘challenge of transferring undergraduate medical training to a rural environment requires a new educational mindset, an adaptive curriculum and the resources to implement it’. Student results in this and other models are comparable to urban-based students (Walters et al 2006, Maley et al 2006, Worley, Esterman, and Prideaux 2004).

Baker, Eley and Lasserre (2005) commented on the challenge within rural rotations to provide an adequate understanding of the depth and breadth of Australian rural medical practice from a limited rural environment. They described the use of an internet-based clinical discussion board to facilitate learning and to support the development of ‘professional networks, interpersonal relationships, teamwork, collaboration and collegial support systems... essential for rural medicine to help alleviate the possible isolation recognised in rural life.’

3.2.5 Conclusion

Australian RCSs and UDRHs are relatively new, the first having been established in 2000 and 1997 respectively, although there were precedents for the UDRHs from the early 1990s. Consequently, local evidence for the long-term recruitment (and, importantly, retention) of rural health professionals is limited, particularly in the context of the length of time required to produce fully-qualified health professionals, especially doctors.

The RCS and UDRH Programs have established significant infrastructures in rural settings, in which to provide a high level of training and support to health students and health professionals. Their presence provides an opportunity to develop longitudinal studies of career pathways for rural health practitioners. Such studies that include allied health professionals, nurses and dentists as well as doctors, which account for known pre-disposing factors such as rural origin, rural practice intent (and in medical students, a preference for general practice) will provide more robust data, and will enable the development and implementation of more effective education and training policy as part of workforce development strategies. Several of the challenges identified by the literature, such as capacity of the system to absorb increasing numbers of students, and difficulty of ascertaining measurable impact on the future health workforce, have been confirmed in the evaluation of the two Programs, and are discussed later in this report.