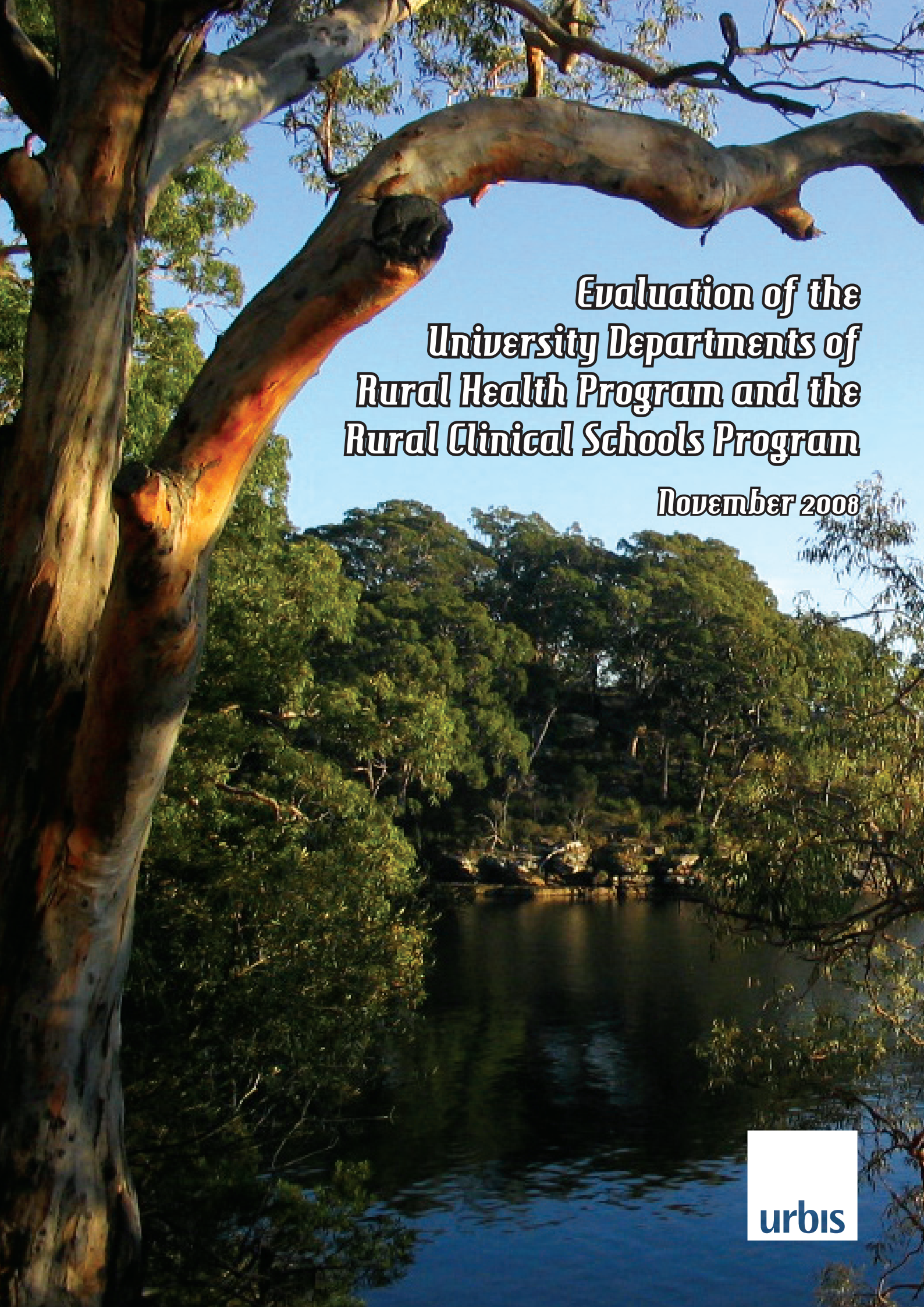

Evaluation of the University Departments of Rural Health Program and the Rural Clinical Schools Program

November 2008

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Final Report

Prepared for and funded by:

Department of Health and Ageing

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Canberra, ACT 2601

November 2008

Acknowledgements

Urbis would like to acknowledge the many people who gave generously of their time to contribute to the consultation. In particular, we appreciate the time and hospitality of the staff and students of each University Department of Rural Health and Rural Clinical School. An aggregated list of participants is provided in Appendix B.

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ISBN 1-74186-915-3

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Acronyms

ACRRM	Australian College of Rural and Remote Medicine
AGPT	Australian General Practice Training Program
AHMC	Australian Health Ministers' Conference
AIHW	Australian Institute of Health and Welfare
AMS	Aboriginal Medical Service
AMSA	Australian Medical Students' Association
AMWAC	Australian Medical Workforce Advisory Committee
ARHEN	Australian Rural Health Education Network
ARRWAG	Australian Rural and Remote Workforce Agencies Group
AHW	Aboriginal Health Workers
CCCT	Coast City Country Training
CINAHL	Cumulative Index to Nursing and Allied Health Literature
COAG	Council of Australian Governments
CPI	Consumer Price Index
DEEWR	Department of Education, Employment and Workplace Relations
DoHA	Australian Government Department of Health and Ageing
FRAME	Federation of Rural Australian Medical Educators
FTE	Full-time equivalence
GP	General Practitioner
GPET	General Practice Education and Training Ltd
GWAHS	Greater Western Area Health Service
IPE	Interprofessional education
IT	Information technology
KPI	Key Performance Indicator
MDANZ	Medical Deans Australia and New Zealand
MRBS	Medical Rural Bonded Scholarship
MSOD	Medical Schools Outcomes Database
NHHRC	National Health and Hospital Reform Commission
NHMRC	National Health and Medical Research Council
NRHA	National Rural Health Alliance
NVRMEN	North Victorian Regional Medical Education Network
PGPPP	Prevocational General Practice Placements Program
PHCRED	Primary Health Care Research, Evaluation and Development Strategy
PRCC	Parallel Rural Community Curriculum
PSAP	Physician Shortage Area Program (Thomas Jefferson College)
RACGP	Royal Australian College of General Practitioners
RAMUS	Rural Australian Medical Undergraduate Scholarship
RCS	Rural Clinical School
RDAA	Rural Doctors Association of Australia
RFDS	Royal Flying Doctor Service
RMED	Rural Medical Education Program (University of Illinois)
RPAP	Rural Physicians Associate Program (University of Minnesota)

RRMA	Rural, Remote and Metropolitan Areas
RTP	Regional Training Provider
RURAL	Rural and Remote Health Database
RUSC	Rural Undergraduate Support and Coordination Program
RWA	Rural Workforce Agencies
SARRAH	Services for Australian Rural and Remote Allied Health
TAFE	Technical and Further Education College
UDRH	University Department of Rural Health
WAMI	Washington, Alaska, Montana, Idaho – acronym name for the regional medical education network of the University of Washington
VMO	Visiting Medical Officer

Table 1 – University Department of Rural Health site names and acronyms

University (contract holder)	**UDRH site location**	**UDRH site name**	**UDRH site acronym**
Flinders University	Alice Springs	Centre for Remote Health	CRH
Flinders University	Warrnambool	Greater Health or Greater Green Triangle University Department of Rural Health	GGT UDRH
James Cook University	Mt Isa	Mt Isa Centre for Rural and Remote Health	MICRRH
Monash University	Moe	Monash University Department of Rural and Indigenous Health	MUDRIH
University of South Australia	Whyalla	Spencer Gulf Rural Health School	SGRHS
University of Melbourne	Shepparton	School of Rural Health	SRH
University of Newcastle	Tamworth	Northern NSW University Department of Rural Health	Northern NSW UDRH
University of Sydney	Broken Hill	Department of Rural Health	BHUDRH
University of Sydney	Lismore	Northern Rivers Department of Rural Health	NRUDRH
University of Tasmania	Launceston	University Department of Rural Health, Tasmania	UDRH UTAS
University of Western Australia	Geraldton	Combined Universities Centre for Rural Health	CUCRH

Table 2 – Rural Clinical School site names and acronyms

University (contract holder)	RCS site location	RCS site name	RCS site acronym
Australian National University	Canberra	Australian National University Rural Clinical School	ANU RCS
Flinders University	Katherine	Northern Territory Rural Clinical School	NTRCS
Flinders University	Renmark	Flinders University Rural Clinical School	FURCS
James Cook University	Mackay	James Cook University Rural Clinical School	JCU RCS
Monash University	Bendigo	Monash Rural Clinical School	Monash RCS
University of Adelaide	Whyalla	Spencer Gulf Rural Health School	SGRHS
University of Melbourne	Shepparton	School of Rural Health	SRH
University of New South Wales	Wagga	University of New South Wales Rural Clinical School	UNSW RCS
University of Newcastle	Tamworth	Northern NSW Rural Clinical School	Northern NSW RCS
University of Queensland	Toowoomba	University of Queensland Rural Clinical School	UQ RCS
University of Sydney	Dubbo	School of Rural Health	SRH
University of Tasmania	Burnie	University of Tasmania Rural Clinical School	UTAS RCS
University of Western Australia	Kalgoorlie	Rural Clinical School of Western Australia	RCSWA
University of Wollongong	Wollongong	University of Wollongong Rural Clinical School	UOW RCS

Executive summary

Urbis was commissioned by the Department of Health and Ageing to conduct the evaluation of the University Departments of Rural Health (UDRH) Program and the Rural Clinical Schools (RCS) Program. This joint evaluation of the two Programs has two objectives:

1. to evaluate the current effectiveness, and future role, of each Program within the context of the current national approach to improving rural and remote health services in Australia; and
2. to evaluate the degree to which RCSs are satisfying RCS Program parameters and UDRHs are achieving UDRH Program objectives.

Extensive consultation and data analysis took place between May and August 2008. Approximately 530 people were consulted in the course of the evaluation, either face to face or over the telephone. In addition, published literature, Program datasets, and a range of Program documentation were analysed. Overall, the Programs were found to be meeting their objectives and contributing to enhancing the rural health workforce. Seven themes and 25 recommendations were identified for strategic consideration in the future. These themes are:

- strategic leadership and vision – including succession planning and structural sustainability;
- program management – including funding levels, parameters and objectives, monitoring and operational expansion;
- maintaining the culture of innovation;
- the capacity of the health system to absorb increased training requirements;
- partnerships;
- community impact - including Indigenous health; and
- implications for the local workforce.

University Departments of Rural Health

The UDRH Program has been well established, ten years from its inception, and all eleven UDRHs are meeting the objectives of the Program. Nationally, the UDRHs have made significant contributions to rural clinical training, rural health service innovation and population health research, and increased rural community engagement with health promotion and population health awareness.

There is anecdotal evidence that rural student placements reinforce student intentions to practice rurally, and also evidence that some practitioners have been recruited to rural practice because of the presence of the UDRH. There is also evidence that the UDRHs have influenced rural and remote practitioners to remain in practice, through providing additional professional and personal networking and support, professional development opportunities, access to university resources, and incentives to undertake research.

Overall, UDRHs have demonstrated strategic leadership and vision in creating a rural university infrastructure which can influence the development and improvement of rural health services, and have increased communication and knowledge transfer through increased information technology. Challenges to the Program include funding constraints, disciplinary silos, and difficulties in recruiting staff and ensuring the capacity for clinical placements. However, each UDRH has sought to minimise these limitations and to maximise their capacity to strengthen the rural health workforce.

Rural Clinical Schools

The RCS Program has now enabled the creation of 14 dedicated rural clinical schools, with the establishment of significant tertiary infrastructure in rural Australia and the development of a strong network of academic rural clinicians. A number of alternative clinical training models have been piloted and found to be beneficial, including the Flinders University Parallel Rural Community Curriculum and other community-based training approaches. The successful provision of clinical training in the rural environment, evidenced by the academic results of RCS students in comparison with their urban counterparts, has demonstrated the validity of rurally-based clinical training.

It is too soon to determine whether this extended rural exposure through the RCSs has influenced medical students' actual decisions to practise rurally. However, there is anecdotal evidence that the presence of the RCSs has influenced the recruitment of new clinicians to rural practice, and also assisted with retention of current rural medical practitioners. Evidence of student career intentions is also encouraging. The early cohorts of the RCSs will soon be establishing themselves in medical practice and over the next few years it should be possible to analyse whether the number of RCS-trained, rural doctors is increasing. Student tracking surveys should also enable longitudinal data to be collected with regard to RCS students and their later career decisions.

Challenges to the RCS Program, as for the UDRH Program, are the capacity of the health system to accommodate increasing student numbers, as well as recruitment of staff. The RCS Program faces an additional challenge due to the nature of medical training, as the number of rural internships, pre-vocational placements, and vocational training opportunities remain limited, potentially undoing the positive influence of the rural experience gained through the RCS placement if students find themselves spending extended periods back in the urban environment for pre-vocational and vocational training. The need to address this lack of capacity is pressing if the investment in the RCS Program is to be realised in terms of increasing the rural medical workforce.

Recommendations

Strategic leadership and vision

Recommendation 1: That the universities support and encourage the professional development of RCS and UDRH Program staff to ensure stability and the mentoring of new leadership. (see section 6.3.1 for further discussion)

Recommendation 2: That the Department maintain its current funding arrangement of the two Programs, maintaining the Programs as distinct health workforce initiatives within the academic sector. (see section 6.3.3)

Program management

Recommendation 3: That core funding for UDRHs be increased to accommodate increased staffing and operational costs, including continued annual indexation. (see section 6.4.1)

Recommendation 4: That the Department clarify with universities the responsibility for funding infrastructure maintenance. (see section 6.4.1)

Recommendation 5: That funding support for UDRH students in nursing and allied health be increased, including accommodation and transport costs for student placements. (see section 6.4.1)

Recommendation 6: That RCS funding levels be maintained, and that efforts continue to achieve a more equitable distribution amongst RCSs. (see section 6.4.1)

Recommendation 7: That the Department, in consultation with ARHEN, FRAME and the universities, define long-term strategic priorities and objectives to reflect the Programs' aims more clearly, and incorporate these into reporting mechanisms. (see section 6.4.2)

Recommendation 8: That FRAME and ARHEN, in collaboration with the Department and the rural workforce agencies, continue to develop mechanisms for national monitoring of each Program's

workforce outcomes, including the existing FRAME tracking survey and the MDANZ student tracking database. (see section 6.4.3)

Recommendation 9: That the Department consider expansion of the Programs only after careful strategic demographic profiling targeted to areas of population growth, taking account of:

- the capacity of current RCSs and UDRHs for expansion;
- the capacity of regional, rural and remote health infrastructure and workforce to accommodate increased student numbers;
- local population needs;
- the demonstrated interest of the host university;
- infrastructure requirements; and
- the current coverage of UDRHs and RCSs (see map in Appendix E).

Expansion considerations should include whether to increase the size and capacity of current universities or whether to include additional universities. (see section 6.4.4)

Recommendation 10: That the Department maintain the two Programs as separate initiatives. (see section 6.4.4)

Maintaining the culture of innovation

Recommendation 11: That the Department continue its current approach to the Programs, characterised by flexibility and openness to innovation. (see section 6.5)

Recommendation 12: That the Department, in order to encourage collaboration and innovation, create a dedicated pool of funding which could be available on a competitive basis to RCSs, UDRHs and other university rural health institutions, for practical and applied health service delivery and workforce research and innovation. (see section 6.5)

Health system capacity to absorb increased training requirements

Recommendation 13: That the Department, in collaboration with State/Territory-funded health services, explore alternative partnership arrangements with State/Territory health systems, such as joint appointments, sharing of clinical training facilities, and creation of new clinical training places, to provide stability in training systems for both Programs. (see section 6.6)

Recommendation 14: That at national and State/Territory levels the Department encourages vertical integration opportunities to link more closely RCS, postgraduate and vocational training systems, including the implementation of a rural medical career pathway, in close collaboration with universities, professional colleges, workforce agencies, State/Territory governments, and FRAME. (see section 6.6)

Recommendation 15: That the Department, in collaboration with State/Territory-funded health services, assist both Programs to develop additional incentives, training and support mechanisms for clinical supervisors and trainers, including exploration of alternative remuneration structures. (see section 6.6)

Partnerships

Recommendation 16: That the host universities be encouraged to explore new ways of promoting rural health careers, and particularly the opportunities available through the UDRH and RCS Programs, in collaboration with their UDRH and/or RCS. (see section 6.7.1)

Recommendation 17: That the host universities explore, in collaboration with the Department, ways in which the in-kind contribution of the host universities might be recognised and quantified nationally. (see section 6.7.1)

Recommendation 18: That both Programs be encouraged to collaborate and increase partnerships in training, research, and interprofessional clinical training, while recognising the independence of each Program and their different aims. (see section 6.7.2)

Recommendation 19: That consideration be given to the future of the RUSC Program and whether its activities should be wholly absorbed by, and managed through, the RCSs. (see section 6.7.2)

Recommendation 20: That opportunities to streamline some of the student support funding streams be explored. (see section 6.7.2)

Community impact

Recommendation 21: That the role of advisory boards for both Programs be assessed by RCSs and UDRHs to define their purpose and potential. (see section 6.8.1)

Recommendation 22: That strategic objectives be reviewed for the Programs with regard to their contribution to Indigenous health, in consultation with local Indigenous leaders, health service providers and communities. (see section 6.8.2)

Implications for the local workforce

Recommendation 23: That the UDRH Program continues to increase its research capacity building assistance to rural health clinicians. (see section 6.9)

Recommendation 24: That the RCS Program increases its focus on research capacity once the medical teaching infrastructure and curriculum are established. (see section 6.9)

Recommendation 25: That the RCS and UDRH Programs, in consultation with the Department, State/Territory-funded health services, and workforce agencies, develop additional mechanisms for supporting and nurturing rural health practitioners, such as an increasing involvement in professional development and continuing education, as a means of retention. (see section 6.9)

1 Introduction

This report presents the findings of an evaluation of two of the Department of Health and Ageing's (the Department) workforce strategies designed to increase the capacity of the Australian rural health workforce, the University Departments of Rural Health (UDRH) Program and the Rural Clinical Schools (RCS) Program. Urbis was commissioned by the Department to undertake the evaluation which included an extensive consultation with staff, students and stakeholders of 11 university departments of rural health and 14 rural clinical schools across Australia, as well as a large number of external stakeholders including academics and other university staff, representatives of Indigenous health services, some of the health professional colleges and peak bodies, and officers within the Department of Health and Ageing and other government agencies or departments. While the timetable for the consultation was short, in total approximately 530 people were consulted.

This evaluation took place five years after the lapsing program evaluations of 2003, which recommended continued funding for both Programs. While the previous evaluations were conducted separately, in 2008 the Department of Health and Ageing chose to combine the evaluation of both Programs. Although the aims and implementation of each Program differ, both Programs share the common goal of increasing the size and strength of the rural health workforce and a common philosophical foundation based on a belief that exposing university health science students to rural communities, lifestyle, and clinical practice will influence their decision to choose a rural health career. This foundation is grounded in evidence internationally and within Australia that rural origin and exposure to the rural setting tend to have a positive influence on the decision to practice rurally (Azer et al 2001, Courtney et al 2002, Critchley et al 2007, Dunbabin and Levitt 2003, Laven and Wilkinson 2003, Playford et al 2006, Somers et al 2007).

The evaluation is timely. Both Programs have been operating for approximately eight to ten years (the UDRH Program predating the RCS Program), and their last major evaluation was five years ago. In that time infrastructure, staffing, and student numbers have all increased, and the Programs have become more established in their current modes of operation. The evaluation is also timely in light of the Rudd Government's decision to review all of the Department's rural health programs as well as the classification of urban, rural and remote regions (Roxon, 2008b). Although the decision to evaluate the UDRH and RCS Programs was made before the Rudd Government took office, the evaluation report is presented in the context of an intensive period of review and analysis of the Government's overall rural health strategy.

The objectives of the evaluation were to report on:

- the current effectiveness, and future role, of each Program within the context of the current national approach to improving rural and remote health services in Australia; and
- the degree to which RCSs are satisfying RCS Program parameters and UDRHs are achieving UDRH Program objectives.

In essence, the evaluation is a double evaluation examining two separate Programs while recognising the commonalities between them. It is unique in the life of either Program in providing a combined framework for analysing the achievements of two educationally-focussed, workforce distribution initiatives. Collaboration across the two Programs occurs at the local level but the two Programs are structurally and operationally independent.

A common methodology was developed to review both Programs although the results for each Program are reported separately (see chapters 4 and 5). However, at the strategic and policy level many of the issues facing each Program are similar. Chapter 6 therefore discusses these issues across both Programs. Recommendations for the Department, each Program, and host universities are found in chapter 6.

2 Methodology

This chapter describes the methodological organisation of this evaluation. The Department sought to combine the evaluation of two complex workforce initiatives, recognising similarities between the two independent Programs. The methodology takes into consideration a number of factors:

- that many community stakeholders have an involvement in both Programs;
- that many university academics and senior staff have knowledge and experience of both Programs; and
- that clinicians and students themselves may have had experience of both Programs.

In addition, the Programs themselves share similar aims while operating with different mandates. Accordingly, a framework was chosen under which both UDRHs and RCSs could be examined while maintaining separate analyses of the unique achievements and challenges for both Programs.

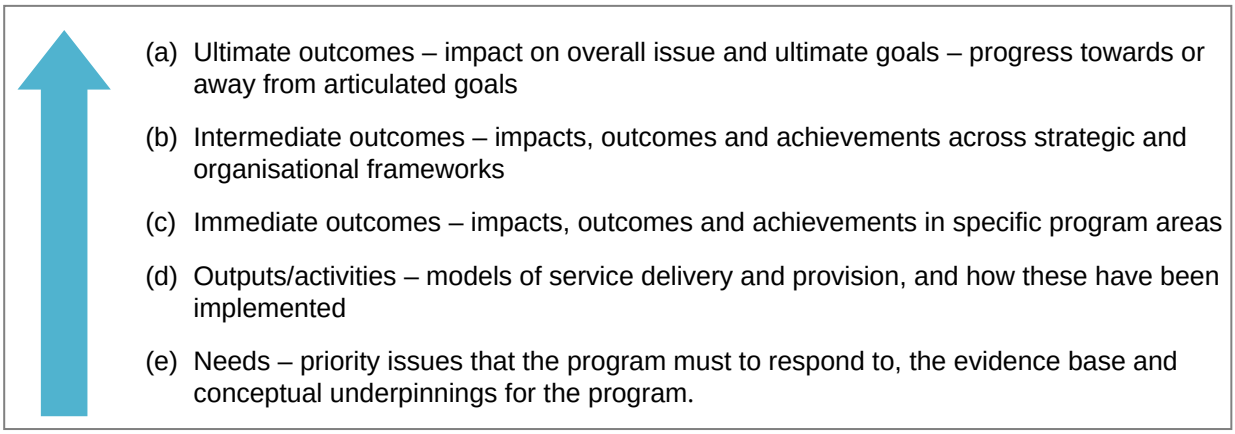
2.1 Project inception

Inception meetings were held at the Department of Health and Ageing on 4 and 10 April 2008, at which time the parameters of the evaluation were clarified. Data provided by the Department included annual and progress reports from each RCS or UDRH, and previous reports on the establishment of the Programs. Throughout the course of the project the Department provided additional information as requested on the national Programs or the individual institutions.

2.2 Design of the evaluation framework

An evaluation framework was developed and presented to the Department on 24 April, and approved by the Department on 1 May 2008. This framework conceptualised the evaluation in terms of a hierarchy of outcomes, described in Figure 1 below, and sought to ensure that the project focussed on evaluating the most strategic components of two large and complex national Programs.

Figure 1 – Hierarchy of outcomes model



This model positions the *hierarchy of outcomes* as the central focus of an evaluation, allowing for analysis of a range of factors that may have contributed to the outcomes at each level. In other words, rather than just having two levels with outcomes flowing directly from outputs, it allows for much more complex mapping of the relationship between program strategies and outcomes.

The development of an evaluation framework was particularly important in the context of a double evaluation, with a large number of research questions provided by the Department regarding both the outcomes and operations of each Program. The framework provides one way of ordering priorities to ensure that the most important research questions of the evaluation are addressed. For this reason,

the evaluation framework document actually contained three separate frameworks: one for each Program and a third for the overarching evaluation across the two Programs. The framework was used to frame the topics explored through the consultation process. Table 3 below provides a summary of the overarching hierarchy of outcomes for both Programs.

Table 3 – Hierarchy of outcomes for the joint RCS/UDRH evaluation

Ultimate outcomes	Increased workforce capacity
	Increased training and support
	Increased rural health research capability and output
	Integrated rural health training and support programs
Intermediate outcomes	Recruitment and retention of health practitioners in rural and remote areas is increased through the provision of a positive rural health education experience
	RCSs and UDRHs engage with other programs/initiatives within local, State, Territory and Commonwealth governments
	There is increased and effective collaboration between UDRHs and RCSs, and also with local educational institutions and health service providers
Immediate outcomes	Research into rural and remote health issues is taking place
	Appropriate and effective support is provided to health professionals currently practising in rural and remote settings
	More rural and remote health practitioners are engaged in education and training opportunities
Activities/ Outputs	Rural Clinical Schools Program – targeted education, training and support for medical students in rural and remote health, and development of support infrastructure
	University Departments of Rural Health Program – targeted education, training and support to enhance opportunities for medical, nursing and allied health students in rural and remote health, and development of support infrastructure

2.3 Consultation with RCSs and UDRHs

All of the 14 RCSs and 11 UDRHs were consulted during the evaluation. Interview participants for the individual sites included Deans of medical and health faculties, professors and Heads of schools, other university and academic staff (teaching/research, administrative, IT and facilities), representatives of general practice networks (Divisions), staff of regional training providers, clinicians and managers of State-funded health services, staff of Aboriginal health services, representatives of rural workforce agencies, representatives from community boards of UDRHs and RCSs, community members, and students. Consultations took place in person or by telephone with follow-up interviews conducted as required.

In addition, a large number of stakeholders external to any individual institution, such as the Federation of Rural Australian Medical Educators (FRAME), the Australian Rural Health Education Network (ARHEN), professional bodies, rural workforce agencies, and others, were invited to participate, and a number of officers within the Department of Health and Ageing were also interviewed.

Appendix B summarises the range of participants included in the consultation.

2.3.1 Interview methodology

As Fontana and Frey (2005:695) point out, interviewing is 'inextricably and unavoidably historically, politically, and contextually bound.' The process of undertaking an extensive consultation with a wide range of stakeholders, from students to academics to government officials to consumers, means that the process needs to be flexible enough to make each participant feel included and able to speak freely, while being bounded enough to ensure that information collected is consistent and amenable to aggregation and analysis. It is also essential, in an iterative process such as a consultation, that information is collected and analysed with rigour to ensure it reflects the multidimensional perspectives of those interviewed. For these reasons, a process was designed which required data to be analysed at several stages and with different members of the evaluation team, providing a number of opportunities for triangulation of data sources and perceptions. Triangulation refers to the comparison of qualitative data sources for credibility and, as has been noted (Walkerdine, Lucy and Melody 2002:189), this process is essential when different perspectives are provided regarding the same subject.

Detailed interview guides were designed to direct specific questions to participant groups; there were seven different interview guides designed for:

- Deans, Heads of Schools/Departments and senior academics;
- RCS academic and administrative staff;
- UDRH academic and administrative staff;
- key health stakeholders;
- key community stakeholders;
- students; and
- government stakeholders.

The interview guides were structured specifically to facilitate an open-ended interview process, in which the participant was invited to provide her/his perspective and to focus on the areas of most concern. The process, however, was iterative, and key themes which arose from earlier interviews were often introduced into subsequent interviews in order to test their appropriateness to different contexts. Interview topics were condensed from the framework document under four broad headings:

- national rural health workforce outcomes
- relationships between the Programs and between the Programs and related initiatives
- enabling and limiting factors
- future directions.

The general interview guide, provided to all participants, is included in Appendix C.

2.3.2 Consultation schedule

The number of potential stakeholders who might have been included in this consultation was vast. In order to control this within the time available, and to ensure that stakeholders who were most involved with the Programs were consulted, each UDRH or RCS site was asked to assist with the identification of participants. A list was drawn up naming potential stakeholders, from Deans of medical faculties through to staff and clinical stakeholders to community or consumer groups. The actual range of people consulted differed at each site depending on whom the site determined was most appropriate, and who was available during the timeframe of the consultation. Where the site was unable to arrange a schedule for interviews, Urbis staff made the arrangements after receiving a list of potential interviewees.

There was a danger of bias inherent in the decision to ask RCS and UDRH Heads to determine who should be included in the consultation. It was reasonable to expect that those people who were most involved in the Program and who might therefore be most enthusiastic and positive about the Program would be included. Urbis sought to minimise this potential bias through ensuring that a large number of external stakeholders were also consulted, such as Federal and State/Territory government staff, rural workforce agencies, rural health peak bodies, and regional training providers, and also to follow up on further suggestions of people to interview who might not have been readily included in the initial consultation. In practice most people were readily able to assess both the strengths and weaknesses of the Programs.

The schedule for consultation with the participating universities is provided in Table 4 below. (See also the consultation list at Appendix B.)

Table 4 – University consultation schedule

University (contract holder)	**RCS**	**UDRH**	**Date**
University of Western Australia	Kalgoorlie	Geraldton	May
University of Adelaide University of South Australia	Whyalla	Whyalla	June
Australian National University	Canberra	-	
University of Sydney	Dubbo	Broken Hill	
University of New South Wales	Wagga Wagga and Albury	-	
Flinders University	Renmark	Warrnambool	June/July
James Cook University	Mackay	Mt Isa	
Monash University	Bendigo	Moe	July
University of Melbourne	Shepparton	Shepparton	
University of Queensland	Toowoomba	-	
University of Newcastle	Tamworth	Tamworth	
University of Tasmania	Burnie	Launceston	
University of Sydney	-	Lismore	August
University of Wollongong	Wollongong	-	
Flinders University	Alice Springs	Alice Springs	

2.4 Review of literature

A literature review was undertaken exploring two areas: the policy context for the two Programs and what is known about developing effective health workforce strategies for improving rural health services, with a specific focus on education and training initiatives.

Material for this review was based on a search of peer-reviewed journals using Proquest Health and Medline complete, Ovid Medline and RURAL databases, as well as supplementary searches through the CINAHL database in relation to international literature. Keywords utilised included combinations and derivatives of:

- rural clinical schools;
- department of rural health;
- rural, regional, remote;
- health workforce;
- medical workforce;
- dentistry workforce;
- recruitment; and
- retention.

After an initial search, additional material was identified through review of citations contained in selected articles and publications.

Primary inclusion criteria were relevance to the research questions, quality and depth of research and relevance to the Australian context. Where available, systematic reviews were preferred, then other reviews, controlled trials or evaluative studies, followed by other types of research, including smaller studies without controls, evaluative case studies, and expert opinion (e.g. editorial).

A Google search using similar keywords supplemented the peer-reviewed journal searches, as well as specific website searches for each RCS and UDRH, and other relevant sites including rural workforce agencies, the Australian Institute of Health and Welfare, and government websites relating to the research question. The Department of Health and Ageing's *Report on the audit of health workforce in rural and regional Australia* (2008a) was a key resource for information on workforce distribution. Generally, material from these sources provided context for the literature review.

The evaluation also included a component of desk-based research, such as the analysis of annual reports and data from the Department on the activities of each institution; grey literature and articles provided by each site; and relevant press releases, budget announcements or developments in the rural health workforce which arose during the period of the evaluation.

2.5 Analysis of qualitative data

With 25 sites and approximately 530 interview participants, organising the qualitative data in a meaningful way was a crucial exercise.

A pro-forma was developed in order to summarise the interviews and desktop data for each site visit, grouping data in higher-order questions related to the two evaluation objectives. The site summaries were completed by the evaluator following each set of consultation interviews with an RCS or UDRH and their stakeholders. An additional form was developed to capture specific raw data in terms of quotes, comments and perceptions, and issues which need to be explored more closely. These two documents, compiled for each site, formed the central components of the consultation data collection.

In essence, a summative analysis took place after each consultation, as the evaluator assessed the information and collated it into the pro-forma. The purpose of a summative analysis is for the evaluator to undertake a preliminary analysis, a 'summing up', to create an overall picture of the Program site, its context, its issues and achievements, and the extent to which it is contributing to the national objectives. Each summative analysis was completed as close to the time of the consultation as possible to ensure accurate recall.

The qualitative analysis therefore comprised several activities:

- Sifting raw data to gather critical points relevant to the strategic analysis, answering key questions from the data, moving from the descriptive to the analytical with regard to each site;
- Making sense of data in responding to broader questions which extend across the national Program, that is, considering what can be learned from the site which illustrates the strategic aims and outcomes of the national Program;
- Undertaking a thematic analysis by the evaluation team together; and
- Aggregating data to undertake a critical analysis with regard to the higher order research questions.

Each member of the evaluation team was responsible for compiling the data for their consultations. A day-long team meeting was held at the beginning of the consultation to ensure consistency across the evaluation team with regard to program objectives, and a second day-long meeting was scheduled towards the end of the consultation process for analysis purposes. At this time key themes were identified as emerging from the data; following the meeting the data was further collated to support the themes. Written data was then analysed again at an aggregate level in the development of the draft report.

In general, it was decided not to focus on individual sites (other than the summary information found in Appendix A), as the purpose of the evaluation was to examine the national Programs rather than the individual institutions. However, within chapters 4 and 5 reference is often made to the activities of specific sites as illustrative of themes within the text. In addition, several case studies were developed which highlight types of good practice or positive contributions which various sites have demonstrated. Although these name particular RCSs or UDRHs, these are not intended to privilege those sites above and beyond others, who may also be undertaking similar activities. Rather, these case studies attempt to create a picture of the contribution of the UDRHs and RCSs nationally by providing examples of what tangible activities and outputs are resulting in local regions.

2.6 Analysis of quantitative data

Most of the quantitative data in this report was provided by the Department, although the evaluation team also had access to annual and other reports from each RCS or UDRH. The data presented in charts and tables in this report, unless otherwise identified, has been derived using Department consolidated UDRH data provided to Urbis throughout the evaluation, including a final update on 16th September 2008. Consolidated data presented in chapter 4 was compiled by the Department from UDRH six-monthly reports. All reasonable steps were taken to ensure relevant data has been included. However, a full audit of data was not within the scope of this evaluation, and minor discrepancies may exist between the six-monthly reports of the UDRHs and the data cited in chapter 4.

2.7 Consultation with the Department

It was important to maintain ongoing and open consultation with the Department throughout the course of the project. In addition to regular informal contact, a number of mid-evaluation reporting tasks were built into the project plan, in accordance with the Department's requirements. These included monthly progress reports and an interim evaluation report.

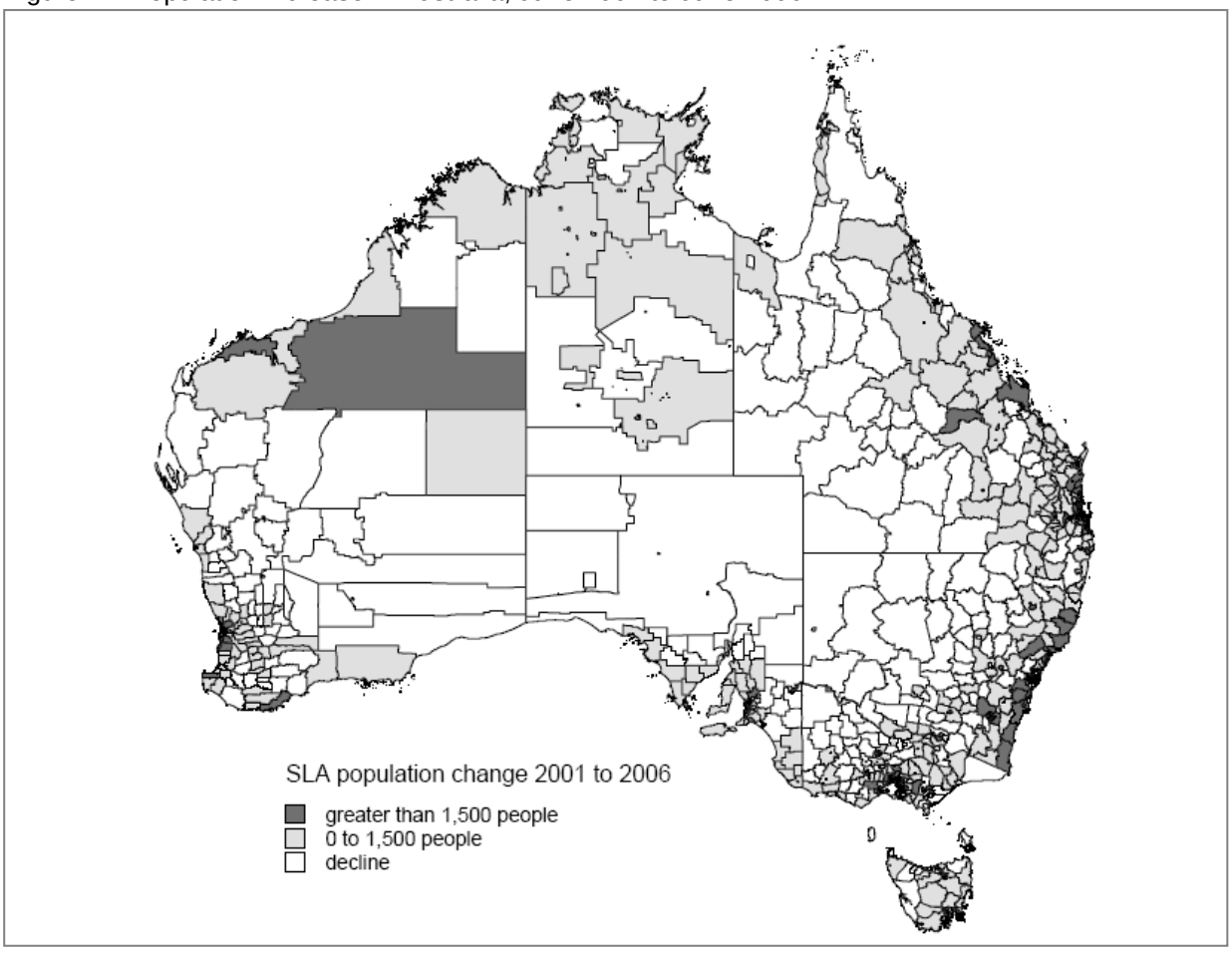
The monthly progress reports summarised work completed to date, work scheduled for the coming month and any emerging methodological or thematic issues. An interim report in June provided an overview of the emerging themes from the sites consulted to date, as well as some general and tentative statements against the two objectives of the evaluation. During the course of the evaluation, several informal meetings were held, during which emerging ideas were explored and the Department's perspective was sought as part of the evaluative process.

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:

> *[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).*

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):

> *[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).*

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 all 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 education[3]. The submission by the then Australian Rural and Remote Workforce Agencies Group (ARRWAG) cited

[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'[4] program at the University of Washington, established in 1971, preferenced 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).

[4] 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...' (Ranmuthugala et al 2007)*

Ranmuthugala 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).

Critchley 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 fulfil 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 '[g]ood 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 (Ranmuthugala 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.

4 University Departments of Rural Health Program

4.1 Introduction

This chapter presents information regarding the national UDRH Program, including:

- the establishment of the national Program;
- a review of the achievement of Program objectives;
- the impact of the Program on national rural health workforce capacity;
- the effectiveness and future role of the Program; and
- enabling and limiting factors contributing to the Program's achievements to date.

4.2 Background

The UDRH Program was established as a result of the 1996-1997 Federal budget after being identified as a key component of the Government's Rural Workforce Strategy (Morey 2000). The establishment of the first six UDRHs in 1997 followed a suite of government initiatives implemented over the previous decade to address health workforce needs in rural and remote regions, including the development of several multidisciplinary rural health training units. These units, established between 1989 and 1996, aimed to provide education and training facilities in order to support and attract health professionals to rural and remote communities.

The UDRH Program shared the education and training focus of rural health training units, but differed in its engagement of universities responsible for mainstream and other health professional education, rather than the development of a system outside the mainstream (Morey 2000). In this way, knowledge and skills could be applied to the health problems of rural and remote Australia in a similar way to those of urban Australia (Humphreys 2000).

In its early years, the principal objective of the UDRH Program was identified as the improvement of access by rural and remote communities to appropriate services through the promotion of professional support, education and training for rural and remote health workers and for city-based health care professionals interested in training and practising their clinical skills in a rural or remote setting (Morey 2000). The Department of Health and Ageing itself states that the UDRH Program "encourages students of medicine, nursing and other health professions to pursue a career in rural practice by providing opportunities for students to practise their clinical skills in a rural environment. It also supports health professionals currently practising in rural settings."[5]

The first two UDRHs were established at the remote centre sites of Broken Hill (University of Sydney) and Mount Isa (originally through the University of Queensland, and later through James Cook University). These sites were selected on the basis of their provision of services to the main groups of rural constituents. A model for these initiatives was provided by Monash University, which in 1992 established the first rural health academic unit in Australia (becoming a UDRH in 2006).

In determining the creation of new UDRHs, medical schools were invited to submit proposals according to defined criteria, including a population health focus, a multidisciplinary approach, cooperation with other institutions and a focus on Indigenous health. In the early stages of the Program eleven program objectives were developed. Following the lapsing program evaluation in 2003, the objectives were refined and a set of key result areas were created in consultation with the UDRHs. The current set of UDRH objectives are as follows (emphasis added).

[5] See http://www.health.gov.au/internet/main/publishing.nsf/Content/work-st-udrh

- Increase and improve **rural experiences for undergraduate students** in the health professions, including training to encourage cultural awareness and sensitivity to Indigenous health issues, for undergraduate students in the health professions;
- Expand **educational opportunities relevant to rural and remote practice**, in particular in relation to existing rural and remote health professionals and Indigenous students;
- Undertake **research into rural and remote health issues**, including publication of papers and reports and applying for research grants and consultancies;
- Provide **training and support** for rural health professionals (including mentors, supervisors and preceptors), consumers and communities, including Indigenous communities;
- Contribute to **innovation in education, research and service development** through collaborations with universities, health services and professional and community organisations, including Indigenous communities;
- Embrace a strong **public or population health focus**; and contribute to the development of innovative **service delivery models** in rural and remote health; and
- Endeavour to progress the rural health agenda within the medical and other health sciences faculties or departments to **maximise the efficient use of resources** provided for a range of rural health programs. These programs include, but are not limited to, the Rural Undergraduate Support and Coordination Program, the Primary Health Care Research Evaluation Development Program and the Rural Clinical Schools Program.

At present, there are eleven UDRHs across Australia. The UDRHs report on a six monthly basis against their objectives and key result areas. Each UDRH is a member of the Australian Rural Health Education Network (ARHEN), which operates as a peak professional body.

There are a range of different UDRH models in terms of organisational structure and operational focus: each UDRH has derived its own operational style and programs to suit local opportunities and needs.

Some UDRHs are run by one university only (e.g. *Monash University's Department of Rural and Indigenous Health*), while others are joint ventures between two or more universities (e.g. the *Combined Universities Centre of Rural Health* in Western Australia, which is a consortium of Curtin University of Technology, Edith Cowan University, the University of Western Australia, Murdoch University and the University of Notre Dame.) Some have multiple sites such as the *Northern Rivers UDRH,* based in Lismore with established facilities in Murwillumbah and Grafton. Finally, some are co-located and share facilities with a rural clinical school, such as the *Spencer Gulf Rural Health School*, and the *Northern NSW UDRH*.

UDRHs have developed a variety of strategies, appropriate for their local contexts, in order to achieve their objectives. This approach was described by several people as characterised by a philosophy of being *'nationally consistent, locally relevant'.* Most UDRHs employed some variation of what appeared to be a common three-part strategy in establishing themselves locally.

1. Developing links with local health services, including Indigenous and other community-based services, through offering support and training for health professionals and facilitating what has been called a 'cross-pollination' of ideas and experiences. Most UDRHs have seen themselves becoming a focal point for bringing together people with a common aim of improving health service delivery and population health outcomes.
2. Creating partnerships for student placements, working with local clinicians as supervisors and academics and in return offering academic opportunities for ongoing professional support and access to university facilities such as library resources.
3. Providing a foundation for a rural research culture, through providing training and capacity building support for clinicians in undertaking applied health research, establishing networks and fora for clinicians and academics to meet and discuss research opportunities and ideas, and facilitating applications for research grant funding.

Examples of ways in which these strategies are implemented are reported later in this chapter; however, it can be said generally that the UDRHs as a whole have been successful in establishing an academic infrastructure to support the health professions where such infrastructure had not previously existed. This in itself was counted by some external stakeholders as the most significant contribution of the UDRH within the community, with one local government official speaking of the UDRH as an essential component of the regional centre's vision to be a *'learning hub'* which would assist in attracting other academic, scientific and developmental institutions to the area.

The models for UDRH operation are similar across the country, generally with an administrative hub located in a regional centre and often satellite offices in smaller towns, or at the least with links to health practitioners in towns or remote sites away from the regional centre. Student placements can take place anywhere from a regional centre to a small remote settlement, subject to the availability of a health professional as a supervisor and access to information technology (IT) and accommodation for the student. Some UDRHs have taken an interdisciplinary approach to supervising and/or teaching students. For example, nursing, physiotherapy, radiology, occupational therapy and other allied health academics and/or practitioners may teach medical students, while medical academics may have a role in teaching nursing and allied health students. Some UDRHs have an open-door policy to attendance at seminars, skills lab or other sessions and actively encourage a cross-disciplinary learning culture. Advocates of this approach see it as part of the necessary future of health education, given the increasing number of students and shrinking academic workforce.

The broad nature of the Program's objectives is often cited as one of the strengths of the UDRH Program, allowing each UDRH the flexibility to deliver a local response to the objectives and establish its own organisational culture and ethos. However, the breadth of the Program objectives (and subsequent variation between UDRHs) is also perceived by some as a giving UDRHs a *'fuzzy'* mandate and a lack of clarity of purpose.

An important component of the local direction of each site has been the influence of the character and management style of the individual leading the organisation. Team culture and inclusive style were cited in several UDRHs as positive components of the organisation to the extent that in some sites a change of leadership or direction has been perceived to negatively impact upon the UDRH's development and progress. In all cases the shape of the UDRH is informed significantly by the leadership of the key individual/s.

4.3 Achievement of Program objectives

4.3.1 Review of the achievement of Program objectives

All UDRHs are currently meeting their objectives as required in their contractual arrangements with the Commonwealth; regular three-year funding agreements and their corresponding reporting mechanisms have ensured that key performance indicators (KPIs) are monitored.

The challenge to the UDRHs is vast. The national rural health workforce shortage was described by one participant as a 'wicked' problem (Camillus, 2008), i.e. one which is multi-dimensional, changes shape or form as potential solutions are implemented, and which is embedded in a larger organisational system and culture. The establishment of the university infrastructure for the UDRHs and the implementation of research, training, and support programs have begun to create a national network of rural health clinicians, academics, students and health service administrators which should in time increase the effectiveness of the rural health workforce. This is a long-term strategy and one which cannot be measured by a single long-term objective such as the increase to the rural health workforce. Other objectives will be required to measure outcomes achieved in the course of reaching the long-term goal. These outcomes include the academic infrastructure (defined as the physical presence of the university as well as the availability of information technology and remote access to academic resources), the creation of an intellectually stimulating network of academics and clinicians, access for rural and remote clinicians to opportunities to teach as well as to access professional development opportunities themselves, and increases in rural health research and publications.

At the inception of the Program the UDRHs had very broad objectives and no identified key performance indicators (KPIs). Following the lapsing program evaluation in 2003, the UDRHs in consultation with the Department developed a series of KPIs on which to evaluate their performance. The KPIs support the key result areas of the Program (the objectives named in section 4.2). The key result areas and the KPIs are monitored through bi-annual reports from the individual UDRHs to the Department. These indicators provide a quantified measure of the activities by which UDRHs are providing rural training for future clinicians as well as research and collaborative activities which are supporting the current health workforce.

Table 5 below summarises the extent to which the collective UDRHs are addressing their key result areas, and shows selected performance indicators. The table provides a snapshot of the level of activity undertaken by the UDRHs and the increase in volume of activity over the years 2004-2007.

Table 5 – UDRH KPI summary data[6]

Key Result Area	Selected performance indicators	2004	2005	2006	2007
1. Increase and improve rural experiences for health science students	No. students (undergraduate, postgraduate) undertaking placements	3,529[7]	3,817	3,856	4,398
	Total no. student weeks	14,427	16,675	18,451	17,663
2. Expand educational opportunities that are relevant for rural and remote practice[8]	Vocational units or courses: total no. of enrolments	390	768	723	1,198
	Undergraduate units or courses: total no. of enrolments	2,422	2,080	1,623	4,021
	Postgraduate units or courses: total no. of enrolments	830	672	1,105	661
3. Undertake research and related activities in rural and remote health issues	No. of new research and development projects	106	97	109	122
	Value to UDRH ($)[9]	2,652,308[10]	9,685,272	7,871,614	9,237,275
	Total value ($)[11]	33,655,902	18,963,441	16,678,457	14,624,572
	Total no. publications, reports and articles	202	303	349	453
4. Support for rural health professionals, consumers and communities	Total no. participants in development activities	9,755[12]	13,045[13]	13,924[14]	14,537[15]

[6] Please see section 2.6
[7] This figure includes postgraduate placements for July to December 2004 only. January-June figures are unavailable
[8] Figures represent unique instances of participation. Note that a single participant may be involved in more than one activity
[9] "Value to UDRH" for some projects is unavailable
[10] "Value to UDRH" data is unavailable for January to June 2004
[11] "Total value" for some projects is unavailable
[12] This figure includes 1830 participants in a health promotion tour conducted by CUCRH. Grand Rounds participants are excluded from this figure - approximately 1200 participants.

Key Result Area	Selected performance indicators	2004	2005	2006	2007
5. Contribute to innovation in education, research and service development through collaborations	Total no. collaborations in which UDRHs were actively engaged during the July to December reporting period of a given year[16]	396	399	500	464
6. Embrace a strong public or population health focus; and contribute to the development of innovative service delivery models in rural and remote health	Please refer to Section 4.4 for examples	NA	NA	NA	NA
7. Endeavour to progress the rural health agenda within the medical and other health sciences faculties or departments	Please refer to Section 4.4 for examples	NA	NA	NA	NA

4.3.2 Issues arising in the achievement of Program objectives

The major constraints on UDRHs in their achievement of the Program's objectives are discussed later in this chapter. In summary, these are:

- funding levels;
- challenges in recruiting academic and clinical staff;
- distance and the challenges of providing either placements for students in more remote towns or providing support to clinicians and communities in more remote locations; and
- workforce pressures on those within the current rural health workforce which constrain the ability to act as supervisors or teachers.

In spite (or because) of these limitations, UDRHs have sought to access additional sources of revenue through grant applications and research consultancies (up to half their annual revenue for some UDRHs), have been innovative in developing joint appointments with local health services, have developed significant IT and other support networks with remote and isolated clinicians, and have provided training and professional development opportunities for clinicians who supervise students.

Some informants believed that the broad nature of the objectives meant that *'it was left up to us'* to determine the priorities and strategies for establishing the local UDRH. Most UDRH staff considered this to be a benefit, on balance, contributing to the individual character and culture of each UDRH.

[13] This figure includes 800 participants in a sporting activity assisted by SGUDRH UDRH and 2000 participants of promotion activities conducted by SGUDRH at Croc Fest. Grand Rounds participants are excluded from this figure - approximately 4800 participants.
[14] This figure includes 2600 participants in National Rural Health Education Forums conducted by Northern NSW UDRH, 386 and 750 participants at career days attended by MICRRH and CUCRH respectively. Grand Rounds participants are excluded from this figure - approximately 1700 participants.
[15] This figure includes 2000 participants in a National Rural Health Education Forum conducted by Northern NSW UDRH. Grand Rounds participants are excluded from this figure - approximately 3000 participants.
[16] Figures are derived from July-December data only, as collaborations listed in January to June reports may overlap with these. A single collaboration may be listed by more than one UDRH. Therefore figures are approximate only.

4.3.3 Contribution to national rural health workforce priorities

The UDRHs are widely believed to be doing innovative and exciting work, facilitating networking and support for a beleaguered rural health workforce, acting as a catalyst for innovation in service delivery, and fostering a culture of research and evidence-based clinical practice. As one informant observed (and many others agreed over the course of the evaluation) '*the evidence is thin but the program works'.*

According to many informants, the presence of the university within rural towns has enabled local health professionals to remain in clinical practice when they might otherwise have moved to an urban setting. The opportunity to reduce one's clinical load and take on an academic role has in some instances kept clinicians approaching retirement in 'circulation' rather than losing them from the health system altogether. Academic research and teaching opportunities, professional and social networking, and access to continuing education have been some of the contributions named by stakeholders which the UDRHs have provided. These have contributed in some instances to retaining clinicians in rural practice.

> *'You can't say we alone are increasing retention, but you can say that it makes it easier to agree to stay.*' (UDRH nursing academic)

In addition, the university infrastructure in a rural location is itself an attraction and has led to at least some health professionals choosing to practice in the country because of the opportunity to combine clinical practice with academic teaching and research alongside a rural lifestyle. Retention, and the support provided by UDRHs to rural practitioners, are discussed in sections 4.4.1 and 4.4.2.

The UDRH research capacity building strategies, while still evolving, have begun to bear fruit in terms of grants won and opportunities available to individual clinicians seeking to research areas of interest or local need. A number of UDRHs have appointed a research director, and in some cases research staff, and all have undertaken research projects and produced publications. Research and capacity building are discussed in greater detail in section 4.4.3.

The increasing number of student placements which UDRHs organise has anecdotally led to some students choosing to return to country areas. While this is difficult to quantify across the nation, there is evidence both that students increasingly are perceiving rural placements as a positive addition to their education and that an increasing number are expressing an intention to spend time in rural practice at some point in their career. UDRHs have begun to publish their own studies on rural intentions and the effects of placements, from Playford, Larson and Wheatland's (2006) early article on allied health students in Western Australia to Dalton, Routley and Peek's (2008) recent survey of Tasmanian health science students. These studies are indicating that placements are contributing to student's positive perceptions of rural practice and encouraging students' inclinations to undertake rural practice after graduation. Student placements are discussed in section 4.4.1 below.

The following section outlines in detail the ways in which the UDRHs are implementing their objectives and contributing to national rural health workforce priorities, as well as some of the issues or challenges which attend these activities.

4.4 Effectiveness and future role of the UDRH Program within the context of the current national approach to improving rural and remote health services

This section analyses the UDRHs' contribution towards two components of the national rural health workforce aims: increased workforce capacity; and increased training and support for the rural health workforce.

4.4.1 Increased workforce capacity

There is evidence that the UDRH Program is contributing to increased workforce capacity in three ways, through: the provision of student placements (the potential future rural workforce), continuing education opportunities for health professionals (the current rural workforce), and assistance and development of research and innovative health service delivery models (the capacity of the health care system and professionals within the system).

Student placements

The scope of the UDRHs to act as facilitators for rural student placements for a variety of health disciplines means that they are in an excellent position to provide multidisciplinary training, and most of the UDRHs see this as a core activity. Students have reported their enthusiasm for this aspect of placement.

> *'There is a much greater emphasis on a multidisciplinary approach which I much prefer because you learn a broader range of skills…one of the highlights [of the placement] is to be working more closely with other disciplines.'* (physiotherapy student)

> *'UDRHs' impact is broadening support for other disciplines…It's really good to break down the barriers and bring people together.'* (National Rural Health Student Network member)

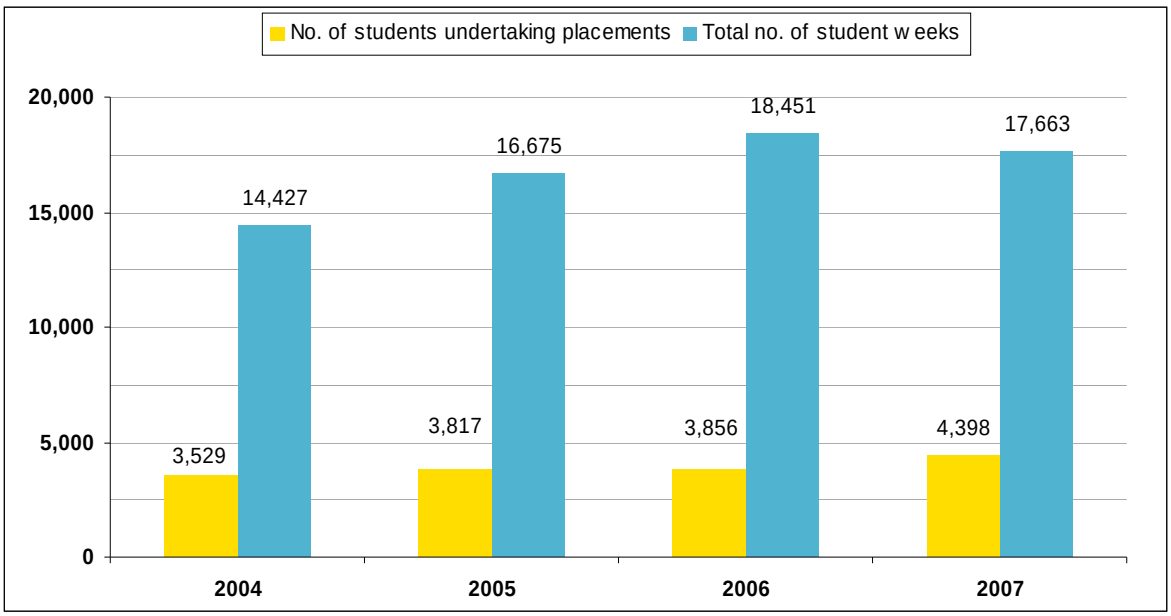
Placements for undergraduate students from a variety of health disciplines constitute a significant portion of any UDRH's activity, in 2007 ranging from 177 placements at one UDRH to 619 at another.[17] Collectively, the UDRHs have supported and coordinated placements for over 15,000 students over the past 4 years. As demonstrated in Figure 3 below, the number of student placements and the number of student weeks has increased over the last four years.

Although all UDRHs act as facilitators in the arrangement of rural exposure placements for health students, the extent of this involvement differs. In some instances UDRH staff are involved in direct teaching of the curriculum while, in others, UDRH staff simply arrange accommodation and placement with a clinical preceptor, and in a few instances placements are arranged through the disciplinary faculties without consultation with the UDRH. Student placements are facilitated for a range of medical, nursing and allied health disciplines, from collaborating universities and more broadly. The large majority of UDRHs support placements for five or more disciplines, and some do so for up to fifteen. These placements have been noted elsewhere as a positive factor in encouraging students to consider rural careers (Playford, Larson and Wheatland 2006, Schoo, McNamara and Stagnitti, 2008, Dalton, Routley and Peek 2008). Students appear to benefit from the exposure to country life and from exposure to a wider range of clinical work than they might experience as an undergraduate in the city.

One student described her time with the UDRH as *'going beyond a placement'*: the benefits included being able to get involved with community events, go out with the ambulance on calls, provide physiotherapy for the local footy team, and work with other disciplines. As for this student, many students and academics perceived benefits of placements to be far more comprehensive than simply the educational outcomes and included exposure to a rural lifestyle, the ability to work in teams, and exposure to a wider variety of clinical practice than a student might normally experience in an urban setting.

[17] Figures sourced from the Department of Health and Ageing

Figure 3 – Number of students undertaking placements[18] and total number of student weeks by year



An added benefit of a university presence, noted by both UDRH staff and external stakeholders, is the opportunity for local people to consider further study. These opportunities pertain to high school students as well as qualified health professionals, thus providing locally-based career pathways. As an example, James Cook University's School of Nursing collaborates with the *Mount Isa Centre for Rural and Remote Health* to provide a local nursing course so that people can remain in Mount Isa while studying rather than having to travel to Townsville. The *Broken Hill UDRH* has developed a health career 'pipeline' model[19] which promotes health careers to Indigenous and other school students through schools programs targeting specific educational stages, from activities for pre-primary school children, with a health promotion focus, to Years 7-12 'Nursing Academies' which provides high school students with hands-on exposure to nursing practice. In Moe, the *Monash University Department of Rural and Indigenous Health* (MUDRIH) has succeeded in engaging a number of local health professionals in Master's studies, strengthening the research and evaluation skills of key members of the existing workforce, and providing access to senior academics by professionals who would otherwise be absent from the workplace to travel to Melbourne for the stimulation of further study.

Distance is a reality for anyone living and working in rural Australia, and this is noted by UDRHs (as well as by RCSs) as a limiting factor in providing placements and supervision for students. UDRHs may place students at some distance from the UDRH centre and many UDRHs have worked hard to ensure that they are able to provide academic and personal support to students and clinicians in remote locations. An outcome of this is the ability to assist other university academic departments in developing their own rurally-focussed programs. One pharmacy department within a collaborating university used their UDRH as an example in providing support to their own students on placement. A key lesson to the department was the importance of the quality of the supervisory relationship and the relational aspects of mentoring and supporting students on short-term placements.

> *'It's made us think – how do we deliver our placement program, and now we are making sure the students have mentoring, personal visits, workbooks. The placements are for seven weeks so that personal interaction is important. We have adopted lessons learned from [the UDRH] as we work to improve the way we do things.'* (pharmacy academic)

[18] Placements are of one week or longer in rural or remote sites organised or facilitated by a UDRH
[19] See section 3.2.1 for a discussion of the rural pipeline model.

Multidisciplinary training is often a feature of student placements or exposure tours which bring together students from diverse disciplines. This is considered to be an opportunity for students to build awareness of team models and to learn to work with other disciplines. An example of this is the Country Week Program, organised by the *Combined Universities Centre for Rural Health* in Western Australia, in which students spend a week in a rural community and work in multidisciplinary teams exploring topics relating to the health of the community. The aim is to guide students to understand health issues within a broader social and cultural context. The program has been well received by students, health practitioners and community members, and it is now being developed into a program for lecturers.

However, the opportunities for multidisciplinary learning arguably have not been fully realised. There are several reasons for this, including the fact that medical students in the majority of RCSs study the set medical curriculum which may or may not align with the placement requirements of other disciplines. The exceptions to this tend to occur at the RCS sites which offer a Parallel Rural Community Curriculum (PRCC) which is more flexible. Nursing and allied health students on placements are also generally in rural areas for a comparatively short period of time compared to most medical students at rural clinical schools who tend to spend a year in one location. Finally, while in some places there are RCSs and UDRHs that may share clinical training labs or teaching space, the planning processes for disciplines is not usually shared and unless close collaborative mechanisms exist it appears to be difficult to break down the disciplinary silos (this point is discussed further in section 4.5.2).

Collaborative care is recognised as delivering better patient outcomes in a range of settings, and is actively encouraged by a number of incentive items under Medicare.[20] The UDRHs are well placed to facilitate increased opportunities for interprofessional education (IPE).

> *'The more that health service delivery goes down an integrated primary health care direction, the more valuable it will be to have a UDRH in your neighbourhood. It's through the UDRH that you can get research done, education and evaluation of what you do.'*
> (UDRH academic)

The University of Tasmania has plans for its RCS and UDRH to collaborate on IPE learning opportunities in the near future. In some locations such as the University of Melbourne in Shepparton, where the RCS and UDRH are co-located, a clinical simulation laboratory offers opportunities for students to learn together with registrars from the hospital on the same site, with simulations including participation from hospital nurses and registrars. A number of UDRHs have developed and delivered cross-disciplinary teaching units. For example *Broken Hill UDRH* has developed a geriatric medicine rotation for medical students which is delivered by medical, nursing, occupational therapy, physiotherapy and other allied health professionals (despite having no geriatrician in Broken Hill). There is scope for this type of activity to increase.

There is limited evidence to date indicating that students who have undertaken a rural placement through the UDRH Program have actually returned to take up full-time practice within a rural environment. However, a recent study (conducted by staff of *Northern NSW UDRH*) found that 46% of the allied health workforce of a region of NSW had undertaken an undergraduate rural placement (Smith et al 2008); the fact that nearly half of the current workforce has done so suggests both a fairly young workforce and that the experience of a rural placement may influence an individual's decision to return to the country to work after graduation. During the consultation a number of anecdotal reports were given of people who had chosen to return after having undertaken a rural placement, including two who returned to the same UDRH as academics following graduation within their respective health disciplines. One of these students was of rural origin and had always intended to have a rural career. The other, however, accepted the academic opportunity as a good career move without intending to relocate and spends weekends in the city where friends and family are situated.

Given the number of students who have had contact with the UDRHs, the proportion of students to date who have chosen a rural career is quite small. However, perceptions of careers are changing amongst younger Australians, and it is more likely now that a student will choose to work in a variety of locations over the course of their career. It may be that the changing nature of mobility within Australian society

[20] For instance, through the Medicare item numbers for coordinated care and care plans.

means that some of these students will rotate in and out of rural settings, thus contributing to the rural workforce over time. A great many of the students consulted in this evaluation expressed a willingness or desire to spend some time practising in a rural or remote setting, though they did not necessarily envisage settling permanently in a rural location. It may also be true, as many UDRH staff argued, that it will take time for the absolute numbers of rural health clinicians to increase, given other factors which may influence an individual's career choice. Some have suggested that longer placements (akin to those offered by rural clinical schools) may have greater impact in encouraging people to make a future lifestyle decision to relocate to the country from the city. This would allow nursing and allied health students to have an experience similar to that of medical students in the RCS Program, who live within a community for an extended period of time and learn what it is like to be part of a rural community. There would, of course, be funding implications of this sort of placement program, and it would require close collaboration with those within Schools of Nursing and other disciplines with regard to an expanded rural teaching component of the curriculum.

Retention

There is anecdotal evidence that the presence of a UDRH in a rural or regional area has contributed to the retention of local health practitioners. While one UDRH staff member said that they '*haven't seen any evidence that this is working (as a workforce initiative)'* others have argued strongly that there is good evidence that the UDRH is contributing to the workforce in several ways. Several UDRHs were able to speak about increases in applicant numbers to health professional positions, as an indication of the growing interest in working rurally where there are opportunities to combine clinical and academic work. Some UDRHs insist that all academic appointments include a clinical load, so any increase to the UDRH staff is also an increase in the local health workforce. Others have claimed that the UDRH helps to retain existing health workers through providing new intellectual and clinical teaching opportunities, as well as providing access to professional development.

> *'The number of physiotherapy students here has gone up 400%, we have a new graduate at the local community health centre, and another full-time graduate working with a practitioner in town. A lot [of local practitioners] didn't want to have students but are seeing the benefits.'* (UDRH staff member)

> *'Remote area nurses have one of the hardest jobs in Australia – they're under enormous pressure and require clinical skills far beyond most nurses… By offering serious training and formal qualifications we not only increase the quality of care provided in remote locations, but also the job satisfaction and resilience of these nurses to continue on with what they're doing, rather than burn out, quit and go back to the cities.'* (UDRH staff member)

The contribution of the UDRH to the local community as an employer, and as an attraction for health practitioners, who may have an opportunity to undertake a joint academic and clinical appointment, has been argued. The physical presence of the university within the rural town may itself raise expectations of improved health care, as well as a heightened awareness of the efforts being made to address the workforce shortage.

> *'I knew this town [before the university arrived] and even just the physical presence of the university and knowing that they're working on the workforce issues – this is valued by the community. It has brought educated rural people an opportunity to live and work in a rural setting; people want to contribute to the community but not at their own expense of lifestyle.'* (UDRH staff member)

The attraction of the UDRH as a rural employer is considered to be due to a combination of educational and support structures, opportunities to participate in research and teaching, the availability of educational facilities, the growing presence of an academic and health professional community and the networks that have been established. Conjoint positions are said to offer an attractive mix of research and teaching in addition to clinical work.

> *'Putting academics in rural areas highlights workforce issues; it provides additional support to help [local clinicians] survive.'* (medical academic)

In Broken Hill, for example, joint medical officer positions are offered by the UDRH and the Royal Flying Doctor Service (RFDS). This has brought three new doctors to the region, positions that would not otherwise be filled due to funding constraints and the difficulty of recruiting people for dedicated teaching or clinical appointments. Together, the RFDS and UDRH can offer a more attractive salary than could be offered by the UDRH alone. In Shepparton, the School of Rural Health has negotiated joint appointments for some clinical staff between the UDRH and the hospital across the street.

4.4.2 Increased training and support for the rural health workforce

Examples of continuing professional education for health practitioners include discipline specific and interdisciplinary workshops and courses, mentoring and support to graduates, research skills training, and training for clinical supervision. Table 6 below presents data on the number of enrolments in courses or units delivered by, or in association with, the UDRH.[21]

Table 6 – UDRH course enrolments

	Number of unit/course enrolments in which the UDRH is responsible for 50% or more of teaching			
Education type	**2004**	**2005**	**2006**	**2007**
Vocational	390	768	723	1,198
Undergraduate	2,422	2,080	1,623	4,021
Postgraduate and research	830	672	1,105	661

Examples of graduate education include the following:

- In Victoria and South Australia, *Greater Health* (the Greater Green Triangle UDRH) developed and implemented a needs assessment-based continuing education program for allied health professionals; this subsequently evolved into a state-wide program in Victoria. The program utilises video conference broadcasts to enhance access to practitioners.
- *Broken Hill UDRH* has developed the 'Enhanced Isolated Practice Program' which aims to increase knowledge and skills relevant to rural and remote settings and plans to introduce, in conjunction with the Area Health Service, a health service management training course to increase the capacity of health practitioners to deal with management issues.
- The *Centre for Remote Health* (based in Alice Springs) has had a strong focus on postgraduate study, including development of Master's courses in Remote Health Practice (with streams for medical, nursing and allied health professionals) and Remote Health Management. These degrees also offer exit points at Graduate Certificate and Graduate Diploma levels.
- The *Centre for Remote Health* has also developed a series of short courses in response to the training needs of remote health professionals. One example is the Pharmacotherapeutics for Remote Area Nurses course, which is now delivered in a number of locations across the Northern Territory, Western Australia and South Australia and has become part of the mandatory training requirements for remote area practitioners in all three States/Territories.
- There are plans at *Greater Health* to develop 'bridging' training for allied health workers in their early career years, in response to a perception that a number of allied health workers are exiting the profession early in their career as they do not feel adequately supported. This course would

[21] The UDRH must be responsible for 50% or more of the teaching. Note that figures represent unique enrolments. A single participant may enrol in more than one unit/course

provide practical training in building a practice as well as strategies for coping with challenges such as isolation and lack of local professional development opportunities.

The following case study illustrates the effect which rurally-located educational opportunities can have on a person's career path.

Case Study – Professional development for a remote area nurse

Isabelle began her early career as a remote area nurse. In time she took up an opportunity to further her studies in health by enrolling in a Master's degree, which she conducted via distance learning (before the introduction of email and internet to the region). As her career progressed, Isabelle developed a strong interest in telehealth. This led her to further postgraduate studies in communication and multimedia, and subsequently to a position within the State health service coordinating a project involving the use of telehealth in service delivery. This was pioneering work at the time, with implications for remote area health more broadly, so Isabelle aimed to develop the study into a PhD. Isabelle was passionate about this area of work, but she struggled to overcome the challenges presented by the PhD, including a lack of prior research in the area and an absent academic support network. Isabelle was the only person in the region to have attempted a PhD and she felt isolated and frustrated to the extent that the PhD reached a standstill.

On completion of the telehealth project, Isabelle was offered a position with the *Combined Universities Centre for Rural Health*. At *CUCRH*, Isabelle found herself in a completely different environment. She was surrounded by researchers at all levels, including those attempting or holding PhDs. *CUCRH* fostered a culture of critical enquiry and debate, and provided very strong and structured support to researchers in the form of supervision, mentoring and research skills training. In this environment Isabelle was able to successfully complete her PhD and as she now points out, *'you couldn't help but learn how to do it'.*

Following completion of her PhD, Isabelle's career continued to develop*.* After spending eighteen months at a senior academic appointment at a regionally-based Australian university, Isabelle is now back at *CUCRH* in a senior managerial role. Isabelle finds that *CUCRH* offers her a unique opportunity to pursue her research and academic interests while conducting clinical work in her area of passion: remote area health service development. *'It's great to have the opportunity to help Australia increase health access to remote areas…we are starting to see some real improvements'*. Now seen as an expert in her field, Isabelle was a delegate to the National Rural Health Summit and is continuing to contribute to rural health policy reform. *'The UDRH enabled me to do so much more than I would have thought possible… I'm [now] doing what I love. I just want to keep going as long as I can.'*

Another benefit provided by the UDRH is the ability to access funding for research through the PHCRED Program, and opportunities to undertake graduate studies without having to leave the regional area. In the *Northern NSW UDRH*, for example, a number of local health practitioners have participated in the UDRH's Researcher Development Program and have gone on to enrol in Master's and PhD courses.

> *'The best part about working here (UDRH) is the flexibility to work with my lifestyle…I want to do a Masters or a PhD and am mulling over topics at the moment. I know (UDRH directors) will support me. I can do that and still be with the community and look after my kids'.* (UDRH staff member)

Preceptor training

Because of their considerable involvement in facilitating student placements, most UDRHs have an active preceptor training program that aims to provide training and support for health professionals who take on the responsibility of acting in a clinical supervisory role. The *Centre for Rural Health* runs short courses for supervisors and also incorporates supervisory training into the postgraduate program, so that health professionals leave the *Centre for Rural Health* prepared to act as preceptors. *MUDRIH* has negotiated a unified preceptor training program across their region, and *CUCRH* conducts training

which is available via electronic technology to multiple sites, and which is publicised through the State-wide Country Health Service as well as through personal contacts and AMSs. Over the past four years, an average of 56 people undertook basic preceptor training and 48 people undertook advanced preceptor training each year through *CUCRH*.

A rolling program of workshops for preceptors in pharmacy and allied health is conducted throughout the year at *Northern Rivers UDRH*, and at *Northern NSW UDRH* a program called 'Teaching on the Run' is provided for clinicians to enhance teaching skills. At *Spencer Gulf Rural Health School (SGRHS)* a series of workshops and seminars have been developed for GPs as well as allied health clinical educators.

There is a diversity of perception regarding the impact of students on clinical practice, with most informants considering that practice-based training is beneficial for the clinicians as well as the students.

> *'*[The large number of nursing students that rotate though the aged care facilities] *helps to increase the morale of the nursing staff – it makes them feel like they are the experts who are doing the teaching.'* (nursing academic)

The question of whether students actually increased the workforce was contested, with some informants considering that students provide helpful assistance and become an extra pair of hands, and others considering that students require more time to supervise, taking attention away from busy caseloads. On balance, more people considered that it was a positive experience, and a few cases were reported where students were essential, such as one instance where students assisted remote community members under the radio or telephone guidance of a Royal Flying Doctor Service (RFDS) doctor.

> *'If they hadn't been there, the patient would have died. In remote communities, just having the students there automatically increases the workforce.'* (RFDS Officer)

Sometimes, however, students are seen to add to the pressures of the current workforce; many potential preceptors choose not to take on students for supervision. At times, placements are not always managed in a way that is sensitive to the demands of the workforce.

> *'It takes a lot of energy to take students; we're used as a resource, but don't always know when they're coming [into the hospital].'* (clinician)

> *'I'm the only paediatrician in the region and running my own business, so I simply don't have the time to take on any students.'* (clinician)

Interprofessional education

A characteristic of the UDRHs, which is considered to be a strength, is their multidisciplinary nature. Among rural health professionals, UDRHs promote interprofessional education (IPE), facilitating or creating opportunities for various disciplines to work and train together.

For example, the *University of Tasmania UDRH* staff have spent time working with local rural communities regarding population health issues, conceptualising service models to address these issues. This has allowed them to gain in-depth knowledge about emerging local health issues and to address them through innovations in service delivery models including IPE, flexible service delivery models, interdisciplinary care and service integration. The UDRH staff understand their role as contributing to health workforce planning and believe that they could have a more significant role in the future, at a State and national level, particularly with regard to IPE. The State health department has formed a strategic alliance with the UDRH to further the department's approach to rural health workforce planning.

Another area of support provided by the UDRHs is their establishment of health professional and academic networks. These connections in themselves are perceived to break down feelings of isolation and lack of support. One remote nurse claimed that because of the local UDRH's efforts to increase communication and engagement with health professionals across rural and remote regions,

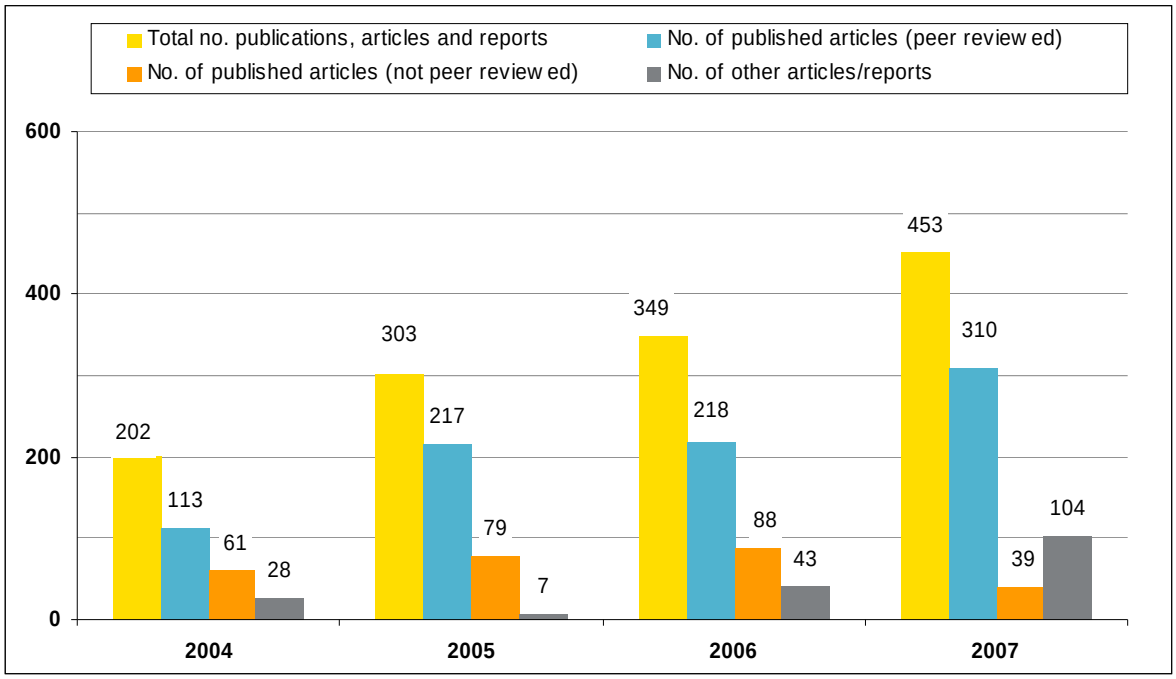
'People don't feel so alone anymore.' (remote nurse)

In some UDRHs, IPE has been developed to the extent that there is teaching across disciplines, so that depending on the subject nurses or physiotherapists may teach medical students, nursing students may be taught by doctors, and students from different disciplines may come together for joint classes or training.

4.4.3 Increased rural health research capability and output

Research capacity building is perceived to be a core achievement of the UDRHs. The number of publications produced by UDRH staff and associated clinicians has increased substantially over the lifetime of the Program, totalling 453 publications, articles and reports in 2007. Among individual UDRHs this figure ranged from 11 to 68. Figure 4 below illustrates the growth in collective UDRH publications over the last four years.

Figure 4 – Number of publications, articles and reports produced by UDRHs by year



Most UDRHs are engaged with research capacity building under the auspices of the Primary Health Care Research Evaluation and Development (PHCRED) Program, a strategy of the Department of Health and Ageing which includes a number of initiatives aimed at increasing evidence-based practice within primary health care. Under this strategy, the Research Capacity Building Initiative provides funding to UDRHs and other bodies to support health practitioners in developing research skills and undertaking research activities in the primary care setting. In practice, this enables UDRHs to offer fellowships to local health practitioners to undertake research projects, and to provide a network of support for professionals who are seeking to improve their research skills.

Many UDRHs are offering research skills training (e.g. research skills workshops, evidence-based practice workshops, research forums, and reading groups) to local health professionals. For example, in Tamworth the *Northern NSW UDRH* used PHCRED funding to develop a Researcher Development Program, which has included research skills workshops, evidence-based practice workshops, research forums and other educational events, as well as PhD and research project supervision and mentoring. This has reportedly provided stimulation and enthusiasm to local practitioners who may remain in rural areas longer as a result of the additional intellectual and social engagement. The *Northern Rivers* UDRH has established two research networks: the Aboriginal Health Research Network involving AMS and local area health service staff working in Aboriginal-specific services; and the Mainstream Primary

Health Care Research Network involving primary health care clinicians working in mainstream services in rural, northern NSW in either the public or private sector. In Mount Isa, *the Centre for Rural and Remote Health* employs a dedicated Research Director whose role is to develop the research capacity of local practitioners through a variety of workshops, projects and fellowships.

A criticism of the opportunities offered through the PHCRED Program was offered by one stakeholder who believed that the standards expected are too high and unattainable for many health service workers. This stakeholder was concerned that opportunities were lost for more practical and actionable research. In contrast, a staff member of another UDRH described their activities in the following terms:

> *'[We are]building awareness of research but there's not yet the capacity, and people leave so you're always starting over - we are moving along slowly. People who really want to do it will do it anyway, but PHCRED funding helps to encourage people. It's good for developing a cultural shift to a positive view of research; you do need a basic level of research literacy [to build a research culture]'.*

It does appear that for some clinicians the ability to access research funding and support has influenced their decision to remain in rural practice.

> *'It was a really positive experience for me, and these sorts of opportunities definitely have an impact on retention – they provide you with alternative activities and new areas of learning which is intellectually stimulating…These things mean that a rural area doesn't seem to be a backwater'.* (PHCRED bursary recipient)

Some stakeholders advised that the value of PHCRED and the partnership with the UDRH could not be underestimated in terms of building capacity of rural health professionals at a Master's and PhD level.

> *'I would never have thought that there would be this much support available to me to complete my Masters … it has been integral to the whole process, the UDRH staff have provided so much advice and assistance. I am now seriously considering going on to do my PhD… something I would not have thought of doing before.'* (PHCRED bursary recipient)

It appears that one of the benefits which UDRHs have brought to rural regions is the possibility of engaging in research, so that people who might not have considered even local research projects into an area of interest, much less undertaking a higher degree, are now considering opportunities to do so. The network described in the case study below is one such catalyst for partnerships in health service and clinical research, a model which may have scope for expansion and transferability to other regions.

Case study – Rural Health Academic Network

The Rural Health Academic Network (RHAN) was established by the University of Melbourne UDRH, part of the School of Rural Health at Shepparton, and launched in 2006. The RHAN encourages and actively supports the development of rural health research with an emphasis on creating and nurturing academic-community and academic-health service partnerships. The RHAN also encourages the engagement of multidisciplinary investigative teams.

The RHAN has a number of overall aims and objectives, including achieving and supporting excellence in rural and remote health research. In order to do this, capacity building is a key component of the RHAN strategy. The vision of the RHAN is to create a supportive infrastructure to facilitate the investigation of issues relevant to the health of rural and remote communities from population and health service perspectives. The RHAN has a number of principles and values that it strives to achieve. These include:

- *Relevance* - Making sure rural research matters;
- *Collaboration* - Challenging traditional boundaries;
- *Diversity* - Recognising the reality of rural and remote living; and
- *Innovation* - Respecting resourceful approaches

The network is an innovative concept and has formed collaborative partnerships, for research, education and capacity building purposes, between the School of Rural Health (both Shepparton and Ballarat Campuses) and initially eight key rural health services across the state of Victoria (Echuca Regional Health, Alexandra District Hospital, Seymour Memorial Hospital, Goulburn Valley Health, the Goulburn Valley Department of General Practice, North East Health Wangaratta, Upper Hume Community Health Service and the Upper Murray Health and Community Services). Each health service has a research officer embedded in the organisation (jointly funded by the health service and the University of Melbourne) to facilitate and enable coordinated research and research capacity-building across the region. Funding from PHCRED also assists individuals who undertake research projects.

The RHAN was recently downsized to five sites due to lack of funding. However, the network was considered to be valuable enough for one local health service to choose to fund the research officer position themselves, and another community remained engaged with the network even though the research position was not renewed there.

The network is considered to have had a positive impact on local clinicians, and after two years UDRH staff perceive an increase in research projects, with growing opportunities for collaboration between providers. The profile of RHAN has grown as well, and its inclusive approach has also included local community groups who have been able to participate in research projects of special interest to them, such as women's health. More than one UDRH staff member stated that RHAN has contributed to workforce retention because of the presence of academics in rural places with their increased ability to support local people. '*It's encouraging the workforce to work in smarter ways, to develop a variety of skills – both clinical and research'.*

Through one UDRH, a local GP was able to use a PHCRED bursary to trial a collaborative care model for co-morbid chronic diseases. The project was particularly important for his work as a GP and the community he served because of the elevated incidence rates of chronic disease in the region. He said:

> *'We would never have been able to start this as a project without the UDRH. We needed their knowledge base and clerical base to get it going.'*

Another GP stated that:

> *'[The UDRH] provides the academic framework that GPs can work with. We had no direct links with universities previously. This [research] underpins the quality and sustainability of our work… [The UDRH] is supporting clinicians in a real way to get practices involved in research.'*

Across a number of UDRHs the impact of the PHCRED program has been very positive in building and strengthening the research culture – solidifying an academic environment which encourages intellectual pursuits. There are a number of examples of local health practitioners who undertook postgraduate degrees while remaining in their rural employment, whereas previously they would have had to move to the metropolitan centre to undertake further study.

However, the uptake of the opportunities for research fellowships appears to vary widely across UDRHs, with one UDRH staff member remarking that

> *'the funding is available but not usually taken up by local clinicians, and not often by medics.'* (UDRH staff member)

Collaborations with UDRHs have enabled a number of health service providers to investigate their own research questions and to evaluate their own services; projects that would not have otherwise been possible. As an example, one UDRH recently partnered with the local area health service to conduct a local study to identify the reasons for a decline in screening for high blood lead levels in children. An action plan was subsequently developed for the health service and this is currently being implemented. According to stakeholders within the health service, the study would not have been able to go ahead without the UDRH due to limitations in resources, skills and capacity.

> *'Being involved in research just makes my every day work more interesting and stimulating, it adds another dimension… The [UDRH] researchers are so helpful and skilled, which has improved my research skills. I have often thought that without this I would have moved on ages ago.'* (local clinician)

The *University of Tasmania UDRH* has played a key role in providing assistance to local services and agencies in evaluating population health projects, in 2007 developing a project to map community health and wellbeing. There has been very positive feedback from local services and agencies to this project, which provided crucial evaluation expertise to ensure a rigorous output. The UDRH also focussed on capacity building within the local services and agencies to enable them to build evaluation into their ongoing project work.

Some UDRHs are demonstrating limited research output. In some instances, this is a consequence of being in an earlier stage of development, with plans in place to develop this aspect of the UDRH activity in time. Elsewhere, research has been a secondary priority, with the primary focus being on student placements.

In addition to individual UDRH research activity, the *International Electronic Journal of Rural and Remote Health Research, Education, Practice and Policy*[22], managed through ARHEN and FRAME, has encouraged a wider international audience of practitioners and researchers in the areas of rural and remote health issues. This provides a forum to increase networks and communication across a range of issues influencing rural health service delivery. Roughly one-quarter of the articles published in the journal have authors identified with a UDRH (27% in issue 3, 2008).

Research topics

The range of research topics in which UDRH staff are engaged is extensive; however, there is a significant focus on three areas:

- rural workforce issues, including recruitment and retention;

[22] www.rrh.org.au

- population health issues; and
- innovative health service delivery.

As an example of the latter, *Greater Health* is conducting a project to develop, test and implement a model for assessment and treatment of co-morbid depression, heart disease and diabetes within general practices. This involves training the extended team, both within and external to the general practice surgery, to manage an integrated shared care model which can be sustained under the Medicare Chronic Disease Management items.

Other examples of population health research topics from a range of UDRHs include participation and volunteerism, planning for future health needs of rural elderly citizens, falls prevention, the impact of sea change, program evaluation and service planning, screening for life-threatening diseases in remote areas, sexual health, alcohol and other drugs, early childhood and youth services research, physical exercise, racism and bullying and sustainable farming families.

Case study – 'Your Health in Your Hands'

The *Spencer Gulf Rural Health School* (SGRHS) research program has worked closely with the local community in Whyalla to identify health issues of importance to the community. The community were very keen to improve their overall health and wellbeing, especially the self-management of chronic diseases. As a result of this consultation Whyalla was chosen as one of the sites for the South Australian Sharing Health Care project which focussed on rural and remote communities. This research program involved the testing and refining of a range of new approaches to chronic illness self-management.

In response to this the *SGRHS* community engagement project, 'Your Health in Your Hands', was established. The project was designed to trial the application of self-management principles for a group of people with complex chronic conditions over a three-year period. Chronic health management issues were researched and investigated and the *SGRHS* provided self-management training, to increase peoples' knowledge of their conditions and empower them to manage their care more effectively.

The project also provided community leader training and 'train the trainer' programs. The project was so successful that the community arranged for an independent resource centre to be established in the town. The 'In Our Hands' [23] resource centre is now fully self-sustaining and is run by a thriving volunteer group providing the Whyalla community with a place where they can go to obtain health-related information, including verbal information, pamphlets, access to internet resources and a variety of courses. Volunteers are trained to provide the public with support 5 days per week. A team of highly trained peer leaders facilitate all the courses. The facilitators also run courses outside the resource centre for other service providers and organisations.

The success of this project allowed the *SGRHS* to roll out this model of care to other chronic illness initiatives in Aboriginal Health Services, community health organisations and GP surgeries. The research team has developed a range of promotional materials and published articles, posters and conference pieces based on outcomes from this project.

These examples notwithstanding, there has been some criticism within some communities of the lack of focus on implementation of research at the service delivery level. In some instances it was felt that better consultative mechanisms were required to ensure research results are practical and can be used by those on the ground. In one example, GP workforce research conducted by the UDRH had not adequately met the needs of GPs so was repeated by the Division of General Practice. On the other hand, some UDRHs have been actively engaged in the piloting of service delivery models, preferring to engage locally in practical research which directly addresses workforce pressures.

[23] See http://www.inourhands.com.au/

An innovative service delivery trial, announced in August 2008 by the Queensland Health Minister (Robertson, 2008), will seek to pilot the use of physician assistants in the Australian health system. This trial has been championed by the *Mount Isa Centre for Rural and Remote Health*, and seeks to determine whether the physician assistant role can alleviate the workforce pressures on doctors. While the announcement of the trial has raised some controversy (Hall, 2008), the trial is an example of the ways in which some UDRHs are working in collaboration with a range of service providers to pilot innovative research in service delivery models.

A number of UDRHs are conducting research into workforce recruitment and retention issues; some of these were described in the literature review found in chapter 3 of this report (see for example Hegney et al 2002; Durey, McNamara and Larson 2003; Lee and Mackenzie 2003; Schoo et al 2005; Guion et al 2006; Gum 2007; Dalton, Routley and Peek 2008). The studies aim to identify the impact of UDRH programs, such as student placements and continuing professional education, on recruitment and retention of the local workforce and also seek to identify the key factors influencing career choices and reasons to stay in rural and remote regions. This work promises to provide useful data, but as yet it is too early to see the full impacts of these activities, specifically whether student placements provide lasting increases to the rural workforce.

Some UDRHs have been more explicit than others in setting overarching 'themes' that connect the various research and teaching activities (e.g. the *Centre for Remote Health* in Alice Springs focussing on remote primary care, the *Monash University Department for Rural and Indigenous Health* in Victoria having an explicit focus on Indigenous health). Aside from the numerous benefits reported from such theming, one drawback is that not all research topics of interest to all stakeholders will rise to the top of the list of research to be undertaken. For example, one hospital manager reports that they have *'good data and research topics currently going begging'* because the UDRH has already focussed its attention on other topics. This is something which might be addressed through effective consultative mechanisms with the local health service network in order to shape a common research agenda including locally relevant primary health issues.

4.4.4 Relationships with other initiatives and with key stakeholders

The broad mandate of the UDRH Program has required each UDRH to develop relationships with a range of local and national stakeholders, such as community groups, local area health services, national peak bodies, and the UDRH network itself.

One aspect of the UDRH Program which has been perceived across all UDRHs to be beneficial is the establishment of ARHEN, the Australian Rural Health Education Network, which functions as the peak body for the UDRHs. Initially, the establishment of ARHEN was supported by seed funding from the Department of Health and Ageing. However, dedicated funding ceased after two years and the UDRHs chose to fund the ongoing network themselves, with each UDRH contributing equally to support an office and administrative staff from their own institutional core funding and with the consent of the Department to use core funding for this purpose.

ARHEN offers a mechanism for collaboration between the eleven UDRHs. In addition to organising a series of sub-networks (such as a network for Indigenous UDRH staff, a research network, and so on) ARHEN seeks grant and funding opportunities which may be of benefit to the UDRHs collectively, and also facilitates cross-university information and learning opportunities, such as a yearly research symposium. ARHEN supports the electronic Journal of Rural and Remote Health and was the catalyst for the recently published Textbook of Rural Health, produced by ARHEN (2008) with funding from the Department. The extent to which ARHEN is valued by UDRHs can be seen by their decision to continue funding the ARHEN infrastructure each year. ARHEN was considered by some UDRH Heads to provide a *'fantastic ability to become more than the sum of the parts'*, through facilitating collaboration and providing a forum for the exchange of ideas. It was acknowledged, however, that the lack of dedicated funding for ARHEN had encouraged the UDRHs to become more innovative as a network and to seek out grant and other funding to achieve their aim of contributing to health service development and innovation.

Networks and relationships are a key characteristic of UDRHs and an essential component of their ability to meet their objectives of examining population and public health issues, contributing to innovation in education, research and service delivery, and providing training and support for health professionals, consumers and communities, including Indigenous communities. Table 7 below presents the number of collaborations in which the UDRHs were actively engaged in the first half of 2007.

Table 7 – Number of collaborations in which UDRHs were actively involved July to December 2007 [24]

	University based	**State/Territory Health Services**	**Aboriginal community controlled organisations**	**Professional bodies**	**Other organisations**
2007 July – December reporting period	153	75	39	80	117

The degree to which each UDRH has developed networks and collaborations is significantly influenced by the nature of its leadership and key staff members. Over time, these relationships have resulted in a number of innovative partnerships. UDRHs, by their very presence, have the capacity to act as facilitators for partnerships and innovation by bringing together diverse groups and providing structures and resources for collaboration to take place.

[24] Figures are derived from July to December reports only, as collaborations listed in January to June reports may overlap with these. A single collaboration may also be listed by more than one UDRH. Therefore figures are approximate only.

Case Study – the Australian Rural Health Research Collaboration (ARHRC)

The Australian Rural Health Research Collaboration (ARHRC) demonstrates a strategic partnership arrangement that expands the quantity and quality of research on rural and remote health issues and through its governance ensures that the focus remains on rural community public health issues.

The ARHRC is collaboration between four centres, three within the School of Public Health, University of Sydney Faculty of Medicine, and one from the University of Newcastle. The academic centres are *Broken Hill UDRH*, *Northern Rivers UDRH* at Lismore, the Centre for Rural and Remote Health at Orange (University of Newcastle) and the Australian Centre for Agricultural Health and Safety at Moree. In partnership with each centre's local area health service, the Collaboration was established in 2003 with the assistance of a $1.5 million grant under NSW Health's Capacity Building Infrastructure Grants Program. It was subsequently successful in applying for a second round of triennial funding which will take it through to 2009.

The Collaboration was established to address important health inequalities between rural and urban communities. Specifically, its goal is to undertake research that leads to sustainable improvement in rural health and informs national and international audiences.

The Collaboration's program covers the following key areas:

- research capacity-building;
- agricultural health and safety;
- environmental health;
- health services research;
- mental health research;
- remote and Indigenous health research; and
- translation of research into improved practice.

The Collaboration is governed by an Advisory Council with representation from the universities involved, the four local area health services and industry and community representatives. The Advisory Council facilitates vital partnerships between academia, industry, health services and local communities and assists in defining the research agenda.

The benefits of such a collaboration include increased capacity to undertake larger-scale research projects that an individual centre may not be able to undertake on its own; forged linkages between research centres with a rural and remote health focus (e.g. *NRUDRH* and the Centre for Rural and Remote Health at Orange are collaborating on a metal health services research project amongst agricultural communities, *BHUDRH* and *NRUDRH* are collaborating on an NHMRC-funded project investigating the prevention of cardiovascular disease in rural communities); increased capacity to source research funding; and increased capacity to attract high quality researchers due to an expanded profile. The involvement of area health services, other health representatives and communities through the Advisory Council also helps to maintain the focus of research on emerging health issues in rural and remote communities.

Engagement with the university sector

The UDRHs are a workforce initiative funded through the Department of Health and Ageing, but are fully integrated within the Commonwealth funded university sector. As departments within Australian universities, the UDRHs operate within the structures and cultures of their own institutions, while progressing a mandate which is parallel to the educational goals of the university sector. As one UDRH Head described it,

> *'the universities are more about competencies, but our role is to help people to understand working in a rural community.'*

The UDRH role, therefore, includes contributing to the educational goals of the university while at the same time seeking to promote rural health careers to students, and to support and engage existing rural health practitioners. The UDRH leadership understands that the UDRHs form a *'hybrid'* group – not a standard education provider but health service oriented as well.

Senior university representatives involved in this consultation understood this hybrid position of the UDRHs. Depending on the university, UDRHs were generally structurally located within the Faculty of Medicine, or of a Division of Health Sciences. In some places they are structured within a broader department including primary health care, general practice, or other disciplines or, if closely aligned with an RCS, often appearing as part of a distinct rural school or division. This placement of the UDRH within the university structure did seem to influence the extent to which the UDRH was prominent within the policy and decision making echelons of the faculty. To some extent the placement of the UDRH, and its visibility within the university or faculty, was perceived by UDRH staff to be an indication of the importance placed on rural health training by the institution. The significance of this is most clearly seen in the way in which universities promoted or did not promote rural health training opportunities to their students.

> *'Rural health is not always taken seriously by the "city", there is a perception in rural areas that the city people do not understand rural health.'* (UDRH student co-ordinator)

Several university stakeholders reflected upon the tension between the UDRH Program as a workforce initiative and the UDRH as a component of the education sector. One Head of Faculty remarked that the UDRH was where

> *'the rubber hits the road – the impact of DoHA funding on the university is important because universities had lost their way; this [Program] requires something of universities in terms of applied intelligence.'*

In other words, the UDRH Program requires universities to consider the outcome of tertiary education in terms of practical application, and in particular the extent to which universities are preparing health practitioners to serve rural communities. This same interviewee noted that

> *'this is one of the few truly Australian and innovative things we've done – it needs to continue.'*

At the same time, there is room for improvement. It was noted by several university stakeholders that the lack of targets for nursing and allied health students, such as those which require a proportion of medical students to undertake rural training, has meant that nursing and allied health rural placements are not seen as a priority or as an integral part of health education which the university is required to address.

> *'There should KPIs around the numbers of allied health students that the UDRH have to meet; this would then be a driver for the university to promote the rotation and promotion of rural placement of allied health students.'* (university pro-vice chancellor)

Others recognised the need to compete within the university environment and to create a 'space' in which UDRH with its unique workforce mandate can establish its credibility to advocate for strengthening the rural health workforce and service delivery.

> *'One issue is that because [the university] has a strong academic and research department in their own right, there is a risk they could lose sight of the greater DoHA national agenda, and at the moment this is not always on people's minds day to day.'* (UDRH Head)

One Head of Faculty responded to the question of the UDRH's impact on rural health workforce capacity by saying,

> *'Absolutely! Because without the UDRH program we wouldn't have facilities in [rural town], and rotate a lot of students through a high quality teaching experience [in different types of sites]…Its strength is [being] multidisciplinary. The capacity of the UDRH is unique. It builds awareness of team models, and students are more aware, they know how to relate to other disciplines.'*

Speaking about the university's perception of the impact of the UDRH (and by extension the university) on the rural community, another Head of Faculty simply said,

> *'The UDRH's involvement with the community is awesome.'*

The extent to which UDRHs interact actively with local communities, service providers and State/Territory-funded health services in seeking to influence and develop rural health systems sets them apart from more traditional education delivery. Several university stakeholders acknowledged the difficulty of proving causality from the UDRH Program to increased rural workforce recruitment, but all believed that funding should continue *'for another 10 years'* in order to give time for a number of student cohorts to graduate and make decisions about where they will practice.

Community engagement

On a community level, there is evidence that UDRH collaborations are building local capacity and resilience. As an example, the *Combined Universities Centre of Rural Health* is taking a lead role in the development of a culturally secure therapy support model for remote areas. The Aboriginal Therapy Assistants Program will employ locally based Aboriginal Therapy Assistants to provide assistance to allied health professionals, thus extending the services and support available in those regions. A range of appropriate training resources will also be developed.

In an initiative aimed to attract more clinicians to the region, the *Northern NSW UDRH* in Tamworth collaborated with the local council to develop a new primary health care model called Peel Health Care. The model is a managed interdisciplinary general practice based in the town centre and was established using a grant from the Regional Partnerships Program (now run by the Australian Government Department of Infrastructure, Transport, Regional Development and Local Government) as well as community donations. The rationale for the model is to enable clinicians to work on a sessional basis, without the costs, administration or risks associated with establishing a sole practice. The practice also provides educational opportunities for UDRH and RCS students, as well as registrars and residents.

As an example of building links with the local community as well as the health professional community, several UDRHs have focussed attention on the mental health needs of farmers and their families as a result of long-term drought. In one UDRH, academics arranged a series of community information sessions on mental health for farmers in a rural region of the State. This was felt to be helpful to the local community but also demonstrated the credibility of the academic presence in the region, and that the university was there to strengthen the community.

> *'The local presence [provides] so many more benefits than the fly-in-fly-out model.'* (UDRH academic)

Another UDRH is collaborating with a number of partners to trial a model of youth health promotion. One of the key aims of the Social Norms Analysis project is to empower schools and rural communities

to implement their own social norms interventions; the UDRH will develop a resource kit to facilitate this process.

All of the UDRHs have established a management committee or advisory board which includes community representation. These links appear to have been most advantageous in the early years of the UDRHs, when they were establishing themselves within the community and were seeking to build relationships with local leaders. For those UDRHs which have been operating for quite some time, this formal relationship with community members is supplemented by other relationships which have developed over time through UDRH involvement in local projects and initiatives, and by UDRH staff developing personal and social relationships through residence in the town.

Engagement with Indigenous health practice

Indigenous health is considered to be a cornerstone of the UDRHs; it is named within their objectives and is spoken of by most staff as a priority. However, the degree to which Indigenous health is pursued as a priority issue is contested by some stakeholders. While most UDRH staff indicated that Indigenous health and engagement with communities was important, others, including some Indigenous staff and community members, felt that the depth of community consultation and relationship with the local UDRH could be improved.

Nevertheless, the focus and achievements of a number of UDRHs in relation to Indigenous health issues must be recognised.

Over several years *Monash University Department of Rural and Indigenous Health* has invested in Indigenous education programs, with an Indigenous Health Unit involved in teaching, research, and projects that investigate and deliver information about Indigenous health to students in all disciplines within the faculty. The inclusion of Indigenous health and its social determinants are now compulsory components of the undergraduate curricula in medicine, nursing and some health sciences. The Indigenous focus of *MUDRIH* is reported to reflect the commitment within Monash to ensure students across disciplines have access to Indigenous health practice.

The *Northern NSW UDRH* is currently developing a large-scale longitudinal study investigating the health issues of Indigenous mothers and their babies, aiming to address the high rates of low birth weights and poor health outcomes for Indigenous babies in the region.

In Whyalla the quality of care to Indigenous people has reportedly improved as a result of the *Spencer Gulf Rural Health School*. One of the student coordinators, who is also a health worker, is permanently located at the Pika Wiya Health Service (an Aboriginal Community Controlled Health Organisation). Students placed at the Pika Wiya are required to be closely engaged with health issues that affect the local Aboriginal community. For example, in one project students and AHWs conducted home visits and spoke with pregnant women, identifying the issues and barriers which affected their attendance at the health service. As a result of this research, special clinics have been initiated to conduct comprehensive health assessments aimed at finding practical solutions to health issues. All allied health students involved in a rotation at the Pika Wiya health centre do self-directed projects and produce resources for the centre that aim to benefit the local Aboriginal community.

Many UDRHs work with local AMSs to facilitate short-term student placements for nursing and allied health students. During these placements the students might assist with clinical practice under supervision, or undertake projects to support practitioners. An example of this includes the media student placements undertaken by the *Combined Universities Centre for Rural Health*, in which *CUCRH* has provided opportunities for media students from Edith Cowan University to work with rural radio stations, newspapers and the local AMS to develop positive and culturally appropriate health promotion messages. This project is facilitated through the structures which already exist for allied health and nursing placements.

While it is commonly stated that these student placements are benefiting local Indigenous communities, some stakeholders have mentioned an ongoing concern that decisions regarding the placements, their frequency, and the impact on the service providers and clients, need to be consistently negotiated with the local service and not simply assumed. The level of genuine reciprocity in the relationship between UDRHs and Indigenous services was questioned by some informants who felt that there could be

improvements in the way in which UDRHs seek to build partnerships with local Indigenous health services for the purposes of providing student training.

> *'Community members notice these things. There used to be a sign up saying that we were partners but the sign was taken down.'* (Indigenous community member)

One of the most consistent areas of activity is not in the area of direct Indigenous health service provision, but in the delivery of cultural training to non-Indigenous students and health practitioners. This appears to be an area where there is a continuing need for training, but where deliverables can be measured, and results are evident in increased understanding of Indigenous cultural issues and their effect on health service access.

> *'We provide 'cultural proficiency' training, try to get people to see what the 'other' looks like…it will help service delivery [if people understand what Aboriginal people perceive].'* (Indigenous UDRH staff member)

Table 8 presents the number of students receiving cultural awareness training as part of their placement.

Table 8 – Number of students receiving cultural awareness training each year as part of their UDRH placement[25]

Cultural awareness training	**2004**	**2005**	**2006**	**2007**
Number of students	958	947	1018	1681

The level of training and educational opportunities for local Indigenous communities differs considerably. Several UDRHs have provided training for Aboriginal Health Workers to certificate level, and provide ongoing training for AHWs once they are qualified.

> *'It's not possible for lots of people [to go to the city to train] so we went to [remote town] and ran the course there. Twenty people signed up and 19 finished…it's an important process, people without an education getting training; it's given them a choice.'* (UDRH Indigenous academic)

Table 9 below demonstrates the number of Indigenous students that have participated in units and courses delivered by (or in association with) a UDRH. There does not appear to be a consistent trend to these results, with no clear increases in numbers over time.

Table 9 – Number of Indigenous student enrolments in units/courses delivered by a UDRH[26]

	2004	**2005**	**2006**	**2007**
Number of Indigenous student enrolments	138	148	52	103

Some UDRHs have embraced the role of providing a model for increased participation by Indigenous people in mainstream health services, by promoting and employing Indigenous people themselves. The presence of Indigenous staff has also been noted as a key success factor to developing positive working relationships with local Indigenous communities. Eleven percent of UDRH staff are Indigenous (ARHEN, 2007). Some UDRHs have made a deliberate effort to employ a number of Indigenous staff

[25]Figure includes undergraduate and postgraduate students
[26] The UDRH must be responsible for 50% or more of the teaching. Figure includes undergraduate, postgraduate and vocational units/courses

appropriate to the local demographics, and in a few UDRHs Indigenous staff members are employed at senior staff levels. However, across Australia in general there is a lack of senior representation by Indigenous academics, and this has been noted by Indigenous staff themselves.

> *'What's really lacking is Aboriginal people in senior positions, it's a thorn in the UDRHs' side. The universities are not generally welcoming, and there is a lack of leadership roles [e.g. Aboriginal people at A/Professor and Professor levels]. There are no Aboriginal directors of UDRHs.'* (UDRH Indigenous academic)

Another said,

> *'In the beginning I felt that people weren't listening – there was no one except me – but it's grown…the UDRHs needed to be doing more, but now it's getting better. It was mostly the medical model early on, but it's changed.'* (UDRH Indigenous academic)

There was a general sense expressed by UDRH staff involved in Indigenous health that the UDRHs were sincere in their desire to address the community and population health issues and to contribute to improving Indigenous health. It was acknowledged by some UDRH staff, however, that the way in which this was pursued in the beginning was not always sensitive to the culture of Indigenous people. On the other hand, a staff member of an AMS believed that their local UDRH had been very understanding and culturally appropriate in engaging with the community, providing locally relevant health promotion material as well as student placements, which the informant considered to be valuable.

> *'It's two way – we both receive…it's a partnership neither side takes for granted.'* (AMS staff member)

The ability to provide greater opportunities for Indigenous staff as well as professional development pathways is an issue identified by ARHEN (2007) in their paper regarding the future role of the UDRHs. One Indigenous staff member suggested that training needed to start even earlier than current initiatives, sending positive messages to children before they even reach school that there are opportunities available to them so that they can see education as a positive undertaking.

> *'Capacity building starts with ante-natal clinics, then when kids go to school you need to nourish them, give them evidence that education makes a difference.'* (Indigenous UDRH staff member)

Case study – Capacity building for Indigenous health providers

Sylvia was working as an Indigenous Health lecturer at a remotely located TAFE when she first encountered the *Combined Universities Centre for Rural Health*. At the time Sylvia was restricted to teaching early level courses due to her limited formal qualifications. She found it frustrating, but further studies felt out of her reach due to family constraints. *'I had to hold back from over-teaching even though the students were keen.'*

Sylvia was encouraged to do some part-time work with *CUCRH* and in doing so discovered a new Graduate Certificate in Indigenous Health Promotion course that the UDRH had developed and was delivering. Completion of this course would enable Sylvia to teach higher level courses herself. The course was well suited to Sylvia's circumstances as it offered support and allowed a flexible self paced learning style which could fit around her work and family commitments. Sylvia took up the opportunity and soon found that she loved it. *'It was great - knowing that I did have a brain and something to offer.'* Within a year of starting she had completed the course.

This success encouraged Sylvia to enrol in a Bachelor of Nursing that was also coordinated locally by *CUCRH*, who provided her with tutorial, travel and accommodation support, as well as assistance in liaising with the university. She had access to all the facilities at *CUCRH*, which included her own office space. Arrangements were also made for her to receive a fellowship to work on a *CUCRH* project which would be included as a course unit. Sylvia graduated with three others from the region. A special local graduation ceremony was arranged which was attended by family and friends, *CUCRH* staff and staff who travelled from the base university.

After graduating, Sylvia entered the hospital graduate program, which then led to a full time hospital position. Following this she was offered a position on an Indigenous workforce project at *CUCRH*. The position sounded challenging, but Sylvia felt able to take it on with the knowledge of the support and encouragement she would receive.

Two years later she is still with *CUCRH*, enjoying working on projects that she sees have a direct positive impact on Indigenous communities in the region. She continues to develop her own skills and says *'I really surprised myself with some of the things I've learnt.'* Most importantly, the UDRH offers the flexibility she needs to maintain her family commitments and she feels blessed to work somewhere that is trusting and supportive. Sylvia now has her sights set on postgraduate studies.

Relationships with other initiatives

The Rural Undergraduate Support and Coordination Program (RUSC) provides funding for medical students to undertake short-term placements in rural locations (see Program parameters in Appendix E). The RUSC Program pre-dates the UDRH and RCS Programs, and was part of a strategy to increase rural exposure opportunities for medical students in order to encourage rural medical careers. RUSC funds are given to the university medical school, and the way in which the funds are disseminated differs according to the university structures and priorities. Some universities retain the RUSC funding within departments of general practice, while others apply the RUSC funding through the RCS Program. In some instances, RUSC funds are devolved to the UDRH, for the management of a particular rural exposure program for medical students. In at least one instance, this is considered to deflect attention and core funding (through provision of staff time and administrative costs) away from providing opportunities to nursing and allied health students in favour of coordinating a large number of medical student placements. Some UDRHs combine RUSC funding with their own programs to provide a multidisciplinary experience of rural life, bringing together students from a range of disciplines to spend a week together in a small town, exploring areas of health delivery and learning from each other about each discipline's approach to health needs.

There is some potential for administrative efficiencies to be gained through integrating the coordination of student placements. In one co-located RCS/UDRH site, one support coordinator organises placement of all students through the RCS, UDRH and RUSC programs, thus streamlining program and

student placement management. In another, prior to the establishment of the RCS the UDRH had a major focus on medical student placements. Under the co-located model, the medical students are now channelled through the RCS, freeing up UDRH resources to refocus on nursing and allied health students, and other areas of the UDRH mandate such as support, professional development and research.

A UDRH's relationship to the local RCS differs from university to university as well. In some instances, the Programs are integrated to the point of inseparability, as at Shepparton where the University of Melbourne's *School of Rural Health* incorporates both the RCS and the UDRH. Here, the UDRH pre-dated the RCS and the integration of the two has led to the influx of a considerable infrastructure as a result of RCS funding, infrastructure such as library and clinical simulation facilities which have benefited students from the UDRH as well. While funding streams remain separate for transparency and accountability, in practice staff work across both Programs and the School promotes a single identity for health education and support for the local workforce. In other locations, the UDRH and the RCS retain collegial relationships without overt collaboration.

Most UDRHs have developed collaborative relationships to varying degrees with other workforce support initiatives such as the General Practice Networks (formerly the Divisions of General Practice) and the rural workforce agencies. Depending on the local circumstances, UDRHs may also work closely with the Royal Flying Doctor Services and other non-government or private service providers, and almost invariably the UDRHs have developed relationships with an extensive network of local service providers, from paramedics to hospital nurses.

ARHEN has been successful in acquiring funding for a number of projects which bring together researchers from individual UDRHs and provide a national perspective on rural health issues; the Allied Health Service Program Review is one example of this (Larson, Stirling, Burch, ARHEN 2007). Members of ARHEN generally felt that there is great potential for more collaborative work of this nature and that much could be achieved by working together across UDRHs.

4.5 Enabling and limiting factors

4.5.1 Enabling factors

A number of key factors were identified which had led to the achievements of the UDRHs to date. While each UDRH had its unique characteristics of local geography, personalities, and confluence of circumstances, several foundational characteristics appear to be required for the UDRH to reach its objectives. These are outlined below.

Leadership

Several of the UDRHs are still lead by their founding Directors, providing a sense of stability and continuity both within the individual site and amongst the Program nationally. Because of the broad nature of the UDRHs the leadership within the national Program is accordingly diverse, including both clinicians and non-clinicians. This diversity has contributed to the different ways in which UDRHs have operationalised their remit in their local regions. In many ways, the perceived visionary leadership of the UDRHs, particularly with an emphasis on multidisciplinary, community-based team practice, has attracted those with similar views regarding the primacy of a multidisciplinary primary care approach to rural health services. This approach, grounded in a population health philosophy, has created the culture of networking and relationship-building which has characterised the work of the UDRHs.

> ' *'The boss' is the main reason I came* [to the UDRH]. [the Head] *is visionary, provides leadership, is supportive, has created a culture of teamwork rather than competition.'*
> (UDRH staff member).

It was also noted that the character of the leadership influences the culture and focus of the organisation.

> *'In other UDRHs people are not always given that respect and allowed to run with things; the environment at [this UDRH] is quite unique, different from other UDRHs; there's a flatter structure, it's much more team based; there's a willingness to work together and support each other, lots of training on working together as a team, making sure we're all linked in; the strength is the management style.'* (UDRH staff member)

The heads of each UDRH form the executive board of their peak body, ARHEN, and through this body the combined UDRHs have contributed to advocacy for rural health services at a national level.

A majority of staff who were consulted exhibited enthusiasm, passion and outstanding commitment to their own work and the work of the UDRH. Indeed, as one Department Head commented,

> *'We tend to find the staff first, and then create a job description… It's the quality of the staff that makes it work.'*

Vision and strategic planning

The vision of transformation of the rural health workforce has been a sustaining driver for many working within the UDRHs. Small but real successes, such as the retention of a nurse or psychologist within the community, or the ability of a physiotherapist to undertake graduate studies while remaining in practice in the country, are celebrated as evidence of the UDRH contribution to the provision of rural health services and, by extension, to the quality of life for people living in rural communities.

UDRHs depend upon the development of community, regional and national relationships for their survival. Their limited core funding requires UDRHs to seek outside opportunities to achieve the objectives which have been set for the Program. These have taken the form of partnerships with local health services and other health service agencies, applications for grant funding from a range of funding bodies, links with community groups and health professionals, and contractual arrangements with State/Territory-funded health agencies. This has been named as some as the catalyst for innovation, and a contributing factor to improved population health services and research.

Supported information technology

The establishment of high-quality, cutting-edge videoconferencing technology in regional, rural and remote locations has been one of the greatest enablers, and also one of the most significant achievements, of the UDRH Program. Facilities which allow videoconferencing mean that distance learning opportunities can be provided to people hundreds of kilometres away from the lecture theatre, or that academic supervision can be given for individuals undertaking research projects in remote locations. Increasingly lectures are also available as podcasts so that students can access them at their leisure. Access to the internet and electronic access to university library resources have also facilitated health practitioners' ability to undertake continuing studies or research while remaining in practice. These same facilities have also made the option of rural placements and training more attractive to students.

Crucial to the success of the IT in facilitating UDRH programs, however, is the support provided by dedicated, full time IT staff, the presence of whom minimises the frequency and impact of inevitably occurring difficulties (e.g. with video conferencing, and internet connections). The IT facilities are also costly to install and require ongoing investment and maintenance to ensure that the capacity of the system meets the requirements of providing distance learning and other communication opportunities to rural and remote Australia. The full potential of the IT resources has not yet been realised, with UDRH-university linkages only being as good as the current band width allows.

4.5.2 Limiting factors

Funding

A number of staff spoke of the UDRHs as 'fragile' due to the restricted funding of the UDRH Program, with one staff member indicating that a number of positions and program opportunities would be lost in the next year, because of the inability to stretch the current funding to cover the increasing costs of employing staff. Other UDRHs have acknowledged the difficulty and have increased their efforts to create partnerships and innovative projects which allow for sharing of resources with other agencies. All UDRHs, however, have indicated that the ability to continue to provide the range of projects and opportunities will be compromised in the future without a real increase in the funding for the Program.

There are two additional consequences of the limited funding which arise: the inability of the UDRHs to provide an adequate level of resourcing and support for the increasing number of students who undertake placements, and the potential for staff burnout in light of increasing demands on UDRHs without a corresponding ability to employ staff to meet those requirements.

A defining characteristic of UDRHs has been their innovation in approaching research, training and partnerships. One way of approaching the limitations of funding might be to develop a separate pool of innovation funding, which would allow those UDRHs who are seeking to grow and develop to apply for additional, competitive funding to support research and development in partnership with State- or Territory-funded and private health services, community organisations, and other agencies. Creating a separate pool of funding which could be accessed (by competitive application) to increase their revenue might relieve some of the pressure felt by some UDRHs who are eager to explore new models of service delivery and population health responses, but are constrained by the lack of resources to do so. It was noted by several informants that the time required simply to find and then apply for alternative sources of funding is costly, so the availability of a dedicated innovation pool might also ease the pressure of seeking other funding sources.

The need to provide financial support, accommodation and/or bursaries for students is an additional limiting factor which impacts on the operation of UDRHs. Students who travel from the city to the country for short-term placements often leave family and work commitments behind; in addition, due to the short-term nature of placements many students continue to pay rent or mortgage payments for their urban accommodation. Students sometimes face a significant cost in undertaking a rural placement. Most UDRHs have sought to provide some form of accommodation or at the least a bursary for students. In some areas, particularly those experiencing a mineral boom or population growth, accommodation is in short supply and prices have risen astronomically in recent years, as have associated costs of petrol and food. This provides a strain on both the UDRH and the individual students. Addressing the costs incurred by nursing and allied health students (which are not usually faced by medical students due to the greater level of resources available) might assist in ensuring that the placements are positive experiences which can influence later career decisions.

Disciplinary silos

There is an increasing understanding of the positive impact of multidisciplinary teamwork in health services, and of the benefits of interprofessional education. Breaking down disciplinary silos, that is, integrating training in various health disciplines has been identified by many informants as a benefit of the UDRHs. A strongly community-based, population health approach to rural health care services is evident within all UDRHs. The fact that UDRHs assist with placements and training for all health disciplines ensures that there is a range of perspectives, and cultures, regarding the provision of health services. Many participants stated that creating a strong, multidisciplinary workforce was an important goal for the future of rural health care. Others spoke of the opportunities which UDRHs provided for students from various disciplines to interact with and learn from each other, inculcating at an early stage the idea that health care provision could (and should) be multidisciplinary.

However, the size and scale of medical education (including the considerable material support available for medical students) ensures a continuing perception that medicine is the primary focus of health care services – to the detriment of nursing and allied health care disciplines. This is markedly more evident in UDRHs which are co-located with established RCSs There are a number of reasons for this continuing perception:

- Although numerically the number of nursing and allied health students is greater than the number of medical students, medical students generally undertake longer term placements and are therefore more visible within the community;
- The funding of medical students is so disproportionate to the support available to nursing and allied health students as to perpetuate the perception that medicine is commensurately more important than any other discipline.
- The funding provided to UDRHs (which have a multidisciplinary mandate) is significantly less than the RCSs (which have a single disciplinary focus on medicine). Importantly, this extends to the ability to fund or otherwise support clinicians who have academic or supervisory roles.
- The fact that rural placements are mandated, and quotas issued, by medical programs, whereas they are not by other health disciplines, appears to impact on the importance placed on medical placements.

While recognising that the medical workforce is crucial, and that there are higher community expectations of the need for doctors in rural settings, it is also true that other disciplines are essential to a functioning health system. Addressing the balance at the student level in terms of support for students may assist in strengthening nursing and allied health recruitment and retention.

Dependence on State/Territory health services

With their multidisciplinary focus, the UDRHs relate closely to State- or Territory-funded health services, hospital-based services, and local private providers who may also work within the public health system. The ability of State or Territory health systems to provide placements for students, particularly nursing students, is critical in the aim of training students outside of the metropolitan teaching hospitals. One particular challenge is the widespread reliance on locum doctors or agency nurses, which does not provide the stability or continuity needed for teaching and supervision.

> *'There's an explosion of agency staff – it's attractive for them and they earn a lot but there is resentment from staff nurses and less commitment from transient staff – it's hard on the permanent staff.'* (UDRH nursing academic)

The recent *Report on the audit of health workforce in rural and regional Australia* (Department of Health and Ageing 2008b) found that on the whole nurses were evenly distributed across the nation, there were distribution variations in some rural and remote locations, and under-representation of some specialties, such as midwifery and mental health nursing. The audit also noted that there was a shortage of clinical educators available to teach and supervise within public hospitals.

The ability of the health system to accommodate increased numbers of students is a key factor in ensuring that the investment in the UDRH Program leads to a return through creating additional rural practitioners. However, as will be discussed in the next chapter, these workforce initiatives are interdependent upon the larger health system, with the UDRH needing to work with health services to provide training placements, and health services needing to gain rural-ready clinicians.

Difficulty in recruiting

UDRHs recognise that they themselves are contributing to the rural health workforce by recruiting and retaining health academics and clinicians. The presence of university infrastructure in rural settings has been noted by many as a positive influence on a local community, by encouraging students to see the possibility of a rural health career, by providing opportunities for local health professionals to continue their education, and by indicating a commitment on the part of the university and the government to the

viability of rural communities. However, the UDRHs face the same difficulties in recruiting and retaining staff as do the health systems they are seeking to support.

> *'We are very 'fragile' in terms of staffing, but having staff here contributes to the local workforce, if we weren't here, people with an interest in academia wouldn't have stayed.'* (UDRH staff member)

4.6 Summary

The UDRH Program has been well established, ten years from its inception, and all eleven UDRHs are meeting the objectives of the Program. Nationally, the UDRHs have made significant contributions to rural clinical training, rural health service innovation and population health research, and increased rural community engagement with health promotion and population health awareness.

There is anecdotal evidence that rural student placements reinforce student intentions to practice rurally, and also evidence that some practitioners have been recruited to rural practice because of the presence of the UDRH. There is also evidence that the UDRHs have influenced rural and remote practitioners to remain in practice, through providing additional professional and personal networking and support, professional development opportunities, access to university resources, and incentives to undertake research.

Overall, UDRHs have demonstrated strategic leadership and vision in creating a rural university infrastructure which can influence the development and improvement of rural health services, and have increased communication and knowledge transfer through increased information technology. Challenges to the Program include funding constraints, disciplinary silos, and difficulties in recruiting staff and ensuring the capacity for clinical placements. However, each UDRH has sought to minimise these limitations and to maximise their capacity to strengthen the rural health workforce.

5 Rural Clinical Schools Program

5.1 Introduction

This chapter presents information regarding the national RCS Program, including:

- the establishment of the national Program, and the various medical education models which have emerged;
- a review of the achievement of Program objectives;
- the impact of the Program on national rural health workforce capacity;
- the effectiveness and future role of the Program; and
- enabling and limiting factors contributing to the Program's achievements to date.

5.2 Background

The Rural Clinical Schools (RCS) Program was launched in 2000 to enable medical students to undertake extended blocks of their clinical training in regional areas. It differs from other, pre-existing regional medical training placement programs (e.g. the Rural Undergraduate Support and Coordination Program and the John Flynn Placement Program) because of its scale and scope: rural clinical schools are charged with delivering significant components of the medical curriculum in a rural environment, and are an integral structure within the host university medical school, with students undertaking a year or more of their medical training in a rural location. The RCS Program complements other placement programs which provide students with short-term opportunities to experience rural medical practice, and in many instances students who have undertaken short-term placements have been inspired to apply to an RCS for part of their training. The development of the Rural Clinical Schools Program has allowed construction and furnishing of teaching and learning facilities and student accommodation in dozens of rural and regional locations across Australia.

In broad terms, rural clinical schools exist to:

- encourage medical students (and medical professionals) to take up a career in rural practice;
- encourage rural health professionals to take up academic positions;
- improve the range of rural health care services in rural communities across Australia; and
- strengthen the health workforce in rural communities across Australia.

A model for these initiatives was first provided by the UNSW School of Rural Health, which established a campus at Wagga Wagga Base Hospital in 1999. The *Flinders University RCS* has also become recognised as a pioneer in community-based medical education in Australia, and has developed a model that has been adopted up by other schools in Australasia and 'across the Western world' (Wing, 2007: 344).

Of the 14 rural clinical schools across Australia, 10 were established between 2000-2001 and another four were launched in 2006-2007. This second round of RCS funding (including additional funding for the older RCSs) occurred in the wake of the 2006 announcement from COAG that 25% of all Commonwealth-funded medical students are to undertake at least one year of their clinical training in rural and regional communities. This decision recognised the influence of rural exposure during medical training upon students' decisions to undertake rural medical practice. A majority of medical schools in Australia are now in receipt of RCS funding.

The Department's *Parameters for Funding Rural Clinical Schools* are as follows (emphasis added):

- **Minimum student numbers** are to be met, based on 25% of DEEWR-funded places undertaking one year or more of their rural clinical training in a rural area (RRMA 3-7);
- Students are to be provided with a **range of experience** consistent with Australian Medical Council requirements for medical curriculum;
- Universities are to recruit and appoint **staff who (will) live and work locally**, including a full time coordinator, academics and administrative staff;[27]
- A maximum of **5% of the budget is to be utilised in the capital city,** unless otherwise approved by the Department;
- Universities are to engage and maintain **links with their local community/ies**. This includes organisation and chairing of a Community Advisory Board that comprises a broad range of representatives from the local community and government service delivery agencies;
- Universities are to work collaboratively with the local community, the state health department and other local tertiary institutions to **maximise the utilisation of local facilities and expertise** (e.g. student accommodation, travel and information technology resources);
- Universities are to maintain close **liaison with the Department about ongoing needs** regarding information technology, telecommunications, accommodation and infrastructure;
- Universities are to develop **transparent internal evaluation mechanisms** that will support external evaluation processes; and
- Schools are to endeavour to progress the rural health agenda (including research) within the medical faculty, other relevant health faculties and university departments to maximise the **efficient use of resources across rural health programs** (including RUSC and UDRH).

In general terms, medical degrees[28] commence with 'pre-clinical education' (e.g. anatomy, physiology) and then progress to 'clinical education', during which students see patients and medicine in practice. As students progress through their degree, they become increasingly involved in practical medicine – both in hospital and community settings – e.g., taking a patient's history and undertaking a physical examination, administering injections and assisting in medical procedures.

The traditional model of clinical medical education (still dominant in metropolitan settings) is for medical students to undertake consecutive terms that each cover a certain field of clinical practice (e.g. 6 weeks in the paediatrics ward, followed by 6 weeks in general practice, then 6 weeks back in hospital on a general surgery rotation).

Rural clinical schools have developed a number of alternative models for clinical education – divergent from the traditional model described above, and also different from each other.

Many of those that operate in large regional centres have retained a hospital-based approach but, in a departure from the traditional model, provide what the *University of New South Wales RCS* describes as an 'integrated teaching program' of patient-centred learning:

> *'Students work closely with several patients, following them through their treatment and closely observing and participating in total patient care, and gaining a holistic view of medicine. The Year 5 curriculum in paediatrics, obstetrics and gynaecology, psychiatry and community medicine is* ***integrated into two semesters rather than distinct terms****. This allows students to be attached to, for instance, a woman in the late stages of pregnancy, to*

[27] If it is not possible to appoint a coordinator who lives and works in the region, universities are to appoint a senior academic who lives and works locally.

[28] Medical degrees in Australia have been changing over the past decade, with ten medical schools now providing four-year graduate entry programs, and 12 maintaining traditional six-year undergraduate entry programs.

follow her through the delivery and see how the baby progresses over its first few months.'[29]

Essentially, this integrated teaching program means that rather than having separate clinical disciplines taught in separate blocks of six or twelve week terms, the disciplines are integrated across the entire year's curriculum. This model of medical education is reportedly better suited to the health workforce dynamics of regional centres, where specialists on the wards are often visiting medical officers (rather than hospital staff) and sometimes work only part time. The model also accommodates the lower incidence of certain patient presentations in regional areas – i.e. six weeks may be too short a time period to provide a sufficient variety of cases in a field of clinical specialty.

A further diversion from the traditional model is for students to undertake this integrated clinical education based in community settings rather than hospital settings. This model originated from Flinders University, and is sometimes referred to as the 'Riverland model' after the area in which it was developed (in the late 1990s):

'The PRCC (Parallel Rural Community Curriculum) students who move to the … regions for the academic year are based in General Practice and local health services to prepare for the [Year 3] exams.

'Through the year the students must learn all of their medicine, surgery, paediatrics, obstetrics and gynaecology, general practice and psychiatry in exactly the same way as students based at Flinders Medical Centre. However instead of rotating through a sequence of discrete terms (medicine, surgery, etc) as their city-based peers do, the PRCC students learn these disciplines in an integrated way throughout the year. Although students are allocated to a specific general practice and have a GP Supervisor, the year itself is NOT only a general practice experience.

'Students are expected to attend clinical activities related to all medical domains. They will encounter patients in the general practices to which they are attached and then follow them through primary care and the hospital system. At the end of the year the PRCC students sit exactly the same exams as their FMC-based colleagues in all clinical domains.'[30]

There are variations of the above two models, and some RCSs run hospital- or community-based models in different locations, depending on the health service infrastructure available. The RCS in Western Australia has developed its own framework, called the Clinical Learning Embedded in Rural Communities (CLERC) program.

'The students' clinical placements occur in General Practices, local Hospitals, Community and remote Clinics, Aboriginal Medical Services and other health facilities. The [10] sites are heterogeneous in many respects, and accordingly are granted significant autonomy in the delivery of the program…

'The content (and outcome) of the curriculum is identical to the urban curriculum, but it is delivered in a significantly different way. The students are taught and assessed (examined) to the same standard as the urban students and the results are entirely comparable to the urban programme.'[31]

James Cook University (JCU), the University of Newcastle and the University of Wollongong are the only three RCS-funded universities whose main campuses are located outside of capital cities. All three universities have a regional focus across their entire medicine program, so from a student perspective there is little (if any) distinction drawn between clinical terms made possible by the RCS Program and those that would have been available otherwise. While to date the University of Newcastle's approach

[29] rcs.med.unsw.edu.au/ - emphasis added

[30] som.flinders.edu.au/FUSA/GP-Evidence/rural/

[31] www.rcs.uwa.edu.au

has been similar to an urban-based program, with the focus on metropolitan hospitals, the introduction of its Joint Medical Program with the University of New England at Armidale will mean a significant proportion of students will spend most of their undergraduate time in a rural area.

For James Cook University, the RCS can be considered as:

> *'…the distributed rural clinical teaching infrastructure that supports longer rural and remote clinical teaching across Years 4-6 of the course. This includes 8-week rural attachments in Years 4 and 6 for all students as well as Years 5 and 6 for the group of students based at Mackay and Cairns.'*[32]

JCU has developed a model with a particular emphasis on regionalised community capacity building, partnerships and infrastructure delivery across sites.

For the University of Wollongong, the RCS activity is even more seamless – *all* students will undertake extended rural placements and do their third year clinical training through what the university calls 'Community-Based Medical Education' (based on the Riverland model).

Most RCSs have their 'head office' at one of the RCS training sites off the main university campus. However, UNSW and the Australian National University (ANU) are two universities that have an RCS 'campus' at their base location, in Sydney and Canberra respectively. For UNSW this is a function of history: the 'Kensington office' of the RCS is the former Rural Health Unit of the School of Community Medicine, which predated both the UDRH and RCS Programs. Among other things, this small office administers special entry programs and coordinates RUSC-funded student services; the UNSW RCS 'head office' is located at the Wagga Wagga RCS.

The plurality of models evident between (and within) RCSs demonstrates a strength of the Program's administration by the Department, as RCSs have been free to design and deliver programs that utilise the capacity of the health services in their region (hospital and otherwise) to provide the range of clinical experience required by their university's medical curriculum (see Program parameter 2 on page 61).

While the expansion of clinical education into 'alternative teaching settings' has been enabled in rural settings by the RCS Program, there has been no such funding program available for metropolitan clinical schools. As a result, rural clinical schools are at the forefront of this developing area of medical education.[33] This has been recognised by many within the university environment, leading to some suggestions by consultation participants that medical schools could also develop alternative teaching settings in urban and suburban locations.

This evaluation has found no evidence to promote any particular model as 'better' than any other, in terms of educational or workforce outcomes. Each university (and its RCS) has placed an explicit focus on the quality of the educational experience provided to students; this is regarded by RCSs as fundamental to their *raison d'etre*, and is not an area where RCSs would (or would be allowed by their university to) cut corners. Indeed, the diversity across the RCS Program is considered to be a strength in modelling the diversity of clinical practice in rural environments while at the same time demonstrating the quality of care, and thus training opportunities, provided in such environments. This demonstration that clinical medicine can successfully be taught in rural Australia is considered by some to be the greatest achievement of the RCS Program to date.

> *'[The founders] had a vision to say there are GPs out there who can teach everything a 5th year needs to know.'* (RCS Head)

[32] http://www.jcu.edu.au/medicine/sites/index.htm

[33] See, for example, the Committee of Deans of Medical Schools (CDAMS) 2006 submission to the DEST Medical Education Study. http://www.medicaldeans.org.au/pdf/DEST_MEDICAL_EDUCATION_STUDY.pdf.

5.3 Achievement of Program objectives

5.3.1 Overview of the achievement of Program parameters

Overall, the RCSs have delivered convincingly when measured against the Program parameters, and in many cases are exceeding the requirements.

The first few years of an RCS's operation require a significant amount of 'gearing up' – construction and/or refitting of buildings, development of local teaching contacts, design of programs, establishment of training places, and development of relationships with the local community. As a result, some of the recently-launched RCSs are yet to operate to their intended capacity in terms of student numbers.

The more established RCSs now have a demonstrable track record, and derive considerable satisfaction from their achievements. Most are particularly proud of the *quality* of medical education provided to students, which they argue is the same or *better* than the quality of medical education available in metropolitan clinical schools. RCSs demonstrate this through a range of measures, including:

- strong academic results for RCS students (who in most universities sit the same exams as their city-based peers);
- positive responses from students, who speak highly of the individual attention they receive from senior clinicians in hospitals and other teaching settings, and contrast this to being *'three rows back, and the consultant wouldn't even know your name'* in metropolitan teaching hospitals; and
- increasing demand for RCS places, which the Schools regard as a consequence of the above.

As a result, some established RCSs routinely exceed the 25% requirements in terms of the student numbers or face the challenge of more demand for places than can be met.[34] There are some sites that have struggled to meet the quota. The reasons for this are unique to each site but may be related to the local demographics, training capacity of rural localities, the length of time the RCS has been established, or the way in which the RCS Program is promoted to medical students within the host university.

Staffing and recruitment strategies of RCSs have generally been effective, and feedback received in this evaluation validates the Department's requirement that senior staff live locally. Local origin of people in leadership positions, or their willingness to relocate and join the rural community, has been a key enabler for RCSs to successfully engage rural clinicians in the aims of the Program and to motivate other community leaders to support the initiative and to assist the students during their time in the location.

This community involvement and partnership is evident in all RCSs, with two primary outcomes:

- ensuring that an adequate number of good quality training places are available which will be sustainable, beneficial for the local community and sufficient for curriculum requirements; and
- ensuring that students are *'well looked after'* during their stay. Community support has been very strong in many locations, as the medical workforce shortage is of great concern to regional communities nationwide.

> *'I would like to see them over produce. I would like to see the glut back [in] the 70s where you had to be in the top 10 percent to get a job in a hospital, whereas [now] you take the bottom 10 percent of anything you can get. At the moment for me in a really operational clinical sense it is about workforce, boosting up the workforce.'* (senior hospital clinician)

[34] At some of the more established RCSs (eg University of Sydney, University of Queensland) positive word of mouth communication among students has reportedly resulted in demand for RCS places from students who have no inclination towards rural practice, but are simply interested in the enhanced training opportunities available in regional locations.

It was suggested by some informants within RCSs, universities and other agencies that, due to the level of funding provided, RCSs have not had to be as *'creative and resourceful'* as the UDRH Program, in engaging with and developing partnerships across a wide range of stakeholders. However, some RCSs have embraced an expansive understanding of their role in promoting innovation and development within rural health services in addition to their role as providing clinical medical training.

> *'I think you have got to be innovative in rural and remote health I think because when we need to come up with innovative solutions for local issues and each sort of local issue may be different, so innovation I think is a very important part of the rural clinical school activities.'* (RCS administrator)

It is true, however, that RCSs have had the funding to employ staff on competitive salaries or construct purpose-built facilities without necessarily needing to develop collaborative arrangements with other like-minded initiatives; however most RCSs have made efforts to build relationships with UDRHs, AMSs, health services and other health-related organisations such as general practice networks. Overall, the ability of RCSs to provide for their own needs has been beneficial for rural health education or rural communities: on one level the amount of money available through the RCS Program has enabled a high quality of medical education and the development of significant educational infrastructure; on another level the presence of RCSs has also benefited a range of other programs and initiatives, which in many cases have been able to utilise the people and facilities available through the RCS.

Rural clinical schools have also been perceived as promoting rural health within their universities, beyond the initial novelty of new buildings, new staff and new student pathways created by the Program, through demonstrating strong student outcomes and earning respect as equal partners in the university's medical faculty rather than *'the poor cousin from the country that nobody wanted to know about'*. For many, this has been hard won through confronting traditional stereotypes about rural Australia and the quality of medicine practiced in rural communities and patiently demonstrating that clinical teaching in a rural setting can be as effective as in the urban environment.

> *'RCSs are now seen as a godsend – 10 years ago they would have been seen as a threat'*.(RCS Head)

There are examples of RCSs building a significant research agenda (e.g. Flinders University in the Riverland, University of Western Australia and Notre Dame University, University of Sydney in Orange, University of Tasmania). However, research has not been a major focus for many RCSs, particularly those still in the establishment phase. Some schools have taken the view that their contribution should focus on the local impact of population health issues, or undertaking population health analyses which contributes to the local health system planning and investment. In other areas, like the Riverland under the *Flinders University RCS*, a more substantial research program has been developed, strengthened by the creation of a position dedicated to generating a 'research culture', which is seen as valuable in and of itself.

5.3.2 Issues arising in the achievement of the objectives

As noted earlier, RCSs have identified a series of key achievements, and most people involved with the RCS Program are enthusiastic about participating in what is perceived to be a very positive step in rural health education in Australia. However, there are three broad areas of consistent concern across RCS-funded universities.

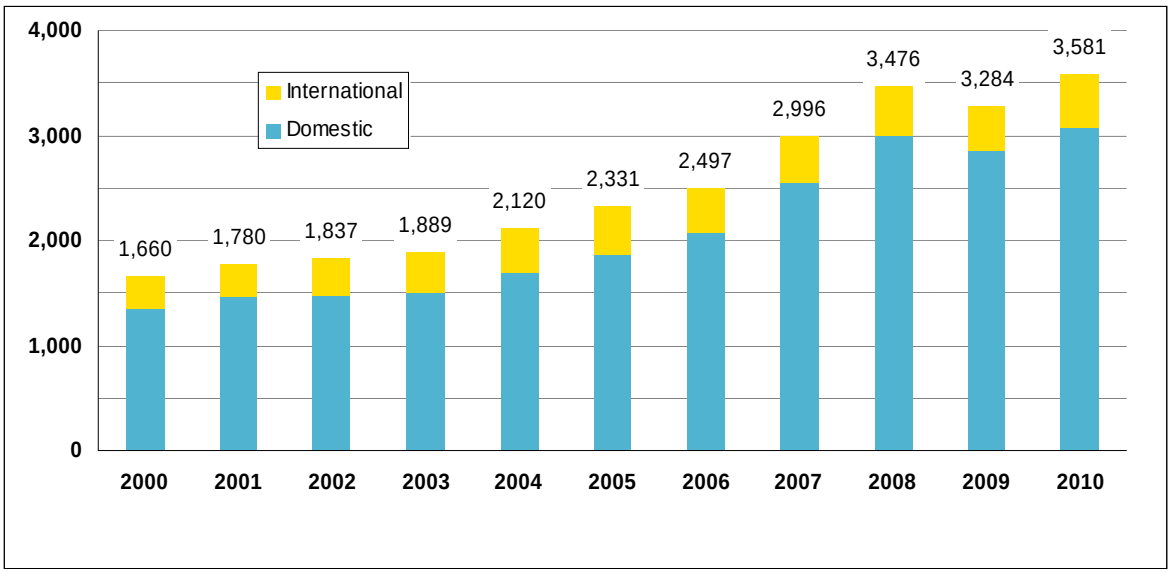
- Shortages in the current (and immediate future) health workforce, difficulties in recruiting some specialists (for example psychiatrists), and limitations in State/Territory hospital and health care systems impose natural limits to the number of long-term student placements that can be accommodated without jeopardising the quality of the educational experience.

  This is an important issue, as all RCSs are presently operating with a growth philosophy (looking both to recruit new training sites and to expand the number and/or duration of student placements in existing training sites) and the number of medical students nationally is also increasing steadily (see Figure 5 below).

- Preceptor burnout has been mentioned by many, particularly with regard to rural general practitioners, as a risk to the Program, particularly in the next five years until the expected increase in rural practitioners begins to be evident. *'The problem is being asked to be the solution'*, that is, those practitioners who are already overworked due to the shortage of doctors are being asked to assist in addressing the workforce shortage through increased teaching and supervisory roles.
- RCSs do not operate with the economies of scale which metropolitan clinical schools enjoy. Without ongoing Federal funding, universities would need to significantly downsize (or in some cases dismantle) their rural clinical programs and revert to running short term placements only (e.g. through RUSC).

Details regarding the implementation of the Program are found in section 5.4 below.

Figure 5 – Commencing medical students in Australia (Domestic and International) 2000-2010



Source: Medical Deans of Australia and New Zealand (http://www.medicaldeans.org.au/pdf/Table3.pdf)

5.3.3 Contribution to national rural health workforce priorities

In summary, there are some promising signs but no definitive answers to whether RCSs in Australia have (or have not) yielded higher rates of rural practice among participating students. However, there is evidence of positive attitudinal shifts towards rural training and practice. Some studies have suggested that an increasing number of students are seeking rural internships (Playford et al 2008, Wilkinson et al 2004), although these figures should be approached with caution as it is not clear to what extent this will translate into career decisions: Health Workforce Queensland (2008) reports that only 4.29% of former medical students from the two Queensland universities are working in RRMA 4-7.

There is also anecdotal evidence, from this evaluation, of workforce benefits from the RCSs through the attraction and retention of clinicians involved in teaching and supervision. Workforce outcomes are discussed in greater detail in section 5.4.1 below.

This evaluation has found some evidence of RCSs directly improving the range or quality of health care services in rural Australia; there are a number of instances where particular specialties that were previously not available in the community have become available because of a successful appointment by the RCS, sometimes as a joint appointment with the local area health service or UDRH.

There is some evidence of a contribution by RCSs to the national research agenda, although this varies from place to place. It is often identified through the provision of critical institutional infrastructure brought to regional locations (for example, enabling access to research libraries and resources). It is generally agreed that the priority of the RCSs in their establishment phase has been to create a

credible rural teaching infrastructure, and that the building of a research focus is the next priority as the RCS site matures.

5.4 Effectiveness and future role of the RCS Program within the context of the current national approach to improving rural and remote health services

This section discusses three ways in which the RCS Program has contributed towards national rural health workforce aims:

- increased student placements;
- capacity building for the existing rural health workforce; and
- increased rural health research capability and output.

5.4.1 Increased student placements

The number of medical students has increased each year for the past eight years (see Figure 5 in section 5.3.2) and is expected to do so for the next three years. In 2006 there were 379 medical students in the RCS Program (Department of Health and Ageing 2008a), and this figure is also expected to increase considerably over the next five years. It has been reported that the demand for rural internships is growing, and that the numbers of students actively seeking to undertake rural internships and rural vocational training has increased disproportionately to the ratio of rural-origin students (Playford et al, 2008)

> *'We clearly are beginning to see some return of interns to rural sites…we're seeing a number of students who have elected to return as interns, and I think some who are currently in final year who have indicated an interest in returning. The numbers are probably in the order of, I suppose, 5 to 10 students.'* (RCS academic)

Most RCSs have established mechanisms for student feedback (e.g. student satisfaction surveys, debrief sessions) but few have established mechanisms for evaluating outcomes such as actual career choices or long-term impact on workforce shortages. To a large extent this is because the earliest RCS students are only now finishing their vocational training and making those career choices. There are a few limited examples of research projects conducted by honours/masters students that have involved some tracking of medical students, but this has generally been small scale and intermittent and mostly involved students' stated intentions of career choices as they progress through intern years and vocational training. The FRAME (Federation of Rural Australian Medical Educators) Rural Clinical School Student Evaluation Project is a longitudinal tracking survey of RCS students which, similarly to the Medical Schools Outcomes Database (MSOD) tracking study of the Medical Deans Australia and New Zealand (MDANZ), hopes to establish over time a data set of RCS students, their characteristics and work intentions. Both projects are funded by the Department, the MDANZ study with the intention of tracking the workforce outcomes of all medical students and the FRAME study specifically to follow students who train with a RCS. Preliminary data from the FRAME study indicated a generally positive perception amongst RCS students of rural clinical practice, with 42.5% indicating a preference to rural practice for the future. Forty-seven percent of respondents came from a rural background. (DeWitt, Pallant and Cunningham 2008). There are inherent difficulties with this sort of tracking study, including participation rates across very dispersed sites, changes in student intentions over time, disparities between data collection across universities, and difficulties in tracking students as they enter the workforce. However, the FRAME project is a serious attempt to develop a comprehensive data set over time which will allow universities, RCSs and the Department to evaluate outcomes of RCS placements in terms of their impact on the rural health workforce shortage.

Case Study: Student numbers at the UNSW Rural Clinical School

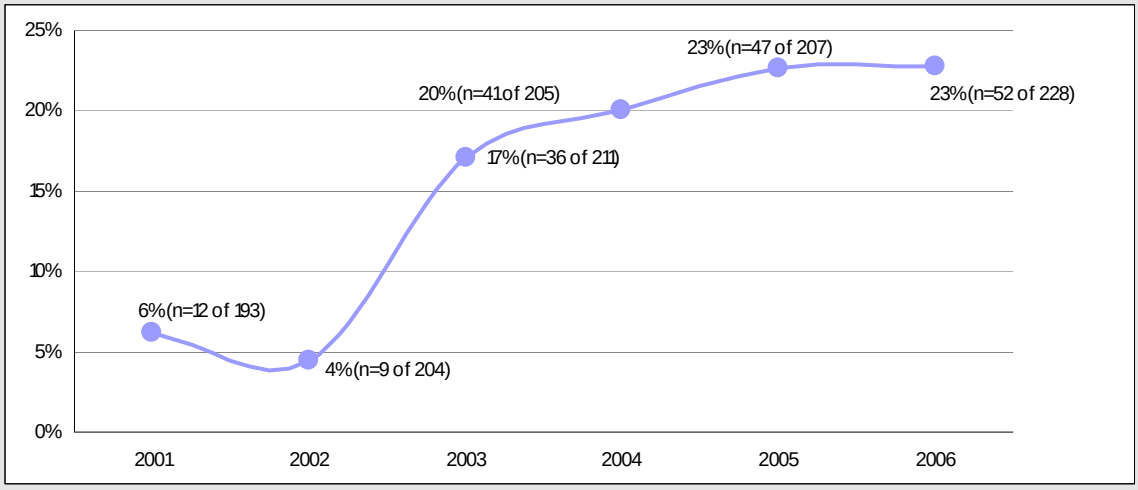
The *UNSW Rural Clinical School* includes four main campuses – two in the Riverina region of southern NSW (Wagga Wagga and Albury) and two on the State's North Coast (Port Macquarie and Coffs Harbour).

The chart below shows trend data from 2001-2006, tracking the number and percentage of fourth year UNSW medicine students undertaking their studies through the RCS. (The UNSW medicine course is a six-year undergraduate program).

These figures demonstrate the impact of new campuses and buildings as they are added to RCSs' portfolios over time. They also highlight the need for campuses to continue their expansion in order to keep pace with the growth in overall student numbers in medicine. For example, UNSW saw a 25% increase in RCS student numbers between 2004 and 2006 (from 41 to 52) – this only increased the *proportion* of 4th year students at RCSs by three percentage points (20% to 23%) due to the growth of the medical student population as a whole.

Note that the percentages are based on *all* medical students studying at UNSW, not just DEST-funded places. The '25% requirement' noted earlier in this chapter only applies to the number of DEST-funded places – UNSW consistently exceeds this.

Figure 6 – Proportion (and number) of UNSW 4th year students at a RCS, 2001-06.



Despite the limited evidence of workforce outcomes to date, all RCSs are convinced that they are part of making their university's program as encouraging as possible of rural practice (both in general and in that specific location), and that this is beginning to demonstrate outcome trends, particularly from the more established schools. The demonstrated secondary benefits of the Program, such as the attraction of the university infrastructure to the community, the opportunities for rural clinicians to teach and participate in academic life while remaining in the rural environment, and the increased understanding of medical students regarding the challenges of rural medicine are all considered to be valuable contributions to the university, rural communities, and the rural workforce.

- RCSs are well aware of the logic of the program – i.e. the established link between positive student experiences in regional areas and eventual work location decisions that students will make. Some of those involved in the RCSs are themselves a product of rural student experiences, and the willingness of such a large number of experienced (and scientifically minded) medical practitioners to give of their time is evidence enough for some that the Program has a solid foundation.

'This is not a pilot program that we're waiting to see if it works. As far as I'm concerned – as far as we're all concerned – this is the considered delivery of a proven long term model to address rural workforce shortage.' (RCS academic)*'*

- There is ample evidence of positive attitudinal shifts towards rural medical training and practice within universities and the medical education sector generally. For example, one RCS reported now being seen by some in the main campus as being *'at the frontier, not in a backwater'*. However, such cultural shifts takes time, and this is still an ongoing process in most universities.

  'The rural clinical schools are challenging the tertiary hospitals as the gold standard for educating our next generation of doctors, and we are incredibly lucky in [our university] because they sit around at the curriculum table and say "do you think we can do this as well as the rural clinical school does?"… It is challenging but it is incredibly rewarding, and there are – certainly there are people in the leadership positions in the university I believe that are really pro, but I think that they have still got some professors of disciplines that want to believe their world is the best way.' (RCS academic)

  'You only need one poor experience [for a student] to think it won't be good long term. So it needs to be a really good experience for people to want to go back.' (medical student)

- There is also evidence from all RCSs of workforce contributions having been made through attracting and retaining senior clinicians with the opportunity to hold a university appointment, which has led to their involvement in teaching and supervision.

  *'The RCS has provided a new zest for life; it gives you a bit of enthusiasm… after 20 years you get a bit jaded. It has probably helped others too. It's true that if you're a teacher you have less time to practise, but it also makes you a better practitioner.' (*clinical supervisor)

  'Seeing how invigorating that is to the clinician. It is really hard to measure, I haven't been able to think about a way to objectively measure, but people describe that it has renewed them enough to continue them working in an area which otherwise they might have become burnt out in, and that is incredibly powerful. If we are actually making a difference to the workforce here and now because we are extending people's working careers in rural areas, and I don't know how you measure that. That is a huge difference.' (RCS academic)

- A number of hospitals and general practice regional training providers also noted increasing numbers of Australian-trained medical graduates applying for positions as interns or as registrars in rural vocational training programs. In cases where these organisations could identify how many of these applicants were from the RCS/s in their area, the findings were mixed: some reported clear pathways from RCS to internship to vocational training all within the one area; others reported demand from rurally inclined students who had intentionally *not* gone to the RCS because they had wanted to get as much city experience as possible before doing their vocational training in the regions.

  'I have decided not to do a rural intern year, part of it is because the registrar I was with last year was fantastic and she did her intern training at [urban teaching hospital], and I saw how she managed – if we had to call someone or have to call [urban teaching hospital] to get some information or to send a patient out, she just had that intimate knowledge of how [the hospital] ran, how a big hospital runs, dealing with really sick patients. I thought she was a top doctor so I'd really like to model myself on that and I think I would like to get a big hospital exposure for this next year, and really throw myself in the deep end and then head back towards GP training after that.' (RCS student)

- There is anecdotal evidence that the teaching and research infrastructure provided by RCSs contributes towards positive professional learning and development outcomes for those practitioners who access those opportunities.

> *'I think the rural clinical schools provide a type of professional enrichment that was very difficult to gain within the context of rural medicine previously.'* (RCS academic)

One of the challenges of this evaluation is that even where the intended outcomes are achieved (i.e. the student goes on to work rurally), there is no way of knowing the counterfactual – i.e. whether they would have chosen to work rurally if they had not taken part in the RCS Program. As one student commented:

> *'We're all bonded in some way so maybe the place is wasted on us. I would have come out here anyway. Do you give the place to people who are already committed or to someone who's bonded, or to people who might not have made up their minds yet?'* (medical student)

As noted above, a number of students indicated that they were deliberately not choosing to seek extended time in the RCS or pursue rural internships because they knew they would come back to the country anyway, so they wanted to take advantage of their training opportunities to get as much from the urban environment as possible. The fact that students may make the decision to stay in the city as long as possible before returning to the country, combined with some reports that students with no intention of practising rurally are seeking placements at the RCS in order to benefit from the enhanced learning opportunities, confound any direct correlation between numbers of RCS placements and eventual workforce outcomes. However, this does not negate significant benefits which the RCS Program is contributing to the current and future workforce.

For these reasons, RCSs are naturally resistant to having their funding tied to eventual work location choices of their students, as the RCS is only one experience within a long training process, and only one factor in a decision to live and work rurally. Other elements include what happens later in the training process (particularly during vocational training); what has happened earlier in the selection and training process (e.g. see University of Wollongong case study below); and life circumstances that are out of the control of any training program, e.g. family and partner choices and inclinations.

Case study – University of Wollongong entrance questionnaire

As a regional, rural and remote-focussed program, the Graduate School of Medicine (GSM) has a positive bias to selecting candidates who can demonstrate significant ties to an area outside of a capital city (RRMA 2-7). This is an extension of 'rural entrant' schemes in place in a number of universities, where the barriers to entry are slightly lower for students from regional areas.

Applicants to UOW GSM are required to put together a 'portfolio' as part of the admission application process. 'Rural origin' is not just a matter of having lived in a regional area – a high level of importance is placed on applicants satisfactorily demonstrating their **service ethic in participating in community life outside of their employment environment**. The rationale for this includes evidence from Canada that a student's inclination and ability to participate in community life is a key determinant of whether or not their rural placements will result in eventual career decisions that take them back to that community (or another one like it).

The increasing competitiveness of the RCS selection process is another reason why some students who might take up a rural career eventually are not reflected in the RCS cohort. As one student explained,

> *'there's lots of competition, for people who don't get in it's pretty devastating. Students have to do a written application and an interview – someone said to me that 'it's quite nervewracking, I'm so keen to do rural but if I don't get in I won't know where to go'. People wonder why they didn't get in, they really hang their hats on getting in, and families make decisions about where their partner's going to go [for graduate entry students], it's hard to turn away people because they didn't get in.'* (medical student)

A number of participants, including students, have observed that the training provided in a rural location is equal to, and at times superior to, training which can be provided within the city. In the FRAME study, 97.5% of the 2006 cohort considered that patient access was the top factor to consider when deciding whether to attend the RCS (Dewitt, Pallant, and Cunningham 2008). One student observed:

> 'w*e're getting much more exposure [to clinical practice] here than in the urban setting. You get to know nursing and allied health staff more here because you are seeing them all the time.'*

However, several instances were reported in which core teaching in a specialist subject (say oncology or cardiology) was unavailable to RCS students, who were still required to take the subject exam at the end of the year and tried essentially to teach themselves the topic. One student who found himself in this situation noted, *'I wouldn't want to be treated by me'*.

In one RCS which is very oriented towards community-based training, student informants were equivocal about the balance between hospital- and community-based training, with one student considering that it had a negative effect, *'I feel more useful in the hospital'*, while another student said that he had decided to become a GP as a result of the increased exposure to general practice. The higher involvement with general practice was considered to be one of the significant differences between the RCS and urban-based training.

At most RCSs it was noted that the number of students who were applying for placements was increasing every year, mostly from word of mouth advertising by students who had spent time within the RCS.

> *'[It's a] fantastic program, especially for rural origin students, [and] also provides the best exposure for people not from the country. I have friends who had such a great time that they came back to the city and are now thinking of doing rural outreach work as specialists – I know about 10 people who had that experience.'* (medical student)

Many students agreed that they had greater exposure to a wider range of clinical work than they would have experienced in the urban setting, and that they had developed greater confidence as a result. One outcome of the RCS Program, therefore, is the provision of medical graduates who are better prepared to take up their positions as junior doctors. One student stated that he had found that he knew more than some of the junior doctors in the city, because he had already assisted with or at least watched procedures to which the junior doctor had not been exposed. Developing a greater level of confidence and experience in students before they enter intern years and vocational training will presumably enhance students' learning and skill base in later years.

5.4.2 Capacity building for the existing rural health workforce

There is anecdotal evidence that the RCS Program has supported health professionals currently practising in rural and remote settings or strengthened the health workforce in rural communities. For example, practitioners involved with an RCS report:

- job satisfaction and enjoyment; enjoying the intellectual stimulation of teaching or supervising students (particularly after not having had the opportunity to do so for many years, or in their rural practice);
- the personal satisfaction and professional advantages of a university appointment;
- new challenges and opportunities, e.g. learning how to teach;
- encouragement from seeing students succeed and have positive experiences;
- building networks with other like-minded professionals (see *RCSWA* case study on page 74);
- new opportunities for research ideas to be picked up and progressed by others within the university; and

- development of a 'learning culture' within their team, the hospital etc, resulting in greater receptivity to reflect on practice and consider process improvements.

The RCSs are subject to the same challenges in recruiting staff as is the rest of the rural health sector. At the same time, each RCS has increased its staffing enormously as they have become established, as for example the *RCS of West Australia* which had 3 staff in 2002 and has 70 now. These are primarily fractional appointments of GP and other clinical tutors, so the full-time equivalent number is less; however the fact remains that the number of rural clinicians who now hold an academic appointment through the universities has increased. The effect of this on retention has been noted above, with numerous anecdotal reports of clinicians who found this opportunity energising and stimulating.

> *'I don't think we have seen much impact from it yet, [but] definitely from the medical workforce's perspective there are a lot more of them starting to step up to the plate and say I am interested, I want to get into teaching, I want to do a bit more research. They are certainly much more acutely aware of the students being around, and that has been probably in the last eighteen months there has been quite a noticeable difference in that.'* (senior hospital clinician)

There are also reports of clinicians who have been attracted to a regional hospital, or to a rural general practice, because of the opportunity to hold a university appointment and to become involved in medical training. It does appear that the presence of the RCS is an attraction to recruitment of new clinicians to rural positions.

> *'I came here because the [RCS] was here – it meant I could continue to be involved in research and teach. If it wasn't here, I wouldn't have come.'* (hospital clinician)

In areas where the medical workforce is recognised as ageing, direct benefits derived from the presence of the RCS were reported by stakeholders in the broader health system. For practitioners and specialists heading toward retirement, the option of teaching resulted in an extended working life, with the range of motivations expected in any group:

> *'… most of them [GPs] are starting to think along the lines of retirement, and teaching as a mode of gradually retiring out as a nice option. They can pull back on some of their clinical work and pick up teaching, and it is not quite as demanding or as long hours. We have got a couple of really very excellent senior clinicians who are very very altruistic in their views and they are doing it – they are very much motivated about the future of the workforce. Some of the other guys I think see it perhaps as a little bit more of a comfortable ease out from clinical work*.' (senior hospital clinician)

The presence of the RCS was reported to be critical for recruitment in a number of regions, and conjoint appointments attracted clinicians with a genuine interest in practice teaching and research, enabling a better remuneration package to be offered because two organisations were each providing half a salary.

> *'And I think the real focus in these schools is on development of a whole new population of what I would call clinician educators. And obviously I think one of the biggest challenges for the rural clinical schools is how they come in as universities to regional areas and start working with health professionals right across the board, many of whom since they left medical school or graduate training have had very little to do with university and therefore are not perfectly equipped to take on some of the academic and teaching roles that we expect of them.*
>
> *'So in response to your question about, you know, what effect have the schools had, well I think if we look now at the number of people who are affiliated in some way or another to the school, it's actually enormous. We have some people on fractional appointments, some people on full time appointments and probably a list of, you know, 30 or 40 people who now teach into our program. Additionally, we have set up here a professional education unit with a permanent Head, a full time Head, who has this year for the first time set up a*

> *regional graduate certificate in health professions education with 13 of our teachers now working, doing this graduate certificate, so I think what we're beginning to see here is the development of this clinician educator population …' (RCS academic)*

However, an alternative reading of the teaching role is that some practitioners find it draining to manage their teaching load on top of clinical practice and frustrating to not see *'any signs of relief yet'* in terms of easing workforce pressures.

> *'It's a little late for some – they are so busy that they are burning out…there will be a lag time before the new cohort is ready. This is the main threat to the program.'* (RCS Head)

This is particularly an issue for health services that have a workforce shortage:

> *'The teaching allowances they give us are nice, but they're unspendable: there's no one in town with the skills and the spare time who we can hire to take the pressure off us, so the money just goes into the coffers and the GPs suck up the extra time.'* (General Practice Coordinator at an Aboriginal Medical Service)

In contrast, a hospital clinician argued that *'burn-out implies dissatisfaction…for all the extra work that's been created, people are happier'.* The opportunity to teach, and therefore to be challenged to keep up one's own skills and knowledge, was considered by most to have benefits which may in some ways outweigh the increased time commitments within an already burdened schedule.

The nett service capacity impact of medical students (as opposed to those further on in their training, e.g. registrars) is arguably a 'zero sum game', providing increased workforce capacity in some instances, only to take up time and resources at other times. Clinicians who teach students have varying views as to the usefulness of students, from the GP who stated that *students are workforce in themselves – they are actually useful* to the consultant who stated bluntly that *students are not workforce*.[35] Still others considered that having students was a positive benefit to the rural health service but were unconvinced that in the long-term it would address the workforce shortage.

> *'I'm very pessimistic that it will make a difference. It's a good idea but we have to ask why haven't we seen an impact and what important thing might we be missing? They mustn't wait until 2015 to see that it's not working. We've seen no impact so we need to ask why, what's missing.'* (hospital clinician)

The RCS has made a significant investment in rural health through the development of infrastructure, including assisting rural hospitals, clinics and GP surgeries where required to build the facilities necessary to undertake clinical training. Practitioners reported that this investment in capital works was of great benefit to them and helped with management of workloads. For example, in one hospital the RCS had built an additional building equipped with office space, meeting rooms and high-quality video conferencing equipment, which were also available to the hospital for other uses. In other instances the RCS has contributed funds to general practice surgeries to provide consulting rooms, desks and computers for students to do patient examinations, tutorials, and study.

One outcome of this investment is the creation of an identifiable rural clinical educator pathway, through which clinicians can become involved in supervision, or become more formally involved in teaching, or even take up an academic appointment. This has provided an alternative model for doctors in rural areas, providing opportunities to combine clinical practice with academic work in a variety of ways.

An additional impact on the health workforce is influence on the medical culture, towards a more positive perception of rural medical practice. This appeared to be evident in two ways: Primarily, there was a sense that the RCSs had 'proven' to their urban colleagues that rural practice was first-rate in its own right, and that a rural medical career could be as stimulating, challenging and rewarding as an urban career. Students and clinicians spoke about a growing recognition that spending time in the

[35] Further research would be required for any definitive commentary on the nett service impact of accommodating long term students in different care settings.

country would not damage one's career but could in fact enhance one's skills and experience. A second way in which the RCSs are influencing the culture of medicine is by training a generation of doctors who will have exposure to rural medicine, so that even if they subsequently choose an urban career they would have a greater understanding of the ways in which medicine is practised in rural or remote locations. This is considered to be a positive aspect with the potential to increase communication and understanding between rural clinicians and urban specialists to whom they might refer.

Case study – RCS as a network hub for rural and remote practitioners

In Western Australia, the RCS has established ten training sites across the State, encompassing regional, rural and remote locations. The capacity of each site ranges from three students to ten, and the type of site varies as well, with different emphases of learning sites and opportunities from general practice surgeries to regional hospitals to Aboriginal Medical Services. Thus, some students may spend more time in a GP surgery and visit the VMO-run hospital with their GP supervisor, while another student might get greater exposure to an AMS, and a third student might spend their time predominantly within a regional hospital. The variety of training sites is considered to be a strength of the RCS: '*we'll produce [that doctor] but we'll do it in 14 different ways…every site has got to the endpoint in different ways'.*

Once a student is allocated to a particular location, they remain there for a year, although they have the opportunity to undertake two short placements of two weeks in alternative locations during the year. During these option periods a student may choose to 'top up' on a subject with which they feel they have had insufficient experience, for example pediatrics, Indigenous health or obstetrics.

Each site has at least one core academic clinical coordinator who is usually appointed at .5 or .6 FTE, and a number of others so that each site has a total of about .2 FTE of coordinator time per student. These coordinators are responsible for arranging preceptors, providing training and support for preceptors, and organising the teaching schedule for RCS students as well as teaching and assessing the students.

While in the beginning the RCS had to work hard to encourage doctors to agree to take up the role of clinical coordinator, the Program has developed to the point that there are people who are seeking to become involved as supervisors and coordinators. There is a major emphasis on education skills in the RCS and some of the coordinators have taken up additional training in medical education with support from the RCS.

Over time, a virtual network of clinical coordinators has developed which connects clinicians in rural and remote locations with their peers across the State. The coordinators have established their own communication mechanisms, and are increasingly sharing their experiences and learning resources. An email network has been established which is *'self-owned'*; this is not generated through the RCS office, an example of the learning organisation culture which was attributed to the founding head of the RCS. This has contributed to an *'added level of stimulation and interest'* and a *culture of good will and excitement'.* There is evidence that this networking across the vast distances of Western Australia is one of the aspects of the RCS which is contributing to the recruitment and retention of rural doctors by increasing collegiality and academic stimulation, and by reducing professional isolation.

An additional impact on the health workforce is students' exposure to interprofessional practice. Due to the nature of rural practice, a student is more likely to experience a multidisciplinary team approach to clinical care, and indeed several students commented that they had a much greater understanding of clinical teamwork because of their time at the RCS. However, as discussed previously in chapter 4 of this report, the extent of interprofessional learning opportunities (e.g. with nursing and allied health practitioners) continues to be limited by incompatible and unsynchronised curricula.

It was recognised by many informants that a training pathway for a rural generalist is not yet available in Australia and that this route might be important in providing a further solution to the workforce shortage.

A recent review noted that the decline of generalist physicians has led to a decline of availability of practitioners who are trained to work across procedural disciplines (e.g. anaesthesia, obstetrics, surgery) while there has been a growth of specialists and sub-specialists, who tend to practise in urban areas (Pashen et al 2008). This has exacerbated the shortage of hospital physicians in rural areas. Encouraging the role of the generalist physician would provide area health services with greater flexibility as clinicians could contribute across a number of skills areas and provide greater broad-based care to patients. This could relieve some of the pressure currently felt by general practitioners as well as the pressure experienced in rural hospitals which rely on locum doctors or fly-in, fly-out specialists.

> *'There is a need for rural generalists – there's a trend in all disciplines towards increasing specialisation but everyone's agreed that the disciplines need generalists (i.e. general surgery, general practice). RCSs are not [just] about producing GPs but about producing generalist rural physicians (GPs or otherwise); the urban areas need these too and the RCSs are beginning to influence the cities in this regard.'* (RCS Head)'

5.4.3 Increased rural health research capability and output

As noted earlier, a small number of RCSs have been active in building a research agenda. However, for most the focus has been on developing their teaching model and delivering the curriculum to the satisfaction of the students and the university. The priority of teaching has drawn the focus of RCSs onto matters of recruiting/engaging clinicians and securing the commitment of health service administrators to support student training. Once RCSs have satisfied the sceptics within the faculty, the university or elsewhere, they are then in a better position to turn to other priorities – like research. This is not a question of RCSs not valuing research – it is just a matter of 'first things first'.

> *'One problem is research – the RCS is now established but it's taken time to get appropriate research happening – it's largely public health research at the moment.'* (Dean of Medicine)

The University of Queensland (UQ) at Toowoomba has funded dedicated research capacity based at the Centre for Rural and Remote Area Health (CRRAH) in conjunction with the University of Southern Queensland, and James Cook University (JCU) at Townsville. Both the *UQ RCS* and the *JCU RCS* are prioritising research and evaluation to track impacts, outcomes and implications for rural health workforce recruitment and indicative trends towards retention outcomes. This research is currently limited by the early stages of RCS programs, with students only now progressing through to postgraduate stages.

In many instances the research activity is initiated by a local clinician with a particular passion to address a topic, in which case the RCS has offered access to university resources such as library facilities, administrative support for grant applications and management of funding, and to partnerships with other medical academics, resources which were not previously easily available to rural practitioners. The infrastructure of the RCS is considered by some to facilitate the building of a research culture which, while to date has not been embedded in rural practice, has potential to grow and to impact upon evidence-based rural medical practice.

> *'We spend 10% of our budget on research, and have major collaborations with the Aboriginal Medical Services … it's starting to happen more. First there was the push to establish, but now we have employed pure researchers. It's starting through local initiatives, which have an instant effect because the local doctor is initiating changes in practice … the RCS acts as a facilitator for larger research initiatives.'* (RCS Head)

5.4.4 Relationships with other initiatives and with key stakeholders

The RCSs themselves have an established network, FRAME, through which dialogue and sharing of information takes place. FRAME was described by one RCS Head as a:

> *'forum for sharing ideas – there's a strong sense of sharing, both problems and solutions.''*

FRAME began as an informal network but is gradually becoming more structured as the RCSs themselves mature, now with two meetings a year and a growing understanding of how the network itself can be useful to its members, such as discussing policy, enhancing academic rigour in assessing outcomes at the national Program level, and becoming a forum for engaging with education and workforce development. Heads of RCSs were universally positive about the value of FRAME as a network for organisational and professional support between institutions which are otherwise quite geographically separated from each other and from their host universities. Initiatives such as the FRAME RCS student evaluation project, funded by the Department, demonstrate the potential for FRAME to provide an avenue for national research into medical student training initiatives and their outcomes.

Engagement with the university sector

The RCSs, at least those within metropolitan-based universities, function as an outpost of the host medical faculty. In this way, they differ from UDRHs which work across a number of faculties and even universities, and are not responsible for the teaching of a particular curriculum. Most of the RCSs see themselves as a separate but integrated component of the university's faculty of medicine. For regionally-based universities, this relationship was even more integrated, with the distinction between the medical school and the RCS not necessarily evident to students but perceived as aspects of one institution.

> *'The [regional medical school model] is all rural so you can't separate out those students who are doing rural placements because everyone is working rurally. It changes the way you think about rural medicine.'* (RCS Head)

For metropolitan-based universities, there was some appreciation that the development of the rural clinical school had raised the level of awareness of rural health issues and also the possibility of rural careers. There was a corresponding need to maintain the identity of the rurally-based RCS as part of the host university; that is, keeping it closely aligned with the culture and ethos of the institution. In general, however, it was considered that the benefits of the relationship between the RCS and the university appeared to be complementary, with each side gaining an advantage from the establishment of the RCS:

> *'It's hard to tell what the impact of the RCSs has been on the university sector nationwide – it makes the unis more aware of rural areas, and bringing regional areas closer to city, it broadens the perspective, [and] generates innovation for rural service delivery… staff in rural areas now identifying as [part of the university], and rural areas are feeling the benefits of growing links with the city through the uni presence. Within the RCS there are the benefits of the uni structures for HR, IT etc.'* (Dean of Faculty)

Senior university academics (e.g. Heads of Medicine, Professors of Departments) spoke highly of the impact of the RCSs in making universities more visible in regional Australia, with the potential to encourage more rural students to attend university, or even study medicine. Several also considered that the RCS had a greater potential to contribute to medical training as a regional coordinator of a vertically integrated rural pathway. The ability of RCSs to offer a more intimate training experience to students, with a greater level of one-on-one training, was acknowledged, as was the high quality of training provided, evidenced by RCS student exam scores. The different organisation of the rural health structures compared to the city, were also considered by one Dean to assist in the building of relationships and agreements between the university and health services for training purposes.

> *'One of the things that I've been very interested in, both metropolitan and in the rural areas, is our relationship and our integration with healthcare facilities. So, you know, that at a metropolitan level is mainly with very large teaching hospitals but obviously rurally it's with a whole heap of healthcare facilities. And I must say that it's actually, that sort of work has been easier in the rural areas and I think there's a lot more community engagement and some incredibly interesting opportunities in the rural areas around the engagement of our rural clinical schools and [UDRH] with the community, with the healthcare facilities, both primary and secondary.'* (Dean of Faculty)

Senior university academics and administrators favoured the continued separation of funding for RCSs as a workforce initiative, rather than providing funding through DEEWR. The reasons for this were two-fold: first, an appreciation that the ability of the university to use RCS funds was proportionally greater because the funding was quarantined, and second, a recognition that funding for universities was increasingly stretched to provide for the current levels of teaching and research.

> *'Direct federal health-sector investment into university programs is definitely a good idea… There is an argument for preferential DoHA investment in the [commitment to the regional/underserved population agenda to address the workforce issue directly]. A particularly difficult issue for medical schools now is the yawning salary disparities for clinical academics with public hospitals and private practice.'* (Head of Medical School)

Medical Deans were particularly aware of the challenges posed to rural medical training by the lack of pre-vocational and vocational training opportunities, and the impact that this may have on the ability of the RCS to make a difference to the rural workforce. Many favoured a greater involvement of the RCS in all aspects of medical training from undergraduate through to vocational and post-graduate training.

Engagement with UDRHs

Collaborations with UDRHs are found in various locations, with several models of collaboration evident between RCSs and UDRHs:

- Separate but collegial Programs, with information sharing and at times sharing of facilities or providing opportunities for students from different disciplines to learn together;
- Strongly collaborative Programs, with a considerable number of interprofessional learning opportunities, shared projects (funded through both Programs), shared clinical or teaching appointments, and/or research collaborations; and
- Co-located Programs, in which, while separate accountability of funding streams is maintained, facilities, administration and teaching appointments are jointly shared, a united organisational identity is presented publicly, and projects or teaching streams are not presented as being from one Program or another.

In those places where the UDRH and RCS are either co-located or structurally linked within the university, there have been opportunities for co-operation and collaboration which have helped to develop a more comprehensive approach to workforce training and to health service innovation.

> *'The UDRH has been a core or part of the core of the School of Rural Health since its inception and so it operates under the one banner. So we refer to the School of Rural Health within [the university] as being the overarching organisation and within that, the regional clinical schools and the UDRH. And so it's run under the same administrative banner …and it works well. We utilise the facilities that have been set up for the rural clinical school but, you know, they've been utilised by the programs run out of the UDRH. But I must say that, you know, we have to be careful; I think it's one of the risks of actually growing so rapidly, and I suppose also maturing as an organisation, is that each of the units, so each regional clinical school and UDRH are really, growing into an independent organisation capable of running by themselves. And I think the challenge for us as a School is to maintain that common vision and draw all these units together so that we are collaborating and utilising each other's advantages to the greatest benefit.'* (senior university academic)

RCS students in particular seem to be in favour of closer links with the UDRH, recognising that they gain from interdisciplinary learning and from learning to work as a team.

> *'There should be a better correlation with the UDRH – it's really unfortunate that RCSs have fantastic facilities while UDRH students don't get anything – there's a loss of interdisciplinary learning and exposure.'* (medical student)

As noted above, there is some UDRH/RCS collaboration occurring already across the country, and this varies depending on the geography and location of the two Programs, personalities in leadership, and local opportunities for joint projects. There is certainly potential for greater collaboration; however this is probably best achieved through natural development and relationships rather than through contractual obligation. Some universities favoured greater integration, or collapsing the two national programs into one; others perceived distinct differences between RCSs and UDRHs and felt that they each had a distinct contribution to make.

The perception of the co-location model is varied. Some considered that there is a danger of medical training overwhelming other disciplines. On the other hand, others considered that there are greater benefits for interprofessional education from co-location. For instance it appears to make financial sense, offering economies of scale, administrative savings and sharing of resources such as libraries and teaching facilities. If an RCS is added to an existing UDRH, or vice versa, there is an enormous amount of infrastructure and relationship building that has already been developed, avoiding replication for new sites. The potential for interprofessional learning also seems to be easier to arrange, though the success of some non-co-located sites in achieving this suggests it has more to do with the organisation's vision and beliefs than physical arrangements.

Case study - The Spencer Gulf Rural Clinical School

An example of co-location and collaboration between the RCS and the UDRH is the SGRHS based at the University of South Australia campus in Whyalla (South Australia). The SGRHS is a joint venture between the University of South Australia (holding the UDRH contract) and the University of Adelaide (holding the RCS contract).

This model has a number of advantages, such as the ability to share infrastructure (such as IT and administrative support, and the efficiencies of promoting a single program to stakeholders, especially the community stakeholders, and assists with networking and partnerships with local hospital, health services and GPs. The appointment of one Head of School to oversee both Programs assists in creating a seamless approach to the RCS and the UDRH activities at an operational level, and employees identify with a single 'entity' rather than just the RCS or the UDRH Program. The co-location model supports research across disciplines; and promotes a collaborative approach between the two universities and between the disciplines.

Equally, there appear to be some disadvantages to this model. The focus on filling medical student quotas has resulted in great efforts being made to engage with GPs (for preceptor training, the production of manuals, and involvement in exam workshops, for example). This is not available for allied health clinicians in the same way, as there is not the time or the funding available. The current difference in the funding of the Programs is more apparent in a co-located setting, and this creates competition and inequities which are in conflict with the model of collaboration. There are also some risks around the management of finances, particularly around cross-subsidisation, which require transparent monitoring mechanisms.

The success of the model is reliant on strong leadership. Finding appropriately skilled and experienced managers who are leaders is a challenge in any organisation, and recruiting a person with the requisite skills may be a challenge in a rural setting; hence, succession planning is of key significance. In the past various management models have been trialled, for example joint Heads of departments; however, this was confusing at both a governance and operational level. There is a risk that without strong leadership the model could become 'activity focussed', that is getting students into places, arranging accommodation, sorting out allowances and so on rather than following a larger vision. This has occurred to a degree at *SGRHS* in the past. It is hoped that the appointment of an Executive Manager will assist with some of these issues, providing strategic advice to the Head of the School, and leading administrative operations.

Engagement with rural clinicians and health services

Collaborations with local health service providers (private and public) are core business for RCSs, and have become second nature for those established earlier in the life of the Program. These collaborations are all brokered with a view to securing clinical education experiences for students, as well as contributing to the development of the rural health system more broadly. In the Riverland for example, the simulation centre is a key resource for the existing workforce, providing clinical training opportunities to multi disciplinary groups of practitioners.

The physical existence of a well-equipped building (and the sharing of meeting rooms and facilities with others in the community) has strengthened relationships with external stakeholders. This has reportedly built a sense of reciprocity, and in some cases created leverage, that has enabled some RCSs to draw on the time and goodwill of key individuals either in the community or in the health professions.

> *'The RCS brings people together – in [small town] the local doctor's meetings are now held in the RCS building, in [another town] the RCS building is becoming a hub for local doctors because of the library facilities.'* (RCS academic)

RCSs are highly cognisant of their dependence on good will, and invest resources in building and maintaining the networks on which the success of the program depends. One senior stakeholder described the effort in these terms:

> *'So we've been able to provide these facilities, with bells and whistles as far as the audiovisual stuff, we've been able to provide them for the health services. And in every case I think we've had in mind that it's crucial for us to have good relationships with these health services because if we don't have access, for instance, to the regional hospital…..then we're buggered. And our challenge is to make ourselves crucial for their operation as well so at the end of our 20-odd year lease for the building, that they see us as a vital part of what they do and how they operate and couldn't see themselves working without us. That's been the philosophy at every site and it's resulted in very good relationships with those health services and I think it's flowed through to the community as well. The same thing goes for the GP practices; all of those have been supported with capital works funding provided by the Department in the first instance and then we support them by yearly recurrent amounts depending on how many students they have and for how long and so on.'* (RCS academic)

Collaborations with local educational institutions are also evident, including with universities not affiliated with either the RCS or the UDRH Programs. One example is in Albury-Wodonga, where UNSW has partnered with Charles Sturt University to deliver anatomy training to students of both universities, using Charles Sturt University's 'wet lab' and UNSW's anatomist, who visits from Sydney (as anatomy is difficult to teach effectively via teleconference).

Similarly, the University of Sydney RCS at Dubbo is also working with Charles Sturt University to share facilities, and collaborate on joint ventures including a planned dental clinic located near both campuses. Years of collaboration between the University of Newcastle's co-located *Northern NSW RCS/UDRH* and the University of New England have now been formalised by a jointly delivered medical program at the two universities.

In Bendigo, the North Victorian Regional Medical Education Network (NVRMEN) is a collaborative initiative between the regional clinical schools of the University of Melbourne and Monash University. Under the NVRMEN program there are 60 new places shared equally between Melbourne University and Monash, with 50% of students recruited from rural areas.

A partnership including the Monash University RCS and six other partners including the Bendigo Hospital, Community Health Services and the Division of General Practice, the regional training provider, the City of Greater Bendigo and Latrobe University has resulted in the agreement to develop a 'super clinic' (discussed further on page 81). Through these collaborations the RCS sees itself as *'conceptualising primary care models and how they work'*.

Case study – Border Medical Recruitment Taskforce, Albury-Wodonga

The Border Medical Recruitment Taskforce was formed by senior clinicians and health service managers in the Albury-Wodonga region in 2006 – it also includes representation from the local *UNSW Rural Clinical School* and the local Division of General Practice.

The group initially formed in response to a number of key vacancies in the hospital. In due course these vacancies were filled, partly through the personal and professional networks of Taskforce members. This initial crisis out of the way, the Taskforce decided to keep meeting to work on other aspects of the medical workforce.

The Taskforce has three areas of focus:

- **Immediate responses** to high-level workforce gaps are what brought the group together, and the Taskforce is ready to mobilise around any new vacancies for **senior clinicians** that may emerge. In seeking to make the region attractive to senior clinicians, Taskforce members have used the *UNSW RCS* as *'another lever… another example of how your career is most certainly not going to be on hold if you come to work in Albury'*.
- **The medium term strategy** relates to making the region attractive to **junior medical officers, residents and registrars**. Suitable accommodation for rotations is a critical issue, particularly if doctors are to bring their families with them rather than drive home to Sydney (6 hours) or Melbourne (4 hours) on the weekends. Also being explored is the capacity for registrars and residents to spend longer rotations in the region rather than having to return to the metropolitan teaching hospital.
- **Long term strategies** are based on attracting medical students to the region, and the Taskforce works very closely with **students at the RCS** to promote a positive image of rural practice. The Taskforce has stimulated part-time employment (through appeals to the Chamber of Commerce), provided heavily subsidised access to holiday accommodation owned by local clinicians (particularly in the local snowfields), and arranged social events where students mix with medical professionals and others studying in the area (e.g. a marquee at the Albury gold cup – the major annual race day).

The Taskforce operates without core funding from any workforce agency or government health department. Members of the Taskforce channelled funds from their own businesses and approached others (e.g. local councils) to contribute – which they did.

Interaction with other government-funded programs

Engagement with other government-funded programs occurs on various levels. Within the medical student population there are students in receipt of a range of national scholarships (e.g. the John Flynn Placement Program[36], the Medical Rural Bonded (MRB) Scholarship[37] and RAMUS – the Rural Australia Medical Undergraduate Scholarship[38]). The RCSs are also able to offer information and assistance for students seeking to apply for scholarships or other rural exposure opportunities.

The interaction with RUSC – the Department of Health and Ageing's Rural Undergraduate Support and Coordination Program – differs from university to university. RUSC resources a range of activities designed to support and encourage positive rural experiences for medical students (with a view to prompting rural work choices). In some universities this Program is managed by departments of general practice, where it was based historically before the advent of the RCS Program. In others, the UDRH has an active involvement in the organisation of RUSC placements. In still other universities, the RUSC funding is pooled with other sources of funding to provide additional rural experiences for medical students.

The place of RUSC with the RCS Program varies from place to place. Generally RUSC was highly valued in the early years of the Programs, where students were exposed to rural practice early and in a highly supported fashion. For some schools this is still the case and the RUSC placements form a part of the informal recruitment process, where potential students for the 3rd and 4th year rounds are identified. For others where the placements are over subscribed, the place of RUSC is less critical as a promotional opportunity although it can still be a valuable experience in testing students' interest in rural practice.

Outside of the medical student framework, there is also interaction with the Australian General Practice Training (AGPT) Program, which is delivered by 21 regional training providers and provides vocational training for GP registrars. A number of these regional training providers are located in rural areas; varying levels of interaction and collaboration are reported, from 'nodding acquaintance' to close partnership (see case study below). Many informants, in RCSs, regional training providers, workforce agencies, and GP divisions, considered that there was potential for a greater partnership between all stakeholders involved in delivering medical training, to develop a 'rural pipeline' to ensure that there was a recognisable training pathway for students interested in practicing rurally. This was generally considered an urgent priority, with RCS and university stakeholders acknowledging that the lack of rural pre-vocational and vocational training places a risk to the Program, and other stakeholders considering that there was a loss of potential workforce to the metropolitan centres because of the lack of alternatives to urban training centres.

Some stakeholders within the State/Territory-funded health system identified room for improvement in some RCS engagement strategies. While the 'ceremonial' aspects were seen to be in place, for example, invitations to events, there was a reported frustration in some sites that people with a background in education and research have not been utilised in the conceptual and design phases of the program. In one area a stakeholder described this situation in the following way:

> *'I think academia tend to stick with academia, and clinical operationals stick with clinical operationals, and I think we need to be much more aligned with each other. In this area we are about to undergo massive expansion - I think the RCS should be at the table with us now - should be discussing it but they're not.'* (local clinician)

[36] Students undertake a placement in the same rural or remote community for a minimum of two weeks per year, normally over a four-year period. Placements can be in a supervised general practice, hospital, Aboriginal Medical Service or other medical facility that provides primary care (http://www.acrrm.org.au/main.asp?NodeID=194).

[37] An annual tax-free stipend of $23,222 (2008 figure), in return for which students are 'bonded' to practice in rural or remote areas of Australia for six continuous years upon completion of their vocational training (http://www.health.gov.au/internet/main/publishing.nsf/Content/work-st-mrb-summ).

[38] An annual $10,000 allowance and rural mentorship program for medical students of rural and remote origin (http://nrha.ruralhealth.org.au/scholarships/?IntCatId=7).

Case Study – Australian National University and Coast City Country GP Training

Coast City Country Training (CCCT) is the general practice regional training provider (RTP) for the southern region of New South Wales and the ACT. The geographical boundaries of CCCT overlap the geographical regions of the medical schools of three universities – University of Wollongong, Australian National University, and University of New South Wales. CCCT collaborates with all of these in their role of providing vocational training for general practitioners. The southeast NSW and ACT region of CCCT is contracted to work with the ANU medical school and their relationship with the ANU is particularly close, '*so close that it's hard to distinguish – it's all the ANU Medical School'*.

CCCT has approximately 55 Registrars in the southeast NSW and ACT region, and they run two-day training programs in which they include the 3rd year students from the RCS. The aim of bringing them together is for the 3rd year students to be exposed to the role of GP registrars. In the learning environment, the medical students can use their academic learning while the registrars can use their clinical learning and they can share with each other, hopefully building relationships which will benefit them later on. '*Modelling is subtle but it gives a positive role model and positive exposure to rural GP registrars*.'

CCCT and the ANU Medical School also take the registrars and students out to rural areas for two days of teaching with local GPs. This event is held in different towns where the participants spend two days together, talking about rural practice and also learning from local practitioners.

An example of this shared teaching occurred in a small town where the local surgeon gave a presentation on acute abdominal topics to registrars and students. The surgeon and the GP demonstrated their collaborative approach, discussing the way they solved a particular problem. The implicit message was about collaboration and presented the specialist and the GP as equals. '*It's hard to measure the effect but I think it does help for students to see that.'*

CCCT and the ANU Medical School have integrated their supervisor training, so that GPs who are supervising medical students also meet with those who are supervising registrars. Increasingly, they are encouraging students and registrars to train together, with the registrars taking on an appropriate level of clinical teaching for the students, freeing the GP to work with the registrar on more advanced teaching. '*The RCS has a commitment to look after rural GPs, and we work to do it in an integrated way*.' The teaching staff of the RCS also are involved with registrar training, and the medical school is increasingly becoming a resource for bringing together the clinicians of the region.

The vision for this collaboration is to prepare the next generation of clinical teachers as well as rural doctors. Including registrars in clinical teaching provides them with a background and encouragement to take up teaching or training roles once they complete their training. Introducing students to GP registrars provides them with a model of men and women who have chosen rural practice and are excited about general practice. Bringing students and registrars together helps students to see what the path to general practice might look like. '*When you teach students you realize how much you know*.' This encourages both GPs and registrars.

'We couldn't do what we do in the urban environment.' The importance of relationships in building the systems which encourage integrated training, and the importance of funding – through GPET to the RTP and through The Department to the RCS – cannot be underestimated. The collaboration at all levels – from the strategic planning to the training on the ground – means that people are involved in decisions and have ownership in the processes. '*The risk to sustainability is not the structures but the people, and trying to find new people*.' The visible integration of training is now attracting people to the region: '*people hear that rural registrar training is good here'* and the RCS has made a difference because it has been an enabler in creating a demonstrable pathway to rural general practice.

Impact on the Community

Reports of high level support for RCSs from the local community were expressed in a range of ways across the sites, with examples including enthusiastic volunteers for clinical skills practice, the hosting of students, and general goodwill toward the effort to address the recognised problems of workforce shortages.

In some areas the contribution of the RCS has been more substantial, for example in Bendigo where the *Monash RCS* operates a primary care clinic. Established in 1997, it is now located in a purpose-built building, and provides health services for people who cannot access their usual GP, or would otherwise attend the hospital emergency department. The clinic is used as a training site for students, with staff appointments supported by the local health service as well as the university. Over time the clinic will become a 'super clinic' under the newly established initiative of the Department of Health and Ageing, and operate as an academic primary healthcare training centre, not only for undergraduate students but for postgraduate students, internationally trained students and internationally trained graduates. The vision for the model is that it offers a critical service, and provides the RCS with a training environment for students from medical and allied health disciplines.

A similar model is being implemented in Shepparton, where the *School of Rural Health* is funding the construction of a clinic building on their grounds (directly across the street from the hospital) which will provide clinical and teaching space for medical, nursing, and allied health practitioners.

A further impact of the RCSs on local communities is the investment itself, with each RCS operating as a local employer and contributor to the local economy. A number of sites referred to 'buy local' policies for their consumables, as well as the employment of contractors, maintenance and other ancillary staff as part of the operation of the Schools.

Community Advisory Boards

Community Advisory Boards are in some ways a misnomer for RCSs. The Boards appear to have been vehicles for RCSs to initially engage the support of key community stakeholders, and then to keep them engaged and informed as the RCS matures. They can be very valuable to RCSs in providing networking opportunities as well as securing goodwill and material support from local community members to make students welcome; some RCSs have convened second-tier committees at a local level in the smaller communities in which they operate for just this purpose.

> *'The university gets people on side – people want to help – APEX, Lions, the local butcher who donates sausages for the welcoming BBQ…there are not many people who don't know we're here – it's been very positive.'* (Community Advisory Board member)

However, Community Advisory Boards are generally less advisory and strategic than the name would suggest. They generally meet once a year and are generally vehicles for information sharing, in which the RCS leadership, and sometimes students, inform community representatives of their activities. While the RCSs were required to establish these consultative mechanisms, it is not clear what the purpose of these bodies is once the establishment phase of the Program has been completed. They were referred to with varying degrees of interest at different RCS sites, as being more or less important to the operation of the RCS. One stakeholder who sits on the Community Advisory Board acknowledged that he *'sits on the Advisory Board but doesn't do much; it's a sounding board and could benefit from some governance and more input from the community base.'*

Engagement with Indigenous health practice

The RCS Program overall has had little impact on Indigenous Australia per se. It was clear that some RCSs had developed more effective relationships with AMSs than others, and in some instances relationships were underdeveloped. An example of the former would be the *Spencer Gulf Rural Health School* which, as previously discussed, funds a health worker at the Pika Wiya AMS (see section 4.4.4). The AMS reports that all students placed at Pika Wiya are involved in a community project which directly addresses the needs of the local Indigenous community. This was reported to have been an extremely successful model and has been shown to have positively impacted upon the health and well-being of the community. The Aboriginal Health Workers are treated as the experts and this has also helped with increasing confidence and capacity in the local Indigenous community.

Most RCSs have some links with local AMSs, which may range from short-term to one-year student placements. Many AMSs have agreed to provide opportunities for RCS students to spend time within their clinics, and some are involved as well in the provision of cultural awareness and cultural security training. Most RCSs expressed satisfaction with the relationship they had with their local AMS, and most AMSs expressed a willingness to help in training future doctors, with the hope that their contribution will assist the next generation of clinicians to be better practitioners for Indigenous and non-Indigenous patients. AMSs recognise that they have the ability to provide a unique experience for medical students, which exposes them to the full range of clinical challenges seen in mainstream practice but which has the additional complexity of requiring the doctor to work cross-culturally.

> *'Every student who has come through has enjoyed it – they are surprised at how much clinical medicine is there, and how much they learn.'* (AMS CEO)

It may be construed that the greatest benefit in the partnership accrues to the RCS, as they are able to provide additional student placements and to access an Indigenous perspective which enhances the medical student's training. By and large, the AMSs have been generous in opening their doors to RCSs for student placements while maintaining their own demanding schedule of clinical consultation. However, some AMS representatives expressed a view that they did not always feel that this was reciprocated by the RCS, or that the magnitude of what they provided was recognised. In one AMS the question was raised of funding for the provision of Indigenous health training (which is a component of the medical curriculum and thus a requirement of the RCS), which the RCS had asked the AMS to provide. One doctor expressed the feeling that '*they have got an Aboriginal health curriculum, they should provide it [rather than relying on us to do it for them]'*. In another, the question was raised about the nature of the relationship and whether the RCS saw the AMS as an equal partner:

> *'I think it should go both ways….when our capacity is down we don't get any support from them, when we had no doctor the attitude was 'we'll stop coming out then' rather than helping us find one…We're helping them, we don't just take students but we give them exposure to all areas, we have to allocate a staff member to [look after the students]'.*

In other cases the AMS and RCS had developed stronger, more equitable funding relationships to overcome this issue, sharing appointments or funding particular projects. In some locations, some RCSs have developed partnerships with regional AMSs for research purposes, which are having a direct effect on the provision of health care because of the nature of the research intervention, for example smoking cessation research within a community. This topic is the subject of a large National Health and Medical Research Council (NHMRC) grant which the *RCS of West Australia* has won in partnership with Kimberley AMS.

5.5 Enabling and limiting factors

5.5.1 Enabling factors

Funding

It is unanimously agreed that the funding for the RCS Program has been generous and, indeed, that this level of funding has been one of the key factors in the success of the Program to date. The funding has allowed RCSs to build or purchase excellent physical resources (including teaching facilities, office space and state-of-the-art information and communication technology) and human capital which have, in a short period of time, created a parallel university infrastructure to rival that found in urban environments.

At the inception of the Program, universities were asked to bid for the amount of funding they required to establish an RCS. Because of this open offer, universities sought varying levels of funding, which have largely been maintained in subsequent contracts. Some universities have therefore received greater amounts of funding and have been able to be more lavish with the resources provided to their students than neighbouring universities. Students have been quick to notice this.

> *'There are big differences across unis – [Uni A] students have to pay for their accommodation but [Uni B] students don't… I don't understand why there is such a difference.'* (medical student)

> *'[There needs to be a] more even spread across the board for RCSs to – i.e. support and amenities – for unis to be transparent on what RCSs provide. Different geographies make a difference but there is still a big disparity – why is it so different when they are all trying to achieve the same thing?'* (medical student)

The distinction between the RCS as a workforce initiative as compared to the rest of the university sector is considered to be significant, with several informants stressing that the funding should remain with the Department of Health and Ageing rather than with the Department for Employment, Education and Workplace Relations (DEEWR). There was strong consensus that the achievements to date had been due to the nature of the Program as a workforce initiative, with a corresponding focus on influencing students' career decisions, and that this would be lost if the Program were to be seen solely as another component of medical education (while recognising that the Program had to meet educational requirements and that it was already embedded within the educational sector).

Vision and leadership

An important contribution to the Program's achievements to date was also considered to be due to the passion and commitment of the early champions of the idea. Some participants pointed to the advocacy of the then Minister for Health and many other early champions as a key factor in the establishment of the Program, including those who crafted the original proposal for what became the RCS Program. Others acknowledged the role of the founding heads of individual RCSs, who often had to battle the reluctance of the wider faculty or medical profession in arguing the virtues of the initiative.

This need for vision and leadership continues, and succession planning was named by several as a risk for the future in ensuring that the RCS Program continued to demonstrate its effectiveness both as a training structure for medical students and as an influence on workforce career choices.

The quality of training places

Through the development of strategic personal and organisational relationships, RCSs have been successful in creating a large number of training places across regional Australia, both in hospitals, GP surgeries and other primary care settings. In some cases, this was made easier because regional hospitals did not have a high demand from interns, residents or registrars (this is changing as RCS students seek placements, as discussed below). It was noted by almost all students that the quality of teaching, through the exposure to a greater range of clinical experiences, generally surpassed that available in the urban setting.

> *'Students are becoming more savvy. They are looking to the future, and with the increase in competition, they need to get high quality clinical education. They want to be able to differentiate themselves. You get better patient interaction (through the RCS model) and this is well known with senior doctors'.* (medical student)

The greater intimacy of the rural training experience was named by some academics as one of the great benefits of the RCS Program, and one of the reasons for the increasing number of students seeking rural placements. It was noted that students have far greater supervision, with a long-term one-to-one relationship being developed in which the supervisor sees the student through a range of experiences, both academic and emotional, as the student grapples with the clinical workload as well as the adjustment to living within a new, often unfamiliar, community.

> *'I'd say [the quality of medical education] is far better than it is in [the city], where you have no one-on-one time with the consultant, on ward rounds you're the lowest of the low, the 20th in line to see a patient…And by the time it's your turn, the patient has put up a sign saying 'NO MORE STUDENTS'.* (student)

While this relational aspect of rural training has been acknowledged as an enabling factor, there is a corresponding risk due to the increasing demand for training places, discussed below. Furthermore,

while the quality of the educational experience needs to be highlighted as an enabling factor for the Program, there is some concern about whether this is likely to lead to better workforce outcomes for rural communities. To what extent are students opting to undertake an RCS place because they are interested in a rural health career, and to what extent are they doing it because of the recognised quality of the clinical experience and exposure to patients/clinicians, regardless of students' career intentions?

5.5.2 Limiting factors

The capacity of health services to make training places available

As noted earlier, the number of long-term student placements that can be supported in any given area depends on the capacity of the health workforce and health systems to accommodate and supervise students. This was discussed by many stakeholders as a significant threat to the long-term sustainability of the Program.

In a sense, the RCS Program faces becoming a victim of its own success, as the positive feedback of RCS students leads to more students seeking places within the RCS. It has been suggested by some students, and recognised by some academics, that students may choose the RCS because of the quality of its training rather than because of an interest in rural medicine. This may have the unintended impact of reducing the availability of placements for students who are genuinely seeking to develop a rural career.

> *'So students go out and have this great short placement in 1st year and it's all nice and fluffy, and then they go out in the 2nd year and it's all nice and fluffy, but then when they want to go out for their 3rd year [for a long-term RCS placement] there aren't enough placements. So it gives the message that rural medicine isn't in crisis and it's not that important to go rurally so they stay in the city. Also a lot of graduate medical students are not rurally inclined so they are doing these placements but commuting from [metro area] rather than staying and engaging in the community. The [graduate] program was touted as the solution to the…workforce crisis but it won't do it, it's shafting the rural students who really want to work there.*' (student)

There are also additional constraints to the number of long term placements that can be supported, particularly where there is competition from other programs within medical education (e.g. shorter-term placements through programs like RUSC or John Flynn) or further up the 'vertical' training pathway (e.g. PGPPP, GP registrar training, specialist training). Some informants questioned the ability of rural communities and practitioners to absorb the increasing numbers of students who pass through their doors, for short-term exposure tours, for RCS training, or for intern or vocational training.

As the number of universities undertaking rural clinical education has increased, there have been some 'gentleman's agreements' as a result of which established universities have moved away from placing students at certain hospitals (e.g. UNSW making available placements at Shoalhaven Regional Memorial Hospital in Nowra for University of Wollongong students). In other areas universities have formalised an agreement, for example University of Adelaide and Flinders University, both of which place students in Angaston in the Riverland, and the University of Western Australia and Notre Dame University, which jointly fund the *RCS of Western Australia*.

Where universities are competing for clinical teaching, however, whether in general practice or in regional hospitals, there will be increasing difficulty in accommodating the growing numbers of students, interns and/or registrars who seek to train rurally. In some regions it was reported that the system is at capacity, with one stakeholder commenting *'there won't be too many health services in the parts of [the State] that we operate in that don't have students.'*

With the growth in student numbers a strategy is increasingly employed to recruit new general practices into teaching the GP-based or community-based education model, recognising there are limitations on the ability to increase student numbers in hospital settings. A further strategy borrows from the approach used in the Riverland, where 'teaching hubs' are established to support students in surrounding locations. The hub provides teaching space, reference texts, and some staff time.

The geographical distance involved in rural clinical education is one of the unavoidable difficulties of this Program. As one UWA stakeholder noted, '*we have the most dispersed medical school in the world.'* Distance brings with it the cost of travel (in time and money), an increased cost of living, and the potential for isolation (e.g. limited access to teacher training for RCS staff). Some clinical trainers also noted that there are risks involved for students who are required to do a great deal of country driving, particularly when they are not used to travelling such distances or on isolated stretches of road, often unsealed. These costs are accepted as one of the consequences of the rural training infrastructure; however they are also recognised as limiting factors due to the greater reliance on and need for adequate information technology, additional administration costs (due to dispersed sites), and isolation.

All RCSs have been able to access (or invest in) accommodation for students, and it was consistently reported that subsidised or free accommodation was a significant factor in attracting students to the RCSs. Longer term placements (e.g. of one year) do make normal private rental arrangements viable in the way that short-term rental agreements for six-week placements are not, so in some cases RCSs do not have the critical student accommodation needs of a program like the John Flynn Placement Program. In addition, where an RCS expects to have a critical mass of students on a continuing basis they have often purchased units or houses for communal student living. The cost and availability of housing varies significantly and in some areas which are experiencing an economic boom, such as Port Hedland, the ability to access any accommodation is a challenge. Student accommodation has also been raised by some RCSs as a limitation to establishing training posts in new areas.

The challenges of living communally with students and working closely with them on a daily basis were noted by several students. Several RCSs spoke of the efforts which they made to allocate students together who knew each other or who they had determined shared common interests, to alleviate the inevitable tensions which might arise when students are essentially spending 24 hours a day living and working together. Issues were also raised by students about the suitability of the accommodation for people who have partners and/or children with them.

In addition, some students were quick to acknowledge the inadequacies of their current student accommodation, and some staff members perceived that the expectations of students had risen dramatically with regard to adequate housing, putting additional pressure on the RCS to meet student expectations out of a concern that they would otherwise not be able to attract students who might potentially become rural doctors. Some RCSs have intentionally developed accommodation to suit couples or families, particularly where it was a graduate program (and students are a little older than in undergraduate programs). Elsewhere, couples and families are not as easily accommodated, and in some instances this was seen as a limiting factor.

A shortage of adequate rural accommodation is not a problem confined to the RCSs; this has also been experienced by staff who might be recruited to a UDRH, or clinicians who might be taking up a joint appointment with the local hospital.

> *'The [hospital] accommodation was shocking so we bought our own, but it's harder to get into the market now.' (hospital clinician)*

This same doctor wondered whether these sorts of difficulties discouraged students from considering rural careers.

> *'I've wondered whether students hear what doctors are saying about living here and make their own mind up.'*

Succession planning

There is a rich narrative history associated with the rural clinical schools, where the founders of RCSs and, in particular, the preceding programs which led to the RCSs, have attained 'legendary' status for their substantial commitment and contribution to rural health over many decades. While there is no doubt these accolades have been earned, there is an associated risk emerging in regard to succession planning. In effect the founders represent the generation which forged the way and ensured rural and remote health reached the national health agenda, and they are strongly supported by highly committed teams of academic and administrative staff. While a model of 'charismatic leadership' has served the RCSs well, this is not generally viewed as a sustainable model.

The challenge now for RCSs (and to some extent UDRHs), is to cultivate the leadership capacity to steer the program into the future, following the inevitable retirement of the 'first generation' of leaders.

5.6 Summary

The RCS Program has now enabled the creation of 14 dedicated rural clinical schools, with the establishment of significant tertiary infrastructure in rural Australia and the development of a strong network of academic rural clinicians. A number of alternative clinical training models have been piloted and found to be beneficial, including the Flinders University Parallel Rural Community Curriculum and other community-based training approaches. The successful provision of clinical training in the rural environment, evidenced by the academic results of RCS students in comparison with their urban counterparts, has demonstrated the validity of rurally-based clinical training.

It is too soon to determine whether this extended rural exposure through the RCSs has influenced medical students' actual decisions to practise rurally. However, there is anecdotal evidence that the presence of the RCSs has influenced the recruitment of new clinicians to rural practice, and also assisted with retention of current rural medical practitioners. Evidence of student career intentions is also encouraging. The early cohorts of the RCSs will soon be establishing themselves in medical practice and over the next few years it should be possible to analyse whether the number of RCS-trained, rural doctors is increasing. Student tracking surveys should also enable longitudinal data to be collected with regard to RCS students and their later career decisions.

Challenges to the RCS Program, as for the UDRH Program, are the capacity of the health system to accommodate increasing student numbers, as well as recruitment of staff. The RCS Program faces an additional challenge due to the nature of medical training, as the number of rural internships, pre-vocation placements, and vocational training opportunities remain limited, potentially undoing the positive influence of the rural experience gained through the RCS placement if students find themselves spending extended periods back in the urban environment for pre-vocational and vocational training. The need to address this lack of capacity is pressing if the investment in the RCS Program is to be realised.

6 Discussion and recommendations

6.1 Overview of outcomes

Overall, there is clear evidence that the UDRH Program and the RCS Program have achieved their initial aims of establishing a functioning educational infrastructure in rural Australia and of increasing support for and, to some extent, capacity within the current rural health workforce. The earliest sites for the Programs have moved past the establishment phase to become more mature agencies of training and research, and in some places innovative partnerships are developing which are enhancing health service delivery. The annual reports for each site and regular reporting mechanisms demonstrate that the sites are fulfilling their obligations according to the requirements which have been made of them through their Program parameters or objectives.

The UDRH and RCS Programs have been described as part of a 'rural health education revolution' (Wing 2007:344). The result of this 'revolution' has been the creation of a rural health infrastructure where none existed, with resulting opportunities for students, academics, and clinicians to contribute to improving rural health services. The benefits which have accrued can be summarised broadly as the following:

- increased number of health students gaining exposure to rural health services and rural health issues;
- the establishment of educational infrastructure, with facilities which are available to a range of health providers and community groups as well as teachers and students;
- some recent nursing and allied health graduates choosing to take up rural employment as a result of their exposure through a UDRH, and some medical students seeking rural internships or vocational training placements as a result of their exposure through an RCS;
- some clinicians – nursing, allied health, and medical – choosing to remain in rural employment as a result of any of the following: new opportunities to teach or train, ability to undertake research and/or postgraduate studies, perception of increased practical, social or professional support, and/or ability to take an academic appointment while remaining in rural clinical practice;
- some clinicians – nursing, allied health, and medical – choosing to relocate from the city because of the opportunity to accept a joint academic and clinical position;
- enhanced visibility of rural health and its challenges within the university environment;
- increased number of publications with a rural or remote focus;
- new partnerships for innovation in service delivery and health system research; and
- enhanced visibility of the university sector within rural and remote Australia.

Many of these statements cannot be quantified at a national level, and indeed, many cannot be quantified at a local level either due to the fact that the influences on people's decision-making (regarding choices of career pathway, or decision to remain in rural practice or conversely to leave it) is not always publicly known.

However, sufficient anecdotal evidence exists to suggest that there is an impact on rural workforce capacity through recruitment and retention of health professionals, and through influencing health students' perceptions of rural health careers. The objective of increasing the workforce through encouraging students to return to the country has been met, to the extent that without a target goal even one student returning to practise in a rural area could increase the workforce. While it was noted by several respondents that it will be impossible to prove causality across either the RCS or the UDRH Program with regard to increasing the rural health workforce, to the extent that the UDRHs and the RCSs have retained or attracted clinicians through opportunities to take up clinical and teaching appointments, the rural workforce has been sustained or increased. The reported increases through recruitment or retention are unlikely at the current level to be sufficient to compensate for rural

workforce decline, but the stories of new graduates seeking rural careers, or of experienced clinicians choosing to remain in the country, do give cause for hope that in time the Programs will contribute significantly to overcoming the current workforce shortage.

Other contributions to a vibrant rural health sector are more amenable to measurement, and such indicators as publications, research projects, or partnerships in health service innovation have been reported by the UDRHs particularly, in their annual reports to the Department as well as in journals, conferences, and other professional fora. There is scope for these activities to increase and every expectation that they will do so as the Programs mature. In order to effectively assess the impact of these Programs longitudinally it will also be important to consider such secondary benefits as:

- improved perceptions of rural health services across the health system through students receiving greater exposure and understanding of the challenges of rural health care, whether or not they return to the country to practice themselves;
- enhanced communication amongst rural and remote practitioners through greater information technology infrastructure, increasing professional and personal support to remote practitioners;
- enhanced clinical and educational opportunities including increased availability of interprofessional education;
- increased number of joint academic and clinical positions, attracting highly qualified and dynamic professionals; and
- overall community benefits such as innovations in health service delivery, increased numbers (or maintenance of stable numbers) of health practitioners, and greater availability of health promotion and population health information and activities.

Each Program has contributed to these secondary benefits, and has made a contribution to the strength of the rural health workforce through engagement with and support for existing clinicians as well as students.

Table 10 overleaf summarises the findings of the evaluation applied to the original hierarchy of outcomes of the evaluation framework. Use of the hierarchy of outcomes may assist in future strategic planning to ensure that progress continues to be made towards ultimate outcomes, and that progress can be monitored.

The remainder of this chapter discusses the key strategic issues emerging from the evaluation and makes recommendations for the future.

Table 10 – Hierarchy of outcomes and achievements to date

Hierarchy of outcomes		Achievements to date
Ultimate outcomes	Increased workforce capacity	Contributed – see4.4.1, 5.4.1,5.4.2
	Increased training and support	Yes – see 4.4.2, 5.4.1, 5.4.2
	Increased rural health research capability and output	Yes – see 4.4.3, 5.4.3
	Integrated rural health training and support programs	To some extent – see 4.4.2, 5.4.4
Intermediate outcomes	Increased recruitment and retention of health practitioners in rural and remote areas through the provision of a positive rural health education experience	To some extent – see 4.4.1, 5.4.2
	RCSs and UDRHs engage with other programs/initiatives within local, State, Territory and Commonwealth Governments	Yes – see 4.4.4, 5.4.4
	There is increased and effective collaboration between UDRHs and RCSs, and also with local educational institutions and health service providers	Yes – see 4.4.3, 4.4.4, 5.4.4
Immediate outcomes	Research into rural and remote health issues is taking place	Yes – see 4.4.3, 5.4.3
	Appropriate and effective support provided to health professionals currently practising in rural and remote settings	To some extent – see 4.4.2, 5.4.2
	More rural and remote health practitioners are engaged in education and training opportunities	Yes – see 4.4.1, 4.4.2, 5.4.2
Activities/ Outputs	Rural Clinical Schools Program – targeted education, training and support for medical students in rural and remote health, and development of support infrastructure	Yes – see section 5
	UDRH Program – targeted education, training and support to enhance opportunities for medical, nursing and allied health students in rural and remote health, and development of support infrastructure	Yes – see section 4

6.2 Policy challenges for the two Programs

At present there are a number of policy challenges which have implications for both Programs. One major consideration is the sizable 'bubble' of an expanded cohort of medical students that will be making its way through the training system for the next five years. Resulting from Federal policy decisions made in the 1990s, 'the figures paint a clear picture: the wave of students flowing into the Australian medical workforce represents substantial growth, and we must plan carefully – now – if we are to ride the wave, rather than being swamped by it.' (Joyce et al 2007:310) Many stakeholders around the country are aware of this approaching wave, from the NSW Medical Student Council which called upon the Federal Government to stop increasing medical student placements until more internship positions have been created (Wallace 2008) to the RDAA which has called for increased investment at the level of internship and vocational training (RDAA 2008), to Schwartz (2008) who has suggested that market forces should be allowed to influence the numbers of medical practitioners.

As Joyce and others point out, the consequences of policy decisions can be felt for decades. Both the UDRH and the RCS Program have required significant infrastructure investment and to ensure that the investment which has already been made is realised, the medical training pathways, including the capacity of State/Territory-funded health services, require urgent consideration to accommodate the projected increase of medical students into the system. This poses a challenge for the RCSs in particular, as they will seek to accommodate a growing demand for clinical placements in rural hospitals, Aboriginal Medical Services, GP surgeries and other health service settings at the same time that pre-vocational and vocational placements are being increased within many of the same settings. However, the expected expansion of medical students through the system will also impact upon the capacity of the UDRHs to maintain the programs of training and support for nursing and allied health while being faced with increasing demands to accommodate placements for a greater number of medical students.

A second policy challenge which faces both Programs is the requirement to deliver on a workforce initiative within an educational setting. Each RCS or UDRH serves two masters, to the extent that they are accountable to their university faculty for delivering educational outcomes (with commensurate reporting and administration) while also being accountable to the Department of Health and Ageing for delivery of a suite of activities designed to support and sustain the rural health workforce (also with its own reporting and administration). Ensuring that the goals are clear and that all parties are cooperating towards a common end should assist to streamline some of the administration requirements of each Program without loss of transparency.

A third policy challenge arises from a long-standing concern of many doctors to develop a dedicated rural training pathway. This dream of integrating the various levels of rural medical training, from student placements through intern and postgraduate years to vocational training, has been on the rural medical agenda for some time and a number of organisations are already exploring options to streamline training pathways. The extent to which RCSs can play a leadership role in this – for instance whether RCSs have the infrastructure available to accommodate oversight of intern and postgraduate years, and whether they should do so – is still to be resolved. Some informants considered that the RCS should continue to focus on its original mandate of delivering the university medical curriculum, while others argued that the RCS structures and facilities are well-placed to become an integrated provider of all levels of medical training. This latter view has been promulgated most recently by the RDAA and the NSW Medical Student Council (RDAA 2008). Regardless of who provides the various levels of rural medical training, as with the previous two challenges it appears clear that urgent dialogue and cooperation are required to develop a pathway which will accommodate the increasing numbers of students who are likely to seek rural pre-vocational and vocational training.

The remainder of this chapter discusses the key strategic issues emerging from the evaluation and makes recommendations for the future. This discussion is grouped into seven themes:

- strategic leadership and vision – including succession planning and structural sustainability;
- program management – including funding levels, parameters and objectives, monitoring and operational expansion;
- maintaining the culture of innovation;
- the capacity of the health system to absorb increased training requirements;
- partnerships;
- community impact - including Indigenous health; and
- implications for the local workforce.

6.3 Strategic leadership and vision

6.3.1 Leadership

People in leadership positions in RCSs and UDRHs play a crucial role in three important arenas:

- Leaders represent and advocate for new models of training which challenge the long-established metropolitan models of the professions and the university (a particularly critical issue in medical training, but also relevant in nursing and allied health).
- Leaders inspire and support rural practitioners to participate in the program as trainers and supervisors, and have sought to develop academic opportunities such as joint appointments so practitioners have an additional motivation to stay in the rural location.
- Leaders build collaborative relationships with the State/Territory health services (at a clinical and management level), with local private health providers (including Aboriginal Health Services), and with community stakeholders such as Shire councils, Rotary clubs, etc.

> *The biggest asset is also the biggest risk – people*. (UDRH academic)

As with any organisation, the capability and capacity of its people and their ability to work together as a highly functioning team determine the organisation's long-term success. As discussed throughout this report, the leadership within the Programs has been critical in building up the individual sites across the country. It is reasonable to expect that some of those who have been key champions or pioneers of the Programs will choose to move on from their current positions within the next five to ten years if they have not already. Accordingly, it is essential that plans are in place to ensure that relationships with external partners are embedded within the organisation rather than resting with the personal credibility of individuals.

One of the ways in which the Programs can do this is to build on their organisational learning culture, encouraging professional development and capacity building within their own staff. This has the secondary effect of developing a cohort of leadership capacity within rural communities, which has the potential to benefit the rural health sector, the university sector, and the local community. Developing leadership capacity within the ranks will also contribute to succession planning.

One of the strengths of both Programs, but particularly the UDRH Program, is the variety of ways in which the UDRHs and RCSs have responded to and adapted to local circumstances and challenges. The ethos of each site is slightly different and determined as much by the way in which the leadership have responded to their mandate in the local context as to the national Program objectives or parameters. Organisational vision is highly influenced by the leader of the organisation, and there is a natural risk to both Programs of losing the early passion and vision of the founders as the individual UDRHs and RCSs become more established. Developing and articulating a strategic vision for the national Program (discussed later in section 6.4.2) will assist in ensuring stability as leaders change.

At the same time, strategic leadership within the potentially isolated contexts in which RCSs and UDRHs operate is difficult, and universities can provide structural and professional support to assist those in leadership positions who are in the process of creating new and innovative rural health training systems, to avoid burnout and to encourage others to follow in their footsteps. This is not a financial obligation of the universities as much as an opportunity to embed the Programs further in the structures of the universities in order to ensure UDRH and RCS staff are integrated into the larger enterprise of health education and training.

Recommendation 1: That the universities support and encourage the professional development of RCS and UDRH Program staff to ensure stability and the mentoring of new leadership.

6.3.2 Succession planning

Recruitment for UDRHs and RCSs is as difficult as it is for health services in rural areas; this is an indication of the challenges currently faced across rural Australia and is likely to remain so for some time. However, UDRHs and RCSs have the additional attraction of offering joint academic and clinical appointments which may be attractive to a cohort of students already pre-disposed to rural practice. The ability to attract younger, academically oriented people to take positions was a concern for many informants.

> *'Research funding isn't enough to attract them, we need a broader range of investments'.* (UDRH academic)

> *'A major psychological issue in rural areas is critical mass - you need to know there's back-up, if you want to take any time off, to not be on call all the time. You will get doctors coming to rural areas if you can offer them an academic package.'* (RCS academic)

In other words, the Programs need to continue to be innovative in order to be seen as an attractive career opportunity for young researchers and early career clinicians. Opportunities for ongoing professional development as well as lifestyle benefits were named as some of the factors in Program staff's career decisions.

It has also been noted that flexibility with the expenditure of funding is required; sometimes funding is received for positions but a time lapse ensues before implementation due to the difficulty in recruiting an appropriate person to undertake the role. In some cases it has taken a year or more to recruit a suitable person to fill an academic and/or clinical appointment. (Refer to the case study 'Border Medical Recruitment Taskforce' in section 5.4.2 for an example of regional recruitment strategies.)

The challenges of recruitment reinforce the need for UDRHs and RCSs to collaborate with area health services and other agencies to develop strategies for attracting high-quality people to take up rural appointments, for the benefit of the Programs as well as local health service delivery. This point is discussed further in sections 6.6 and 6.7.2 below.

6.3.3 Structural sustainability

The participating universities have benefited from Commonwealth funding for the Programs to establish a university presence in regional and rural Australia. The Department of Health and Ageing has provided funding for infrastructure which would not have been available to universities otherwise (such as office and teaching space, accommodation, clinical simulation laboratories, and information technology facilities).

This infrastructure has had broad benefits not only for the health sector, but also the educational sector, heightening the universities' visibility within communities and engendering a positive response towards the university through their presence in the local community. External stakeholders have expressed community perceptions that the rural environment is valued by the university because of this tangible investment in the provision of rural university sites.

However, there are questions regarding the sustainability of the current arrangements. A number of UDRH staff pointed out that there is no funding for maintenance of capital works, so that when maintenance is required it impacts upon core funding. Some informants reported a perception that,

because of the external funding source of the Programs, the university did not feel the same ownership of the Programs as they might for other, metropolitan-based departments.

> *'It's been more like a growth on the university than a growth of the university.'* (UDRH staff member)

As noted in sections 4.4.2 and 5.4.2, senior university informants universally believed that the Programs were making a positive contribution to the rural health workforce, and that the Programs had benefited the universities by allowing them to develop academic infrastructure which enhanced their visibility and credibility within rural and regional Australia.

One senior university representative stated that the continuity of Commonwealth funding was critical in order to achieve the scale of operations which the Programs currently undertake. A senior representative of another university also stated that '*DoHA has a better understanding of workforce issues'*, and that it was preferable for the Programs to be funded through the Department rather than through DEEWR as the workforce priorities of the Programs differentiated them from the rest of the university sector. One UDRH Head commented that:

> *'the UDRHs are a hybrid group – not standard education providers because they are service-oriented. They need not to be put into [the education sector] solely because they are also providing research and service improvements. Their strengths are operating at both levels'.*

This perception of being '*embedded into local services'* was considered by most UDRH and RCS leaders to be a critical component of their ability to support the rural workforce. While they are not necessarily easily defined because of this straddling of both the educational and workforce sectors, this dual nature may in fact be the key to their sustainability, informing the education sector regarding health system needs and facilitating ongoing educational and professional development within the health sector. Maintaining this delicate balance of identifying with both the academic sector and the professional health sector appears to be crucial for both UDRHs and RCSs to bridge the gap between training students for clinical practice and sustaining an effective and functioning rural health system.

Most university informants considered that the Programs would not be sustainable without continued funding from the Department, both because of the financial investment required but also because of this dual nature of the Programs as both workforce and educational initiatives.

Recommendation 2: That the Department maintain its current funding arrangement of the two Programs, maintaining the Programs as distinct health workforce initiatives within the academic sector.

6.4 Program management

6.4.1 Funding levels

Each UDRH receives the same amount of core funding each year ($1.66 million exclusive of GST in 2008-2009). This amount has not increased since the Program's inception, and an annual indexation was only approved in 2004-5, meaning that the real value of the Program's funding has effectively *declined* in the last ten years in terms of purchasing power.

UDRHs have been innovative in gaining additional funding from a range of other sources (through grant funding, research collaborations, and partnerships with local health services), and have been active contributors to health system development as well as health student education. Many UDRHs have been able to employ additional staff only because of particular grant and research money which they have acquired, and have used such contracts to employ staff who can also contribute to their core activities of teaching and professional development. Some UDRHs have been more proactive than others in seeking external funding sources. However, in the current competitive employment environment, the UDRHs' ability to continue their activities could be constrained without incremental annual increases to the core funding as well as annual indexation, putting at risk the significant investment which has been made to the Program to date. As was noted in chapter 4, attracting

qualified people to rural locations is often difficult, and the levels of salary and incentives required to attract health professionals to the country (often raising the bar of what is considered a reasonable salary package) are a pressure for UDRHs to meet (and also for RCSs).

In addition, recent increases in costs of petrol and transportation, with corresponding increases to other costs of living such as food, make the organisation of placements more costly for both RCSs and UDRHs. In rural locations which are experiencing significant growth due to the mining industry, costs of housing have increased while availability of adequate housing has decreased, impacting both students and staff who might consider relocation. While RCSs have been able to acquire long-term accommodation for students, either through lease or purchasing agreements, accessing short-term accommodation for UDRH students undertaking placements is more difficult; although capital funding has been available to UDRHs from the Department, the extent to which it has been used for student accommodation varies. Infrastructure maintenance was also mentioned by several UDRH stakeholders as an expense for which they do not have adequate funding, and it would be useful to clarify between the Department and the universities where the responsibility lies for maintaining capital works which have been funded by the Department but whose ownership resides with the university.

Increasing levels of support available from UDRHs for accommodation and transport costs of placements would encourage students to undertake placements who might currently be deterred due to the costs of doing so, and thus provide additional encouragement for students to be exposed to rural practice. Increasing the investment in the Program would also signal that increasing nursing and allied health professionals in rural locations is a workforce priority.

The differential in student support available through the UDRH and RCS Programs is also significant and noted by students (see section 4.5.2). The Programs run a strong risk of structurally inculcating a privileging of medical students and a distinction in value between the health disciplines which the students themselves question. This has the potential to impede the ability for interprofessional education opportunities and also the development of a rural teamwork ethos which could be grounded in students even before they qualify. While recognising the importance of increasing the number of doctors in the workforce, many stakeholders also noted that in order to function doctors need nursing and allied health providers available: *'they need someone to refer [a patient] to.'*

It has been almost universally acknowledged that one of the factors in the RCS Program's success to date has been the level of funding, so it does seem reasonable for funding to continue at this level. In the foreseeable future at least, the need for funding will not diminish once the establishment phase of the RCS Program has been completed, due to the steadily increasing number of students who will require placements, accommodation, administrative support and teachers.

If RCS funding were to be reduced, it is likely that the length of time a student could be subsidised to study in a rural location would be reduced accordingly. As the whole impetus of the Program to date has been to increase the amount of time a student could spend outside of metropolitan areas, this would seem a retrograde step. As stakeholders consistently emphasised, '*The experience has to be long enough, and it has to be positive'* for rural exposure to influence a student's career choices.

The cost per student ranges widely across RCSs: four operate on less than $40,000 per student, while five run at over $100,000 per student. These discrepancies are partly explained by age, size (with corresponding efficiencies of scale) and geography (remoteness and catchment area), but there are anomalies beyond these factors. Some students are keenly aware of the different amenities which universities are able to offer, and perceive that there are disadvantages which may accrue to them as a result of choosing one university over another. Accordingly, it would be of benefit to the Department, the universities and the RCSs to explore a more evenly distributed allocation across Program sites. It is recognised that the latest funding round did partially address the discrepancy in funding across universities.

Recommendation 3: That core funding for UDRHs be increased to accommodate increased staffing and operational costs, including continued annual indexation.

Recommendation 4: That the Department clarify with universities the responsibility for funding infrastructure maintenance.

Recommendation 5: That funding support for UDRH students in nursing and allied health be increased, including accommodation and transport costs for student placements.

Recommendation 6: That RCS funding levels be maintained, and that efforts continue to achieve a more equitable distribution amongst RCSs.

6.4.2 Parameters and objectives

Many stakeholders believe that the Department has shown wisdom in the way in which the Programs are managed, and that the supportive and flexible approach of the Department has been a key factor in the success of the Programs to date. For each Program, the original aims have largely been achieved, with established infrastructure, staff and educational, training and research programs. At this point in time it seems appropriate to re-define the Programs' goals for the next ten years, seeing each Program as a long-term addition to national rural health workforce strategies. The reasons for this differ for each Program.

- For the RCSs, the current funding parameters are properly seen as contractual requirements rather than ongoing objectives or outcomes. Each RCS reports regularly on their student numbers, curriculum requirements, research and other activities as well as on budgetary matters. Now that most RCSs have moved out of their initial establishment phase, developing objectives which describe what outputs and outcomes the Program is seeking to achieve would assist in future evaluation of the Program. These objectives should be linked to a strategic vision for the Program as a whole, including secondary benefits additional to the workforce distribution changes which it seeks to influence. Objectives for the next ten years might include challenges such as tracking students (already a focus of FRAME's attention), developing vertically integrated training pathways, and increasing the level of research activity.

  For instance, it was acknowledged by most RCSs that the priority to date has been to establish a credible medical education training program in a rural environment. However, research is also recognised as important and many sites have developed a research program, with research activity tending to be more extensive the longer the RCS had been established. Most sites had plans to increase their research activity in the future. Including in the objectives the secondary benefits which the RCSs are widely considered to provide, such as the level of rural clinical research and innovation, contributing to recruitment and retention, and promoting rural health careers through the presence of the university in rural locations, might also be a means to recognise these achievements as legitimate aims of the Program.

- The objectives of the UDRH Program are broad; this has been determined to be a strength in encouraging innovation and a locally relevant approach. As with the RCS Program, the UDRHs report regularly to the Department on the number of placements, level of research activity, collaborations, publications and budget. The KPIs which are currently monitored are largely process measures, and potentially could be more closely aligned with the strategic aims of the Program to assess short, medium and longer term impact on the local workforce and population health.

  'The KPIs have improved but they are sometimes a bit irrational, there should be fewer KPIs and more strategic direction.' (senior university administrator)

  As with the RCSs, developing a strategic long-term vision for a Program which has now moved past its establishment phase will assist in ensuring its effectiveness as a workforce initiative. This would require developing measurable indicators which focus more on outcome than process measures; for instance, seeking to measure the impact of publications in influencing Australian

health policy and clinical practice rather than simply the number of publications (perhaps using the DEEWR Higher Education Research Data Collection specifications which universities already use to quantify their research output).

At the same time, the development of targets for nursing and allied health placements (discussed in section 4.4.2), would reinforce the importance of these placements as a workforce initiative, and might assist in raising the profile of rural health careers in these disciplines.

Some administrators have suggested that the reporting requirements are already onerous, with one Head of School suggesting that a .5 FTE position was dedicated to fulfilling reporting requirements for the Department and the host university. Developing Program-wide strategic objectives should not add an additional level of reporting burden on to individual sites. Rather, for each Program, FRAME and ARHEN, in consultation with the Department and their universities, might consider developing objectives which focus on national strategic direction rather than operational measures such as throughput which are ongoing contractual requirements. This could assist with more clearly defining the impact the Programs are seeking to have on the rural health workforce, and to measuring their success in meeting those objectives. A logical framework approach may be helpful in assessing what goals are actually measurable and attributable to the Programs, as opposed to those to which they contribute, such as influencing students' ultimate career choices.

Recommendation 7: That the Department, in consultation with ARHEN, FRAME and the universities, define long-term strategic priorities and objectives to reflect the Programs' aims more clearly, and incorporate these into reporting mechanisms.

6.4.3 Monitoring and policy research

The lack of longitudinal and consistent data regarding students and clinicians hampers the Department's ability to monitor the extent to which the Programs are influencing the rural health workforce. The difficulties of monitoring and evaluating student and clinician career decisions is well-recognised, and MDANZ and FRAME have both made efforts to create a process which will provide consistent data in the future. This evaluation has relied on reported personal experiences, anecdotal reports regarding workforce impact, published literature from the RCSs and UDRHs, and the few tracking studies or research projects which individual sites have conducted into their own local impact or contribution. While this provides an evidence base for a process evaluation of the Programs, assessment of the long-term impact of either Program will be dependent upon rigorous and continuing monitoring. Each UDRH or RCS is already evaluating its own performance on a regular basis in reports to the Department as well as through a variety of research projects. Developing mechanisms for assessing national Program impact would require an overarching, collaborative framework based on such objectives as described above in section 6.4.2.

Data available through such studies could inform a continuing quality improvement process for each Program so that problems may be addressed and changes incorporated before the next generation of policy assessments are made. It is acknowledged widely that the Programs will not see the outcomes of their efforts for some time to come; however if, as reported by Health Workforce Queensland (2008), only 4% of Queensland medical graduates since 1990 are operating in RRMA 4-7 locations, it is evident that there is a need to demonstrate that the Programs are increasing the rural health workforce over time. As one informant stated with regard to the dependence of the Programs on rural clinicians and health services, *'the problem is being asked to be the solution'*, and it will be essential to assess whether that strategy is bearing fruit over time.

In order to be able to both identify emerging challenges to the health system and design innovative models for addressing them, building on the academic culture of critical analysis to incorporate ongoing monitoring and evaluation will strengthen the capacity of each Program to respond to their operating environment. It will also assist in the identification of areas for future innovation as well as models of best practice.

Recommendation 8: That FRAME and ARHEN, in collaboration with the Department and the rural workforce agencies, continue to develop mechanisms for national monitoring of each Program's workforce outcomes, including the existing FRAME tracking survey and the MDANZ student tracking database.

6.4.4 Geographic coverage and operational models

There is scope for the UDRH Program to be expanded to cover geographical areas not currently serviced by the program. Whether this should be through expanding the current UDRHs or through creating new ones is not clear. A strategic mapping process should be undertaken which looks at current coverage of the UDRHs, the needs of communities not currently serviced by UDRHs, the capacity and interest of host universities, and projected needs for services in the future. A transparent process would then need to be undertaken with universities to determine where expanded or new UDRHs should be based.

One viewpoint expressed by some informants is that now would be a good time for the UDRHs or RCSs to expand because of the difficulties facing many rural communities due to drought or loss of services. Expansion would provide additional services to communities which may be struggling and promote a sense of hope that rural health services will continue or improve. It would bring academic clinicians to new locations and thus also increase the local workforce. To be effective, expansion also needs to include ownership from local communities, as the current sites have clearly demonstrated. Equally, there are some who would like to see the current model be proven before additional expenditure is made for either Program.

There are a range of operational models currently extant within the RCS Program, developed according to the medical structures in place within the local region (e.g. GP-run hospitals, regional hospitals, GP surgeries, AMSs) and curriculum requirements of the university. As each model has demonstrated its capacity to fulfil the contractual requirements of the Program, there does not seem to be any need to develop one common unified operational model.

Currently, the greatest number of RCSs reside in the States with the greatest population base: four in NSW, two each in Victoria, Queensland and South Australia, and one each in the other States and Territories. At the moment, it appears that these 14 RCSs are able to accommodate their current demand for RCS student places; although many are receiving more applications than the available number of places allow, some see this as a positive opportunity to *'cherry pick'* the best students rather than having to fill positions with less enthusiastic candidates as sometimes happened in the early years. At the same time, the number of medical students is expected to continue to grow and whether the current number of RCSs can expand to accommodate these numbers or whether new RCSs are required will need to be determined through careful strategic and statistical modelling, which should include those universities who are already in discussion with the Department about establishing Program sites.

Most RCSs are now able to meet the target of accepting 25% of Commonwealth-funded medical students into their Program (Parameter 1, see section 5.2), and some regularly exceed this target. Increasing the target, say to 30%, would allow RCSs to claim additional funding as their student numbers would increase. However, the ability of RCSs to meet this target overall is unclear and an expansion of the target should be subject both to funding and capacity constraints. For now, 25% is slightly less than the proportion of Australians who live rurally[39]; any consideration of expanding the target should be considered carefully as the additional burden could potentially be significant on RCSs.

The two Programs, while having similar long-term aims, each have different operational models, the RCS focussing on delivery of the medical curriculum, the UDRH focussing on a broader range of teaching and training activities, as well as research and health service development. The level of activity undertaken within either UDRHs or RCSs is significant, through teaching and clinical training,

39 According to the Australian Bureau of Statistics, the percentage of the Australian population of Australia living in regional or remote settings in 2006 was 32%. (cat 4102.0')(www.abs.gov.au)

through student placements and community engagement, through research and publications, and through health service delivery and innovation. Their different approaches to addressing the workforce shortage suggest that there would be no net benefit, but potentially an overall loss, to integrating the two Programs as one. While there may be a natural integration in various locations over time, as for instance in those universities which have unified the two Programs into one School of Rural Health, this decision has been taken at a local level and for the aim of best accommodating local circumstances and the long-term vision of the particular university/ies. Overall, there seems to be no national benefit to integrating UDRHs and RCSs at a Program level at this time.

Recommendation 9: That the Department consider expansion of the Programs only after careful strategic demographic profiling targeted to areas of population growth, taking account of:

- the capacity of current RCSs and UDRHs for expansion;
- the capacity of regional, rural and remote health infrastructure and workforce to accommodate increased student numbers;
- local population needs;
- the demonstrated interest of the host university;
- infrastructure requirements; and
- the current coverage of UDRHs and RCSs (see maps in Appendix E).

Expansion considerations should include whether to increase the size and capacity of current universities or whether to include additional universities.

Recommendation 10: That the Department maintain the two Programs as separate initiatives.

6.5 Maintaining the culture of innovation

One of the factors in the success of the Programs to date has been the Department's approach to the Programs in their implementation. Departmental staff were considered to be approachable, flexible and understanding when operational challenges arose, and this was believed to be appropriate in fostering the establishment of ambitious and fledgling Programs which had not been trialled before. The continuity of Departmental staff overseeing the Programs over time has also been noted favourably. For both Programs this approach has encouraged the enthusiasm and innovation which have characterised the development of the Programs nationally. Some stakeholders expressed concern that a change in the Department's approach, for instance away from openness and flexibility, would inhibit the ability of the Programs to be responsive to their local environments and the needs of their communities.

Some stakeholders were aware of the need for the UDRHs and RCSs to maintain their ability to innovate and create new opportunities or risk losing the level of financial and professional support that has been critical to the success to date.

> *'[we need] to add value in a whole range of different ways; simply teaching alone as an activity is not enough of an activity for a rural clinical school nor is it likely to produce the kind of workforce impact. We have got to be involved in service development and involved in the services in a whole range of different ways so that our role infiltrates both practice and teaching. So there's a very important dual role and I think that's a critical sustainability issue. I don't think we can just sit here as teachers, I think we have to be very, very involved in the overall development of health services throughout the region and I think we're doing that to some extent.'* (RCS academic)

Along these lines, a recent study (Edmondson 2008) analysed the difference between efficiency and learning in organisational practice. The author argued that organisational cultures that are focussed on efficiency risk losing the ability to remain competitive, or (for hospitals and other complex not-for-profit systems) to retain best practice, because they stop focussing on the learning and reflective practices

which lead to innovation and development. Similar arguments have been put forward by other education scholars, notably Schon (1991) with his analysis of reflection-in-practice. The common thread of these approaches is the importance of making space for reflection and the consideration of novelty within the daily execution of the organisation's mandate. A culture of innovation is largely what has characterised the establishment of both Programs to date.

Edmondson identified four steps to enculturating 'execution-as-learning' into an organisation:

- provide process guidelines;
- provide tools that enable employees to collaborate in real time;
- collect process data; and
- institutionalise disciplined reflection. (Edmondson 2008:65-67)

One way for UDRHs and RCSs to retain their ability to be proactive in identifying and meeting the needs of the rural health workforce is to develop process guidelines which are clear protocols for high performance; support for collaboration; ongoing monitoring mechanisms; and structured opportunities to reflect and learn from their performance. All UDRHs and RCSs are already doing this to some extent, but it is admittedly a challenge to retain the cutting edge in the midst of demanding schedules, university and Program reporting requirements, and continual change and development in both staff and program activities. FRAME and ARHEN each contribute to their members' learning and reflective practices already by providing mechanisms and events in which members can share experiences and ideas, and develop new ways of thinking about common challenges.

An additional way in which the Department could encourage this quality approach would be to provide incentives for innovative exploration of new models for health service delivery. Creating a pool of innovation funding would provide an incentive for partnerships between academic entities but also could include local service providers and services. It would recognise the opportunity for the UDRHs and RCSs to become leaders in rural health service development and in doing so would advance both the workforce goals of the Programs and the teaching and research aspirations of the universities. The Department could structure the funding selection criteria in such a way that the applications reflect the kinds of partnerships and activities that are of particular relevance to the Australian Government's rural health workforce strategic aims.

Recommendation 11: That the Department continue its current approach to the Programs, characterised by flexibility and openness to innovation.

Recommendation 12: That the Department, in order to encourage collaboration and innovation, create a dedicated pool of funding which could be available on a competitive basis to RCSs, UDRHs and other university rural health institutions, for practical and applied health service delivery and workforce research and innovation.

6.6 Health system capacity to absorb increased training requirements

The ability of both Programs to deliver their stated objectives is heavily dependent upon the capacity of the health system to absorb the projected increase in the number of medical students, as well as nursing and allied health students. This in turn is dependent upon the ability of Federal and State/Territory health services to recruit and retain high-quality clinicians.

In the long term, the sustainability of both Programs will rely on an interdependent relationship with Federal and State/Territory-funded health services in which the Programs nurture potential rural clinicians and support existing ones, while the health services provide the environment in which those clinicians (both potential and existing) can flourish.

> *'It's all very well turning out graduates, but it's no good if there are no postgraduate intern positions. We need a better vision for a rural pathway.'* (clinician)

Success for the RCSs could be measured in the number of rural interns and registrars; however it is not possible to measure success with these parameters when the placements for those segments of medical training are not available in rural areas. In addition, a significant factor in the RCS Program's potential to impact on workforce is the development of vertically integrated rural pathways. Medical students spend another 5-7 years in postgraduate training programs following their RCS experience, before they become qualified to practise in their own right; these are years where significant life choices are made, wedding vows are exchanged, mortgages are signed and families are started. The more that postgraduate and vocational training requires extended metropolitan placements, the greater risk that rural intentions fostered by the RCS Program may be eroded and replaced by metropolitan intentions. The Australian General Practice Training Program has already been regionalised (by the same Minister for Health who oversaw the launch of the RCS and UDRH Programs); the same progress has not yet been made for surgical or physician training.

Recent calls to re-examine the number of Commonwealth-funded medical student places (Wallace 2008), to increase the number of rural hospital intern placements and to restore the PGPPP funding for general practice intern placements (RDAA 2008), and to consider a market-based approach to the determination of workforce levels (Schwartz 2008), are symptomatic of a heightened awareness that the lack of integration across all levels of medical training will potentially limit the intended benefits of many of the Australian Government's rural health workforce strategies, including the RCS and UDRH Programs.

The need for integration across training levels will require collaboration across training providers, as well as across State/Territory and Federal health systems in providing clinical placements within hospitals and other service delivery environments. As the ability of the RCS and UDRH Programs to deliver their workforce outcomes will be hampered by the lack of availability of placements for students within community or hospital settings, as well as the lack of capacity of rural health professionals to take on preceptor responsibilities, it seems essential for both Programs to be represented in national and State/Territory-based discussions on resolution of a vertically integrated rural training pathway. In addition, the development of clear clinical academic pathways, so that clinicians could be supported to develop from clinical supervisor to clinical educator over a career, could be an additional contribution to the recruitment and retention of GPs as well as specialists.

Recommendation 13: That the Department, in collaboration with State/Territory-funded health services, explore alternative partnership arrangements with State/Territory health systems, such as joint appointments, sharing of clinical training facilities, and creation of new clinical training places, to provide stability in training systems for both Programs.

Recommendation 14: That at national and State/Territory levels the Department encourages vertical integration opportunities to link more closely RCS, postgraduate and vocational training systems, including the implementation of a rural medical career pathway, in close collaboration with universities, professional colleges, workforce agencies, State/Territory governments, and FRAME.

Recommendation 15: That the Department, in collaboration with State/Territory-funded health services, assist both Programs to develop additional incentives, training and support mechanisms for clinical supervisors and trainers, including exploration of alternative remuneration structures.

6.7 Partnerships

6.7.1 Universities

Lyle et al (2007:232) point out that even with the dedicated investment of the Department of Health and Ageing into the RCS and UDRH Programs, universities do not easily produce internal structures and processes which will facilitate rural health workforce choices amongst students. The authors suggest that increased collaboration across university health science departments and faculties might improve the level of promotion of rural health careers. Jones et al (2005:274) suggest that RCSs need to educate medical faculties and university academics to inculcate a positive perception of rural training. Influencing the medical and health system culture towards a more positive understanding of rural health services has been evident through the UDRHs and RCSs. Developing internal university systems which

encourage health students to consider rural careers could be considered an in-kind contribution from the universities to the broader rural health workforce agenda.

> *'There seems to be a perpetual undermining of rural health by people in the city, people get here and realise how great it is and are surprised. This will be hard to overcome, I am not sure how.'* (UDRH administrator)

Because the Programs receive dedicated funding from the Department of Health and Ageing, it has been suggested that some universities do not feel as much 'ownership' over the UDRH or RCS as they might if the school or department were fully part of the DEEWR-funded university structure. At the same time, other senior university stakeholders have emphasised the importance of the UDRHs and RCSs as components of their medical or health faculties.

While it was commonly understood that universities' funding is tightly stretched, the universities themselves contribute to the functioning of the RCS and UDRH Programs in many ways through infrastructure and institutional support, and it might be useful to explore ways in which their in-kind contributions to Programs can be measured. As the Programs mature and the individual sites become more embedded within their regions, heightening the universities' collaborations with RCSs and UDRHs would benefit the universities, the RCSs and UDRHs, and local communities. There would potentially be additional opportunities to promote further the universities' engagement in the rural context.

Recommendation 16: That the host universities be encouraged to explore new ways of promoting rural health careers, and particularly the opportunities available through the UDRH and RCS Programs, in collaboration with their UDRH and/or RCS.

Recommendation 17: That the host universities explore, in collaboration with the Department, ways in which the in-kind contribution of the host universities might be recognised and quantified nationally.

6.7.2 Other workforce and training programs

Rural clinical schools and UDRHs also have partnerships with a range of stakeholders outside the university sector. As has been noted, both Programs are reliant on a network of alliances across the Federal and State/Territory-funded health services as well as within rural communities. It appears that all Program sites have made great efforts to make a positive contribution to the local community as well as to be seen as an enabler and support mechanism for the rural workforce. These efforts should continue in order to retain the sense of both Programs being embedded in the life of rural and remote Australia.

Integration with other training systems is primarily an issue for the RCS Program, concerning vertical integration of medical training. However, within the UDRH Program there is probably room for greater integration with other funding initiatives; in particular, funding mechanisms from the Department could probably be streamlined. For example, the processes of the various funding and scholarship initiatives could usefully be examined.

RUSC funding, while a medical initiative primarily affecting RCSs or university departments of general practice, in some instances is administered through the UDRH and creates a substantial additional workload. This is, however, substantially a local issue as each university determines how their RUSC funding is managed and expended. Questions were raised among some informants as to the effectiveness of the RUSC funding, which was generally considered to be insufficient funding in light of the increasing number of rural medical student placements which were required each year. It was recognised that the RUSC Program had contributed greatly to increasing the level of awareness of rural health careers amongst medical students, and that its support for rural health clubs and short-term placements had been crucial in exposing a majority of medical students to the context of rural health practice. However, the RUSC requirements were considered to be onerous for the level of funding received, and some wondered whether the original aims of RUSC had been subsumed into the more recently-developed RCS Program.

There is great potential for the RCS and UDRH Programs to collaborate further, particularly in the area of interprofessional education. Some sites have developed significant shared training opportunities across disciplines, while others have preferred to maintain a separate and collegial relationship but not

to integrate their students formally. In those places where, for instance, joint clinical training using simulation laboratories is available, students and academics perceived that the benefits were greater than simply the imparting of clinical knowledge; students learned to work together across disciplines and to understand what each discipline has to offer. Similar experiences were noted in places where short interdisciplinary placements were supported and students were brought together to spend a week in a rural location, exploring local health issues and learning how rural practitioners addressed population health issues. Most students – nursing, medical and allied health – considered that these types of interdisciplinary training opportunities were very important in preparation for rural health practice.

However, relationships have evolved organically between UDRHs and RCSs over time, sometimes dependent upon the personality and operating style of the Program leadership. It appears that encouraging collaboration rather than mandating partnership allows each Program partner to recognise the other's distinctiveness and to find where they can each best add value to the other.

The PHCRED Program appears to work well with the UDRH Program, and was favourably mentioned by most informants. The various scholarship opportunities (RAMUS, RAHUS, John Flynn Placement Program) were also mentioned favourably by students, with several saying that the fact that there were a number of opportunities to get rural exposure meant that a student was provided with a variety of experiences and perspectives.

There may be scope to streamline these various mechanisms to support rural student exposure, however it is outside the scope of this evaluation to determine how best this might be realised. There may be efficiencies to be gained, however, from integrating co-ordination of the many funding streams; one example of this which has already been discussed (see section 6.4.2) is the centralising of student placement co-ordination.

Recommendation 18: That both Programs be encouraged to collaborate and increase partnerships in training, research, and interprofessional clinical training, while recognising the independence of each Program and their different aims.

Recommendation 19: That consideration be given to the future of the RUSC Program and whether its activities should be wholly absorbed by, and managed through, the RCSs.

Recommendation 20: That opportunities to streamline some of the student support funding streams be explored.

6.8 Community impact

6.8.1 Broad community impact

At least three levels of community impacts are evident from the two Programs:

1. Affirmation of rural Australia (and therefore of rural Australians): '*that [the university, the Government] thinks it's worthwhile investing in rural Australia*.' This 'feel-good' factor has a benefit in that it predisposes community members to be more supportive of the Programs and their place in the community.
2. Contribution to local services: Some have indicated that the mere presence of students increases the workforce capacity in providing an extra pair of hands: '*The students are actually useful*'; medical students help out in surgery at the hospital, take patient histories in the GPs' surgery, test for blood pressure and sugar at the local agricultural show; and
3. Contribution to workforce retention through opportunities for clinicians in research and teaching.

Additional community impacts may be a general increase in social capital in rural Australia, and an economic contribution through employment and the purchase of goods and services.

While many have seen the growing university infrastructure as an inspiration to rural schoolchildren and as a contribution to the economic, social and health infrastructure of the country, others have sounded a note of caution, and of weariness:

> *'I would like to see Australian-trained doctors coming out here. We are putting immense resources into this and not getting anything back – I mean the government, taxpayers – I would like to see something coming back… There's no evidence that we're making any impact.'* (RCS staff member)

Each RCS is required to establish a Community Advisory Board to facilitate communication with local community representatives in the areas where RCS training sites are located. UDRHs are also required to establish advisory boards. In the establishment phase of the Programs, the Community Advisory Boards have assisted with promoting the Programs to the community, listening and responding to community concerns regarding health services and providing support to students on placements. Stories abound of the ways in which local committees have worked to ensure that medical students were made to feel at home, including providing welcoming parties, amenities such as bicycles and BBQs, and opportunities to get involved with community activities.

Many of the RCSs have now established a two-tier advisory process, with local advisory committees at each training site, who send representatives to the larger, yearly Community Advisory Board meeting. It appears that this local community engagement has been crucial to the RCS and the university being welcomed into the rural environment, particularly during the early years when the university and RCS were trying to introduce themselves and establish working relationships with community members.

While Community Advisory Board members consider community consultation still to be important, the mechanism of a yearly meeting is considered by some informants to be an ineffective mechanism for consultation. It might be useful to consider whether there are alternative ways for the Programs to interact with the community once the initial establishment phases are completed, or whether the advisory boards could be developed further. While the advisory boards are not intended to function as management or governance bodies, some advisory boards are involved in strategic planning and informing direction for the organisation. Others rely on more informal consultation with community members. Without seeking to prescribe a structure for all sites, there might be scope for encouraging RCSs and UDRHs to consider whether new consultation mechanisms could prove more useful than the established structure.

Recommendation 21: That the role of advisory boards for both Programs be assessed by RCSs and UDRHs, in consultation with the Department, to define their purpose and potential.

6.8.2 Indigenous health

It is difficult to ascertain the impact of either Program on Indigenous health. A number of indicators are present which may result in improved future provision of health services for Indigenous Australians. These indicators include:

- the number of Indigenous students studying for health careers;
- the number of Indigenous people employed within RCSs or UDRHs;
- the extent and quality of Indigenous cultural training, including training in cultural safety for non-Indigenous students and clinicians;
- the extent of research on topics relevant to Indigenous health and the increase of an evidence-base for health service development; and
- the involvement of UDRH and RCS students and academics in the delivery of health services through AMSs and other facilities.

There is no longitudinal research in this area, however as part of an improved monitoring and research component of the Programs it would be useful to assess the impact of the Programs on the improvement of health service provision to Indigenous people. This is especially relevant for UDRHs, which have Indigenous health explicitly named within their objectives as an area of focus.

There were some comments received regarding perceptions that the *reciprocity* of relationships could be improved between some Program sites and local AMSs. Accordingly, structural mechanisms for ensuring a continuing open dialogue with local Indigenous communities should be embedded within the structures of the organisation, rather than relying on particular individuals or leaders within the RCS or UDRH. Appropriate consultation mechanisms with local Indigenous communities, including identification of existing structures such as COAG structures, need to be identified and formalised by each RCS and UDRH.

The RUSC parameters provide direction to universities in terms of encouraging Indigenous students to take up health careers and providing support to them throughout their training, as well as providing Indigenous cultural awareness training to all medical students. All RCSs and UDRHs have some engagement with the recruitment of Indigenous staff and students, and of supporting existing professionals working in Indigenous health services. It is likely that more could be done to promote rural health careers to Indigenous students, and to support them as they undertake their training. A useful first step would be to analyse the parameters of all the workforce programs, including the RCSs and UDRHs, and to determine whether there is overlap between the RUSC parameters and the funding parameters of other Programs such as the UDRH and RCS.

Recommendation 22: That strategic objectives be reviewed for the Programs with regard to their contribution to Indigenous health, in consultation with local Indigenous leaders, health service providers and communities.

6.9 Implications for the local workforce

Over time there are a number of future benefits that are likely to accrue to the rural health workforce. These include:

- likely increases in the amount of research and capacity building which should deliver a return in the future;
- likely increases in the numbers of people willing to spend some time in the country over the period of their career;
- likely improvements in the perceptions of urban-based clinicians who will have a greater understanding of issues faced in country areas; and
- likely ongoing growth of networks and social support which can reduce isolation and pressures of work.

A benefit which has already been demonstrated is that of increasing the skills and knowledge of local practitioners, due to their involvement in teaching and supervision. A number of doctors and nurses noted that teaching requires them to hone their own clinical skills and knowledge, and that the presence of students encourages greater diligence in reading the professional journals and keeping up with recent research. This should lead to an increased level of evidence-based practice in the rural environment, and a continuing improvement in the quality of the health care available to consumers. The UDRHs in particular have actively contributed to the research capacity and output of rural clinicians, and the role of UDRHs as an enabler of research and development has been noted by many.

An additional benefit, noted by some clinicians, is the increased satisfaction and affirmation which teaching provides. A sense that one does actually know quite a lot, or does one's job well, was named as bringing renewed interest and enthusiasm to the work. Some doctors noted that this had assisted them to remain in their current position when they might otherwise have burnt out and re-located to the city.

However, as already noted, increasing numbers of students moving through the rural health services over a period of time may lead to burnout or inability to provide sufficient training and supervision. Both RCSs and UDRHs tend to 'trade' on goodwill and favours with local health service providers (who unless delivering lectures/tutorials are often unpaid), and there is some concern that overloading them will eventually erode goodwill. This could be addressed through ensuring that the health system has

the capacity to provide sufficient numbers of clinicians willing to take on training responsibilities, thus sharing the burden amongst a greater number of people and lessening the demands on any one individual. Recommendations 13 and 15 above are especially pertinent here, as the interdependence of these two Programs with the rural health services means that cooperation is required to ensure that over time the impact of the Programs on the rural health workforce is positive rather than negative.

At this point in time, however, it can be said that there have been some positive impacts on the local workforce through additional opportunities for teaching, research and professional development. The keys for the future will be continuing to develop means for supporting and encouraging rural health practitioners, and demonstrating that students who train through the RCS or UDRH Programs do in fact return to ease the burden currently facing rural health services.

Recommendation 23: That the UDRH Program continues to increase its research capacity building assistance to rural health clinicians.

Recommendation 24: That the RCS Program increases its focus on research capacity once the medical teaching infrastructure and curriculum are established.

Recommendation 25: That the RCS and UDRH Programs, in consultation with the Department, State/Territory-funded health services, and workforce agencies, develop additional mechanisms for supporting and nurturing rural health practitioners, such as an increasing involvement in professional development and continuing education, as a means of retention.

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Appendix A Site profiles

The following profiles outline each site's staffing, infrastructure and research activities. A common template was provided to each site, and variations in presentation are due to the fact that each site completed their own profile.

UDRH Site Profile: Centre for Remote Health

DESCRIPTOR	SITE DETAIL
Name and address of main site	Centre for Remote Health (CRH) PO Box 4066 Alice Springs NT 0871
Collaborating universities	Flinders University Charles Darwin University
Number and location of additional sites (with office space and personnel)	**Alice Springs:** office space to accommodate 32 people; total staff of 26 **Katherine:** office space to accommodate 8 people; total staff of 4 **Darwin:** office space to accommodate 1 people; total staff of 1
Mission statement	To contribute to the improved health outcomes of people in remote communities of the Northern Territory and Australia, through the provision of high quality tertiary education, training and research focusing on the discipline of Remote Health. In particular, the Centre contributes to improved Indigenous health outcomes through partnerships with Aboriginal communities. Aims: • To be recognised nationally and internationally as the leader in Remote Health education, training and research • To be recognised as the leader in developing and documenting the knowledge base which underpins Remote Health policy and service delivery through high quality research • To be recognised as the major source of information relating to Remote Health to universities, policymakers and practitioners • To increase Indigenous participation in education, research and management • To contribute to the preparation of a high quality Remote Health workforce through Remote Health education and training Underlying Principles: These principles outline the Centre's philosophy and provide guidelines for decision-making in order for the Centre to realise its Mission and Aims. • Promote a multidisciplinary approach • Promote and support a culture of collaboration • Promote equity, particularly in relation to attracting and retaining Aboriginal staff and students • Reflect a balance of support for programs of both universities • Provide and promote a culturally safe environment

Start date	1998			
Total staffing numbers	31 staff			
Student numbers (2008-for period January to end of July only)	**1-2 w Undergrad**	**2+w Undergrad**	**1-2 w Postgrad**	**2+w Postgrad**
	42	186	44	36
	18	96	29	58

Capital works and facilities as at July 2008	
Alice Springs	Offices and teaching spaces - 4 lecture rooms, one small tutorial room, 1 meeting room, one 8 bed student house.
Katherine	Office space to accommodate 8 people and meeting room; 5 bed student unit.
Darwin	1 small office
Main areas of research interest	CRH has a well established research programme. Research is conducted in response to community and health service needs and is underpinned by the principles of collaboration and capacity building. Areas of research focus include: • Remote area health services research • Research on education, measurement and planning in remote area health, • Research incorporating social determinants of health, • Workforce development research.

UDRH Site Profile: Greater Green Triangle UDRH

DESCRIPTOR	SITE DETAIL[40]				
Name and address of main site	Greater Green Triangle UDRH (Greater Health) Deakin University Warrnambool Campus Sherwood Park Princes Highway (PO Box 423) Warrnambool VIC 3280				
Collaborating universities	Flinders University, Deakin University				
Number and location of additional sites (with office space, personnel)	2 additional sites Hamilton, Mt Gambier				
Mission statement	To create a 'Network for Excellence' in health professional education and population and health services research throughout the Greater Green Triangle region				
Start date	2000				
Total staffing numbers	32				
Student numbers		**1-2 w Under**	**2+ w Under**	**1-2 w Post**	**2+ w Post**
	2007[41]	99	303	1	15
	2008 (Jan-June)	139	324	3	23
Capital works and facilities as at July 2008					
Warrnambool	▪ Office space for 18 staff members (shared facilities with Deakin University) ▪ 1 student learning centre with workstations for 8 students ▪ 1 small library in the office ▪ Access to Deakin University Warrnambool campus library facilities ▪ Access to all Deakin University Warrnambool campus meeting rooms and facilities including video conferencing ▪ Student accommodation: one 5 bedroom house with internet, printing and telephone facilities (GGT owned)				
Hamilton	▪ Office facilities for 8 staff members (leased through WDHS) ▪ 1 meeting room for 10 people (rented premises) ▪ 1 student training room with 5 work stations and printing facilities ▪ Access to Western District Health Services Conference and Education Centre:				

[40] Data and information provided by the UDRH, as at August 2008, unless otherwise specified
[41] Figures sourced from 2007 six-monthly reports

	– 1 auditorium seating 106 people – 1 boardroom seating 14 people, video conference facilities – 2 seminar rooms – 1 small meeting room ▪ Student accommodation: one 2 bedroom unit (rented) and one 3 bedroom house (rented) with phone access
Mt Gambier	▪ GGT UDRH owns the following facilities jointly with Flinders University Rural Clinical School: – 1 board room with video-conferencing facilities and tele-conferencing facilities – 1 lecture theatre seating 14 people with overhead projector and screen (or 20 seated at tables, 40 seats only and 50 standing room only) – 1 clinical skills lab with wet floor area, training area and 1 large or 2 small rooms – 1 computer study room with 8 computer stations and 1 printer (24/7 access) – Kitchen with 24/7 access ▪ UDRH specific facilities include: – Office facilities for 4 people (excluding shared facility administrator and receptionist) – Hub office area for 2 people (including UDRH student support officer) – Extra office or hub areas can be allocated upon request ▪ Student accommodation: one 3 bedroom house (rented) including communal study area with computers, internet, printer and telephone facilities
Main areas of research interest	▪ Workforce: identify and evaluate strategies to recruit and retain allied health professionals ▪ Health services research: chronic disease management, quality improvement in health care, innovative methods of health care delivery, evaluation of health care programs and systems ▪ Public health: community health monitoring, risk factor surveys, prevalence and prevention of diabetes and cardiovascular disease

UDRH Site Profile: Mount Isa Centre for Rural and Remote Health

DESCRIPTOR	SITE DETAIL[42]				
Name and address of main site	Mount Isa Centre for Rural and Remote Health 100 Joan St (PO Box 2572) MT ISA QLD 4825				
Number and location of additional sites (with office space, personnel)	No other sites with office space and personnel[43]				
Mission statement	To improve and promote the standing of rural and remote health, and to develop a centre of excellence in rural and remote health through multi-disciplinary education training and research				
Start date	1997				
Total staffing numbers	22				
Student numbers		**1-2 w Under**	**2+w Under**	**1-2 w Post**	**2+w Post**
	2007[44]	2	172	0	6
	2008 (Jan-June)	5	82	0	2
Capital works and facilities as at July 2008					
Mt Isa	▪ Main facility: – 1 computer lab – 50-60 seat lecture room – Video-conferencing and tele-conferencing facilities, satellite broadcast receiving facilities – Procedural skills laboratory for the training of health professionals and students in procedural and emergency skills, including a SimMan and APLS Mannequin ▪ Yacca Library: training in literature searches and evidence based medicine, on-line resource access provided ▪ Tarabada House: 40 seat lecture theatre ▪ Student accommodation: 20 room accommodation block, three 3 bedroom units, eight 2 bedroom flats. ▪ Staff accommodation: two 3 bedroom houses				

[42] Data and information provided by the UDRH, as at August 2008, unless otherwise specified
[43] Medical training placements at Cloncurry, Longreach, Mornington Island, Normanton, Boulia, Camooweal
[44] Figures sourced from 2007 six-monthly reports

Main areas of research interest	▪ Indigenous health ▪ Population health ▪ Rural workforce development ▪ Mental health ▪ Physician assistants

UDRH Site Profile: Monash University Department of Rural and Indigenous Health

DESCRIPTOR	SITE DETAIL[45]
Name and address of main site	Monash University Department of Rural and Indigenous Health PO Box 973 Moe VIC 3825
Number and location of additional sites (with office space, personnel)	No others with office space and personnel Mildura and Bairnsdale have accommodation
Mission statement	**Vision Statement** MUDRIH will be acknowledged as a key voice of rural health locally in Gippsland, across Victoria, nationally and internationally based on its: ▪ leadership in the field ▪ leading edge commitment to local, national and international excellence ▪ leadership and commitment to Indigenous wellbeing and health ▪ significant contributions to education, research and workforce initiatives ▪ excellence in communication and information management ▪ strategic alliances, networks and partnerships with Gippsland, other rural communities and rural health individuals and groups ▪ quality of its people.
Start date	2006
Total staffing numbers	28 (21 Academics, 7 Administration)

Student numbers		**1-2 w Under**	**2+w Under**	**1-2 w Post**	**2+w Post**
	2007[46]	255	175	0	0
	2008 (Jan-June)	0	156	0	0

[45] Data and information provided by the UDRH, as at August 2008, unless otherwise specified
[46] Figures sourced from 2007 six-monthly reports and Department of Health and Ageing collated data

Capital works and facilities as at July 2008[47]	
Moe	▪ 18 offices ▪ 1 video-conference meeting room
Mildura	▪ 1 office ▪ One 4 bedroom house
Bairnsdale	▪ One 4 bedroom house
Main areas of research interest	▪ Population health/ public health ▪ Mental health research ▪ Interprofessional education/learning and practice ▪ Rural health workforce ▪ Indigenous health and education research

[47] Currently received Department of Health and Ageing funding for 288sqm fit-out to include 2 large tutorial rooms and 4 new offices

UDRH Site Profile: The University of Melbourne School of Rural Health

DESCRIPTOR	SITE DETAIL[48]				
Name and address of main site	The University of Melbourne School of Rural Health 49 Graham Street (PO Box 6500) Shepparton VIC 3632				
Number and location of additional sites (with office space, personnel)	In 2008 2 additional sites Ballarat, Wangaratta (these are full campuses like Shepparton)				
Mission statement	Improved health of rural Australians through health education, research, and promotion of rural health careers as "A road best taken".				
Start date	1999				
Total staffing numbers	27 staff (13.9 FTE)				
Student numbers		**1-2 w Under**	**2+ w Under**	**1-2 w Post**	**2+w Post**
	2007[49]	71	434	2	1
	2008 (Jan-June)	1	330	1	1
Capital works and facilities as at July 2008					
Ballarat	▪ 4 tutorial rooms ▪ 1 computer lab ▪ Library ▪ Accommodation for 56 total in two locations (Wendouree Parade and Drummond Street)				
Shepparton	▪ Clinical skills labs ▪ 5 teaching rooms (includes 2 conference rooms, 1 boardroom, 1 tutorial room and 1 meeting room) ▪ Lecture theatre which seats 96 people ▪ Library ▪ Computer lab ▪ 55 bed accommodation (of which 11 beds are dedicated for UDRH use)				

[48] Data and information provided by the UDRH, as at August 2008, unless otherwise specified
[49] Figures sourced from 2007 six-monthly reports

Wangaratta	▪ 3 teaching rooms (2 tutorial rooms and 1 conference room) ▪ 32 bed accommodation
Main areas of research interest	▪ Rural health workforce ▪ Indigenous and cross cultural health ▪ Mental health ▪ Rural consumer and patient health

UDRH Site Profile: Northern NSW UDRH

DESCRIPTOR	SITE DETAIL[50]				
Name and address of main site	Northern NSW University Department of Rural Health Cnr Dean and Johnston Streets Tamworth NSW 2340 Locked Bag 9783 New England Mail Sorting Centre Tamworth NSW 2348				
Collaborating universities	University of Newcastle, University of New England				
Number and location of additional sites (with office space, personnel)	3 additional sites Armidale, Taree, Moree				
Mission statement	▪ Prepare graduates who deliver world-class health care ▪ Develop pathways for students to enter rural clinical practice ▪ Research aimed at improving the quality of health, education and well-being of rural people ▪ Investigate alternative models of rural health service and clinical practice ▪ Indigenous cultural education in all UDRH activities aimed at improving Indigenous health				
Start date	2002				
Total staffing numbers	34 including fractional appointments and casual academics				
Student numbers		**1-2 w Under**	**2+ w Under**	**1-2 w Post**	**2+w Post**
	2007[51]	61	388	15	6
	2008 (Jan-June)	143	132	6	0
Capital works and facilities as at July 2008 Armidale	▪ Office space ▪ Student lounge ▪ 2 tutorial rooms ▪ Computer lounge ▪ Video-conferencing ▪ Access to student accommodation for 12 students				

[50] Data and information provided by the UDRH, as at August 2008, unless otherwise specified
[51] Figures sourced from 2007 six-monthly reports

Tamworth	▪ 1 clinical skills lab ▪ Student lounge ▪ Library ▪ Lecture theatre ▪ Board room ▪ 2 meetings rooms ▪ 1 seminar room ▪ 1 tutorial room ▪ Office space ▪ Video-conferencing ▪ Student accommodation to house 42 students (this will increase in 2009)
Taree	▪ Office space ▪ 3 tutorial rooms ▪ Video-conferencing ▪ Student accommodation for 16 students
Main areas of research interest	▪ Aboriginal health ▪ Workforce capacity research

UDRH Site Profile: Spencer Gulf Rural Health School

DESCRIPTOR	SITE DETAIL[52]
Name and address of main site	Spencer Gulf Rural Health School University of South Australia Whyalla Campus Nicholson Avenue Whyalla Norrie SA 5608
Collaborating universities	University of Adelaide
Number and location of additional sites (with office space, personnel)	NA
Mission statement	To conduct education and research to improve the health of rural and remote communities
Start date	1997
Total staffing numbers	18 (10.9 FTE equivalent)

Student numbers		**1-2 w Under**	**2+ w Under**	**1-2 w Post**	**2+w Post**
	2007[53]	152	291	0	0
	2008 (Jan-June)	12	269	0	3

Capital works and facilities as at July 2008

Whyalla

- The University of South Australia has a campus at Whyalla, and the RCS have a department and student facilities there including classrooms, lecture theatre, video conferencing, computers and library - shared between RCS and UDRH.
- Student accommodation at Port Lincoln, Port Pirie and Port Augusta
  - Port Lincoln: 5 bedroom fully self contained home with 2 bathrooms, IT access
  - Port Pirie: two 5 bedroom self contained homes joined by walkway each has 2 bathrooms, IT access
  - Port Augusta: six 2-bedroom units currently being refurbished and will be self contained with IT facilities

[52] Data and information provided by the UDRH, as at August 2008, unless otherwise specified
[53] Figures sourced from 2007 six-monthly reports (sum of individual health disciplines)

Main areas of research interest	▪ Cohort study of prevalence of wellness and illness and associated health behaviours in adults and children in Whyalla ▪ The role of community pharmacy in post hospital management of patients initiated on warfarin ▪ Community interventions to counter overweight and obesity ▪ Mitigation of risk factors and risk behaviours of chronic disease (CVD, diabetes, respiratory disease) ▪ Implementation and impact of community based chronic disease self-management programs, including in mental health, and their integration into mainstream health services ▪ Child and maternal health and early detection and management of chronic disease in Aboriginal communities ▪ Factors and enablers that influence community development in health ▪ Rural health workforce

UDRH Site Profile: Broken Hill UDRH

DESCRIPTOR	SITE DETAIL[54]
Name and address of main site	Broken Hill UDRH PO Box 457 Broken Hill NSW 2880
Number and location of additional sites (with office space, personnel)	NA
Mission statement	The BH UDRH aims to contribute to national initiatives that increase the recruitment and retention of rural health professionals and improve the quality and appropriateness of health care for rural Australians. This is achieved by offering accessible and flexible educational and vocational training programs of high quality and relevance, by conducting research to improve rural health practice and the health of rural communities and by engaging effectively in regional, governmental, professional and community consultations and initiatives.
Start date	1997
Total staffing numbers	30

Student numbers		**1-2 w Under**	**2+ w Under**	**1-2 w Post**	**2+w Post**
	2007[55]	21	337	0	7
	2008 (Jan-June)	1	108	0	1

Capital works and facilities as at July 2008

Broken Hill

- Corrindah Court
  - 3 auditoriums each seating 30 people, with digital projectors and surround sound, video-conferencing x 1
  - 1 meeting room with video-conferencing
  - 24hr computer lab
  - Library and full-time librarian with collection covering medicine, nursing, Aboriginal health, rural and remote health issues and research methodology
- Student accommodation
  - Broken Hill: 17 rooms
  - Wilcannia: 4 rooms
  - Menindee, Wentworth, Bourke, Brewarrina: 2 rooms each

[54] Data and information provided by the UDRH, as at August 2008, unless otherwise specified
[55] Figures sourced from 2007 six-monthly reports

Main areas of research interest	Our research context is remote and indigenous health Our main areas of research interest are: ▪ workforce ▪ mental health and chronic disease ▪ lead and public health

UDRH Site Profile: Northern Rivers UDRH

DESCRIPTOR	SITE DETAIL[56]				
Name and address of main site	Northern Rivers University Department of Rural Health 55-61 Uralba Street (PO Box 3074) Lismore NSW 2480				
Collaborating universities	University of Sydney, Southern Cross University				
Number and location of additional sites (with office space, personnel)	2 additional sites Murwillumbah, Grafton				
Mission statement	To create a multidisciplinary centre of excellence in health education and research that is relevant to the health needs of our communities.				
Start date	2001				
Total staffing numbers	38 (20 directly funded by NRUDRH and remaining 18 in NRUDRH supported research and other educational programs)				
Student numbers		**1-2 w Under**	**2+w Under**	**1-2 w Post**	**2+w Post**
	2007[57]	24	576	0	19
	2008 (Jan-June)	6	304	0	10
Capital works and facilities as at July 2008					
Grafton	▪ Library facility with 24 hrs access (texts, journals, access to online journals) ▪ 9 shared computer stations ▪ 1 video-conferencing unit ▪ 1 education room ▪ 1 shared staff office space ▪ 10 student accommodation rooms with associated lounge and cooking facilities ▪ Site located within the NCAHS facility at Grafton Hospital				

[56] Data and information provided by the UDRH, as at August 2008, unless otherwise specified
[57] Figures sourced from 2007 six-monthly reports

Lismore	▪ 60 seat lecture theatre with video-conferencing facilities ▪ 2 problem based learning rooms (1 with video-conferencing facilities) ▪ 2 smaller meeting rooms (one with video-conferencing facility) ▪ 25 offices with capacity for 42 staff members ▪ Computer lab with 5 workstations ▪ Small library with main library provided by NCAHS and online ▪ Access to 42 student accommodation beds with 19 provided by NCAHS and 23 held by the NRUDRH
Murwillumbah	▪ Library facility with 24 hrs access (texts, journals, access to online journals) and shared librarian assistance ▪ 8 shared computer stations ▪ 1 video-conferencing unit ▪ 3 education rooms ▪ Student common room ▪ 4 staff office spaces ▪ 13 student accommodation rooms with associated lounge and cooking facilities ▪ Activities games and music room in implementation stage ▪ Site located within the NCAHS facility at Murwillumbah Hospital
Main areas of research interest	▪ Health and the workforce ▪ Aboriginal health ▪ Mental health ▪ Environmental health ▪ Chronic disease ▪ Health services research

UDRH Site Profile: UDRH Tasmania

DESCRIPTOR	SITE DETAIL[58]				
Name and address of main site	University Department of Rural Health, Tasmania Cnr Charles and Howick Streets (Locked Bag 1372) Launceston TAS 7250				
Number and location of additional sites (with office space, personnel)	3 additional sites Hobart, Latrobe (Mersey Community Hospital), Cradle Coast Campus (Burnie)				
Mission statement	The UDRH is committed to improving access to health care resources and contributing to improved health outcomes for people in rural and remote areas of Tasmania by: working collaboratively to achieve an adequate, appropriately trained and stable rural health care workforce; facilitates access to appropriate education, and training opportunities, resources and on-going support across the learning continuum: and, promoting and supporting a primary health care approach to rural health research and preventative health strategies.				
Start date	1997				
Total staffing numbers	46				
Student numbers		**1-2 w Under**	**2+w Under**	**1-2 w Post**	**2+w Post**
	2007[59]	79	198	2	0
	2008 (Jan-June)	47	107	1	0
Capital works and facilities as at July 2008					
Burnie	▪ Office space for 1 staff member ▪ Visiting space, access to a simulation lab is available at the RCS ▪ 1 staff member housed at Mersey Community Hospital (Latrobe)				
Hobart	▪ Office space for 8 staff ▪ 2 meeting spaces ▪ Video-conferencing facilities ▪ 1 staff member housed at School of Pharmacy ▪ Post-graduate research office space for 5 students				

[58] Data and information provided by the UDRH, as at August 2008, unless otherwise specified
[59] Figures sourced from 2007 six-monthly reports

Launceston	▪ UDRH has the main centre in Launceston, facilities include: – Office space for 33 staff and 7 post-graduate students – 4 teaching spaces – 2 meeting spaces – 1 small library – 1 video-conferencing space – Access to a simulation lab (main campus at Newnham) ▪ Rural Health Teaching Sites: King Island, Smithton, George Town, Flinders Island, Scottsdale, Sheffield, St Helens, St Marys, Campbell Town, Queenstown, Oatlands, Dover, Nubeena, Swansea ▪ Self-contained student accommodation, including high speed computing access, is available at the Rural Health Teaching Sites
Main areas of research interest	▪ Community health development and engagement ▪ Rural education and rural practice ▪ Inter-professional education ▪ Evidence based research and learning ▪ Primary health care service models ▪ Preventative health care ▪ Chronic disease management ▪ Mental Health ▪ Ageing ▪ Health research translation to policy and practice

UDRH Site Profile: The Combined Universities Centre for Rural Health

DESCRIPTOR	SITE DETAIL[60]				
Name and address of main site	The Combined Universities Centre for Rural Health 167 Fitzgerald Street Geraldton WA 6530 (PO Box 109 Geraldton WA 6531)				
Collaborating universities	University of Western Australia, Curtin University of Technology, Edith Cowan University Notre Dame University and Murdoch University (as at June 2008)				
Number and location of additional sites (with office space, personnel)	1 additional site: Port Hedland				
Mission statement	CUCRH will significantly contribute to the health of rural and remote Western Australian communities through education, professional development and research				
Start date	1999				
Total staffing numbers	23 staff				
Student numbers		**1-2 w Under**	**2+w Under**	**1-2 w Post**	**2+w Post**
	2007[61]	40	275	3	2
	2008 (Jan-June)	26	140	0	0
Capital works and facilities as at July 2008 Geraldton	▪ Seminar room for 25 ▪ Multi purpose room for 50 ▪ Tele-conference room for 6 which can be used as classrooms if/when required ▪ Video-conferencing facilities available ▪ (These rooms also shared with collaborators if available) ▪ 1 student computer laboratory and resource (library) area ▪ Student accommodation is at the Geraldton Regional Hospital through an MOU and an annual payment from CUCRH to WACHS				
Port Hedland[62]	▪ Staff office with facilities for 3 staff, 89m² ▪ 1 classroom				

[60] Data and information provided by the UDRH, as at August 2008, unless otherwise specified
[61] Figures sourced from 2007 six-monthly reports
[62] Commonwealth Capital funding (2007/08) was utilised to secure office accommodation and fittings for our (long term lease) satellite office in South Hedland.

	▪ Room with 6 student work stations
Main areas of research interest	▪ Aboriginal health ▪ Workforce capacity research ▪ Health services research and development ▪ Population health ▪ Mental health service ▪ Primary health care research ▪ Physical activity projects ▪ Farm safety ▪ Fellowship support

RCS Site Profile: Australian National University Rural Clinical School

DESCRIPTOR	SITE DETAIL[63]	
Name and address of main site	ANU Rural Clinical School Medical School Frank Fenner Building 42 The Australian National University Canberra ACT 2000	
Number and location of additional sites (with office space and personnel)	5 additional sites Bega (7 staff), Young (3 staff), Goulburn (4 staff), Cooma (3 staff), Eurobodalla (Batemans Bay/Moruya – 4 staff)	
Mission statement	Deliver excellent medical education which will contribute to a sustainable, accessible and well-trained medical workforce for the region. Provide leadership in rural health education and research through scholarship, innovation and partnerships to enhance the health of our region in the spirit of equity and social responsibility.	
Start date	2004	
Total staffing numbers	34	
Student numbers[64]	**2007**[65]	**2008**
	14	16
Capital works and facilities as at July 2008		
Bega	▪ Located in Bega District Hospital ▪ Staff offices ▪ Clinical skills area ▪ Tutorial/video-conferencing room ▪ Meeting room ▪ Computer lab ▪ Small library	
Young	▪ Combined teaching/student accommodation within close proximity to Young District Hospital, includes – Office – Tutorial /video-conferencing room – Computer lab – Library on ground floor – Student accommodation (2 self-contained units) on first level	

[63] Data and information provided by the RCS, as at August 2008, unless otherwise specified
[64] 11 students 2006
[65] Data sourced from 2007 annual report

Goulburn	▪ A demountable located in the grounds of Goulburn Base Hospital comprising – Meeting room – Small library space – Tutorial/video-conferencing room – Computer lab – Staff offices		
Eurobodalla (Batemans Bay/Moruya)	▪ Teaching facility comprising tutorial/video-conferencing room, library and office at Batemans Bay Hospital ▪ One shared student study room at Moruya Hospital ▪ Capital works in progress to construct a larger facility comprising reception, teaching/consulting room, meeting/resource room, staff offices, clinical skills and tutorial/video-conferencing rooms		
Cooma	▪ Located in Cooma District Hospital comprising meeting/tutorial/video-conferencing room, small library space, computer lab and staff office		
Site training capacity	**Nature of training site**	**2007**	**2008**
Bateman's Bay	GP surgery, hospital, allied health/community	2	3
Bega	GP surgery, hospital, allied health/community	3	3
Cooma	GP surgery, hospital, allied health/community	2	2
Goulburn	GP surgery, hospital, allied health/community	5	6
Young	GP surgery, hospital, allied health/community	2	2
Main areas of research interest	▪ Health workforce, clinical supports and services in rural areas and pedagogical approaches to health service education in rural areas ▪ A particular focus of the health workforce theme is research into the experiences of, and policy related to, international medical graduates		

RCS Site Profile: Flinders University Rural Clinical School

DESCRIPTOR	SITE DETAIL[66]	
Name and address of main site	Flinders University Rural Clinical School Renmark and Paringa District Hospital Ral Ral Avenue (PO Box 852) Renmark SA 5341	
Collaborating universities	Flinders University, University of Adelaide (Angaston site only)	
Number and location of additional sites (with office space and personnel)	4 additional sites Angaston (3 staff), Mount Gambier (7 staff, 2 staff shared with UDRH), Victor Harbor (3 staff), Flinders Medical Centre (3 staff)	
Mission statement	To empower regional communities through leadership, collaboration, capacity-building and innovative community-based health education, research and clinical service.	
Start date	1997 – Parallel Rural Community Curriculum (PRCC) commenced 2001 – RCS funding commenced	
Total staffing numbers	43	
Student numbers	**2007**[67]	**2008**
	24 in 1st academic year in RCS 22 in 2nd academic year in RCS	30 Flinders University (includes 3 international students), 4 University of Adelaide
Capital works and facilities as at July 2008		
Angaston	▪ Office (rented): reception, 2 offices, 1 clinical skills room (small), 1 meeting room shared with other tenants, storage room ▪ GP surgery, Gawler: study room (unfunded), student library ▪ GP surgery, Kapunda: study room (unfunded), student library ▪ GP surgery, Nuriootpa: study room (unfunded), student library ▪ GP surgery, Tanunda: designated consulting room and study room (capital works), student library ▪ GP surgery, Angaston: designated consulting room, unfinished (capital works), student library ▪ Student Housing: rented accommodation for 8 students total in Gawler, Angaston, Kapunda, Nuriootpa	
Renmark	▪ Office – 1 classroom (30 people) – 2 classrooms (15 people) – 1 video-conferencing room (15 people) – Computer lab (16 people)	

[66] Data and information provided by the RCS, as at August 2008, unless otherwise specified
[67] Data sourced from 2007 annual report

	– Student room, student library – Resources room, storage – 13 x 2 person offices, 3 x 1 person offices ▪ Simulation Centre – Simulation van: allows simulation sessions at other sites – Simulation lab with SimMan, AV and session recording facilities – Debrief room, AV facilities for playback – Tutorial room, some AV – Consulting room – Clinical Skills area: 8 beds – Obstetrics clinical skills: 2 beds – Office (2 staff) – Storage ▪ GP surgery, Barmera: shared tutorial room with new furniture, data projector, student library ▪ GP surgery, Berri: dedicated consulting room plus study room, student library ▪ GP surgery, Loxton: dedicated consulting room plus study room, student library ▪ GP surgery, Renmark: dedicated consulting room plus study room, student library ▪ GP surgery, Waikerie: dedicated consulting room plus study room, student library ▪ Riverland Regional Hospital: 2 1-bedroom units for student accommodation and study whilst on call ▪ Student Housing – Renmark: private rental, 3 bedroom house – Berri: private rental, 2 bedroom unit, 3 bedroom house leased through hospital – Barmera: private rental, 3 bedroom house – Waikerie: owned, 3 bedroom house – Loxton: 2 bedroom unit, supplied by Loxton District Hospital, 4 bedroom demountable house (capital works)
Mount Gambier	▪ Office (rented) – Computer lab (8) – Library – Lecture theatre (25) – Clinical skills lab (15) – Student library – Resources room – 7 offices and open plan (area approx 500 sqm) ▪ GP surgery, Millicent: dedicated study room in a separate building just behind the clinic, student library ▪ GP surgery, Ferrers: dedicated study room in the clinic, student library ▪ GP surgery, Hawkins: dedicated study room in the clinic, student library ▪ GP surgery, Hamilton: small dedicated consulting room and a

	dedicated study room, student library ▪ Student housing – Hamilton: one 4 bedroom owned – Mount Gambier: two 3 bedroom owned – Millicent: two 3 bedroom leased from local council
Victor Harbor	▪ Office (rented): 1 meeting room for 10 people, reception, resource room, kitchen, 3 offices ▪ GP surgery, Mannum: 1 student study/consulting room (capital works), student library ▪ GP surgery, Murray Bridge (Southside Branch Clinic) consulting room and study space in kitchen/tearoom area earmarked for student use at all times (capital works), student library ▪ GP surgery, Bridge Clinic: clinic space on a rotating basis ▪ GP surgery, Strathalbyn: 1 student study room dedicated for students only (capital funding), student library, ongoing space at SMC branch - Milang Clinic when student consulting there ▪ GP surgery, Goolwa: 1 student study/consulting room (combined space) currently available, 2 rooms originally built with purpose to accommodate 2 students in the future (capital works), student library, ongoing space at GMC branch - Middleton Clinic when student consulting there ▪ Victor Medical Centre: 1 large 2-student study space, sometimes shared with Adelaide students and interns but generally dedicated to our students (capital works), student library, consulting room space on a rotating basis as needed and in line with supervising GP for the session, ongoing space at the VMC - Port Elliot Branch (capital works) for one-on-one teaching ▪ Norfolk House Medical Services: student study space in the practice manager's office (desk only); NHMS will not continue with PRCC from 2009 due to space issues and taking on registrar ▪ Student housing: rented accommodation for 2 students each in Mannum and Strathalbyn; accommodation for 4 in Victor Harbor (capital works); accommodation for 3 in Goolwa (capital works) and for 2 in Murray Bridge (capital works – ten year least)

Site training capacity	**Nature of training site**	**2007**	**2008**
Angaston	General practice surgery	8	8
Mt Gambier	General practice surgery	10	10
Victor Harbor	General practice surgery	8	8
Renmark	General practice surgery	8	8

Main areas of research interest	Parallel Rural Community Curriculum Research and Evaluation ▪ 1. Clinical axis – The impact of medical students on GPs – Microsystems and community-based medical education – Why are patients willing to have a student in general practice consultations? ▪ 2. Institutional axis – Recruitment and retention of clinical educators in the PRCC – Barossa Partnership – a tail of two Universities – How do integrated clerkship students affect GPs

	– Student use of streamed studies materials in Year 3 GEMP ▪ 3. Community axis – CBME and social accountability – Report to commonwealth department ▪ 4. Personal axis – The first 100 days of learning in the PRCC – How do we know that PRCC students are learning? ▪ 5. Medical workforce research – Does the PRCC affect the career decisions of its graduates? – Riverland Medical Workforce Think Tank Workshop – A critical look at hospital and general practice based intern placements ▪ 6. Multidiciplinary research – Creating pedagogical models for practice based learning – Teaching and learning intrapartum vaginal examination skills – The experience of breastfeeding following a family court ordered shared custody arrangement – Identification of parental stressors in the NICU – CSiM- clinical simulation in maternity – Clinical simulation ▪ 7. Community engaged research – Getting by: farmers facing climate variation – Murraylands Connecting Communities Project – Headspace: The National Youth Mental Health Foundation – Home and Community Care Program ▪ 8. Community point-of-care research – Evaluation of the effectiveness of the QAAMS Program – The KEY Study– in conjunction with Diabetes Australia – Evaluation of new point-of-care devices

RCS Site Profile: Northern Territory Rural Clinical School

DESCRIPTOR	SITE DETAIL
Name and address of main site	Northern Territory Rural Clinical School (NTRCS) Centre for Remote Health Cnr Simpson and Skinner St Alice Springs NT 0870 (PO Box 4066, Alice Springs NT 0871)
Number and location of additional sites (with office space and personnel)	2 additional sites Katherine O'Keefe House, Katherine District Hospital Nhulunbuy Miwatj Aboriginal Health, Nhulunbuy Note: Director & Executive officer, plus administrative assistant are located in Darwin
Start date	2005 – first student intake January 2006
Total staffing numbers	11.16 FTE funded through NT RCS funding, excluding those funded through other sources.
Student numbers	**Long term placements (6 months, as per parameter for NTRCS)** 2006: 4 2007: 6 2008: 14 **Short term placements (2 weeks- 12 weeks)** ➢ 100 students /year ➢ 370 student weeks per year
Capital works and facilities as at July 2008	
NT Rural Clinical School Facilities: (note all sites have access to Health Libraries at local hospital as well as online access to Flinders library) In Clinical Teaching Practices (AMS and mainstream general practice) students have use of individual consulting room and small library of medical books, with limited access to dedicated teaching area (or none).	

Infrastructure	Student Housing	Staff Housing	IT & T	Vehicles	Student Study, Support and Administration
Katherine	1 x 3 bedroom house	1 x 3 bedroom house	Videoconference Facility = dedicated lecture/meeting room + Conferencing unit	2 vehicles	Premises leased – includes student support facility 2 offices Student study room with access to IT facilities Student lounge room and kitchen facilities
Alice Springs	2 x 3 bedroom townhouses	Premises leased	Shared videoconference facility in lecture rooms	1 4WD vehicle	Shared with CRH – (expanded dedicated premises under construction) 2 dedicated offices Shared access to computer lab, meeting room and lecture room Negotiations finalised for the construction of facilities at Alice Springs Hospital (joint project with Baker IDI)
Nhulunbuy	1 x 3 bedroom house	1 x 3 bedroom house	Videoconference facility	1 4WD vehicle	Premises leased – student support facility: Open plan office space with several computer stations, partitioned office space, reception and kitchen facilities, plus table for meetings.
Rural Darwin	-	-	-	-	-

Site training capacity	Nature of training site	Anticipated student capacity
Alice Springs	Alice Springs Hospital, Central Australian Aboriginal Congress (AMS), Central Clinical (GP)	12
Katherine	Katherine District Hospital, Wurli Wurlinjang (AMS), Kintore Clinic (GP)	6-8
Nhulunbuy	Gove District Hospital, Miwatj Aboriginal Health, Endeavour Clinic (GP)	4-6
Rural Darwin	Humpty Doo General Practice, Laynhapuy Homelands Health Service, Howard Springs General Practice	2-6
In addition to above, students at all sites attend remote clinics (minimum of two per six month placement) – Air Med, AMS, RFDS etc. Currently NTRCS is in the process of building capacity ie space (clinical teaching sites and student accommodation), teaching faculty/supervision (numbers and competence) to expand student numbers. This expansion is in collaboration with NTGPE (RUSC and John Flynn placement students plus pre-vocational general practice placements and registrars) plus UDRH (allied health and nursing) students who compete for teaching/supervision space. Further expansion depends on further funding for clinical teaching efficiency e.g. clinical skills labs and purpose built clinical teaching primary care facilities and both student and staff accommodation.		
Main areas of research interest	▪ Clinical ▪ Rural and remote medicine in particular ▪ Indigenous Health ▪ Infectious diseases ▪ Chronic disease ▪ Injury and trauma ▪ Rural and remote medical education ▪ Medical workforce ▪ Health service delivery ▪ Community engagement	

RCS Site Profile: James Cook University Rural Clinical School

DESCRIPTOR	SITE DETAIL[68]	
Name and address of main sites	James Cook University Rural Clinical School Mackay Base Hospital Bridge Rd Mackay QLD 4740[69]	
Number and location of additional sites (with office space and personnel)	3 additional sites Atherton, Mt Isa, Proserpine	
Mission statement	To pursue excellence and provide leadership in medical education and research. In particular, programs will be responsive to the health needs of the communities of northern Australia and the school will be a leader in the focus areas of rural and remote health, Indigenous health and tropical medicine for Australia and for the wider Asia-Pacific region.	
Start date	2006 Rural Clinical School	
Total staffing numbers	32 including part-time academic clinicians Additional public and private clinicians contracted to deliver teaching	
Student numbers	**2007[70]**	**2008**
	32 in 1st academic year RCS 33 in 2nd academic year RCS[71]	46 in 1st academic year RCS 32 in 2nd academic year RCS[72]
Capital works and facilities as at July 2008		
Atherton	▪ Lecture/tutorial/clinical skills room (40-50 people capacity) ▪ Video-conference facilities ▪ Tele-conference facilities ▪ Broadband internet ▪ Computer lab ▪ Library ▪ Administration and staff offices ▪ 11 bed student accommodation with broadband internet access and wireless connection	
Cairns	▪ Tutorial rooms ▪ Meeting rooms ▪ Video-conference facilities	

[68] Data and information provided by the RCS, as at August 2008, unless otherwise specified
[69] The JCU model is a wholly regionally delivered medical program whereby all students spend a minimum of one semester in total on rural and remote clinical attachments (in RRMA 4-7 locations). Around half the students also spend 2 clinical training years in Mackay or Cairns (RRMA 3).
[70] Data sourced from 2007 annual report
[71] 45 x non-RCS 4th year students (on 8 week rural rotations), 33 x non-RCS 6th year students (on 8 week rural rotations)
[72] 98 x non-RCS 4th year students (on 8 week rural rotations), 67 x non-RCS 6th year students (on 8 week rural rotations)

	▪ Tele-conference facilities ▪ Clinical skills lab ▪ Computer lab ▪ Cairns Base Hospital Library ▪ Administration and staff offices ▪ Student common room
Mackay	▪ Tutorial room ▪ 2 meeting rooms ▪ Video-conference facilities ▪ Tele-conference facilities ▪ Clinical skills lab ▪ Computer lab ▪ Mackay Base Hospital Library ▪ Administration and staff offices ▪ 20 bed student accommodation connected to JCU network
Mareeba	▪ 4 bed student accommodation with broadband internet access and wireless connection ▪ Computer lab for student use within Mareeba Hospital
Mt Isa	▪ Access to MICRRH resources through MOU: ▪ Student accommodation ▪ Clinical skills lab ▪ Computer lab ▪ Tutorial rooms ▪ Joint MICRRH/hospital library ▪ Video-conferencing facilities ▪ Tele-conferencing facilities
Proserpine	▪ Classroom ▪ Computer lab and common room for student use within Proserpine Hospital ▪ 4 bed student accommodation with broadband internet access and wireless connection
Thursday Island	▪ 4 bed student accommodation with broadband internet access and wireless connection

Site training capacity[73]	**Nature of training site**	**No. Students 2007**	**No. Students 2008**
Atherton district hub (includes Mareeba, Mossman, Innisfail and Cooktown)	Atherton and Mareeba hospitals AMS GP clinics	52 students on 8 week rural rotations	50 students on 8 week rural rotations

[73] The distributed rural clinical school model at James Cook University works on a network of 'district hubs' which provide physical information and communications infrastructure as well as additional teaching and student administration capacity. As well as delivery of the RCS program locally, the district hubs provide a support function for the RCS 'teaching nodes' in smaller towns and communities in that area.

Cairns district hub (includes Thursday Island)	Clinical School at the Cairns Base Hospital GP clinics Wuchopperen (AMS) TI Community Health Service	46 RCS 10 students on 8 week rural rotations	53 RCS 10 students on 8 week rural rotations
Central district hub (includes Ayr, Ingham, Charters Towers, Bowen, Proserpine and Palm Island)	QH hospitals and community health centres AMS GP clinics	40 students on 8 week rural rotations	38 students on 8 week rural rotations
Mackay district hub (includes Sarina, Moranbah and Glenden)	Clinical school at the Mackay Base Hospital GP clinics ATSI community health service Mater Private Hospital Sarina and Moranbah hospitals	18 RCS 15 students on 8 week rural rotations	25 RCS 17 students on 8 week rural rotations
Mt Isa hub (includes Cloncurry, Longreach and other outlying remote areas)	MICRRH GP clinics Outreach clinics	47 students on 8 week rural rotations	53 students on 8 week rural rotations
Main areas of research interest	▪ Rural and remote health ▪ Indigenous health ▪ Women's health ▪ Tropical medicine ▪ Health service delivery ▪ Rural and remote health workforce ▪ Health care behaviour ▪ Road crash research ▪ Medical education		

RCS Site Profile: Monash University School of Rural Health RCS Program (profiled by regional hub)

Gippsland Regional Clinical School

DESCRIPTOR	SITE DETAIL[74]		
Name and address of main site	Gippsland Regional Clinical School Princes Highway, Traralgon C/o Latrobe Regional Hospital POB 424 Traralgon VIC 3844		
Number and location of additional sites (with office space, personnel)	1 additional site: Warragul		
Mission statement	Improving Rural Health		
Start date	2001		
Total staffing numbers	13 academic staff (fixed term or continuing) 7 administrative staff 26 sessional staff (academic) 3 casual (administrative)		
Student numbers	**2007**	**2008**	
	45	76	
Capital works and facilities as at July 2008	▪ Traralgon 10 offices ▪ Auditorium ▪ 3 tutorial rooms ▪ Small clinical skills lab ▪ Small student common room ▪ Use of LRH library ▪ Warragul 3 offices ▪ 2 tutorial rooms ▪ Use of West Gippsland Hospital library		
Site training capacity	**Nature of training site**	**2007**	**2008**
Warragul	Hospital, community mental health services	Yr 3 = 21; Yr 4 = 24; Yr 5 = 0 (across all sites)	Yr 3 = 24; Yr 4 = 26; Yr 5 = 26 (across all sites)
Traralgon	Hospital, GP clinic, community mental health services, mental health community residential care unit		
Moe	GP clinic,		
Leongatha	GP clinic,		

[74] Data and information provided by the RCS, as at August 2008, unless otherwise specified

Trafalgar	GP clinic,		
Korumburra	GP clinic, community mental health services		

East Gippsland Regional Clinical School

DESCRIPTOR	**SITE DETAIL**[75]		
Name and address of main site	East Gippsland Regional Clinical School Bairnsdale Regional Hospital Day Street Bairnsdale VIC 3875		
Number and location of additional sites (with office space, personnel)	Sale Campus, Central Gippsland Health Service, Guthridge Parade, Sale		
Mission statement	The East Gippsland Regional Clinical School aims to develop a reputation for excellence and innovation in medical undergraduate curriculum delivery. The East Gippsland Regional Clinical School aims to provide comprehensive and varied educational programs in rural health and rural medicine, and become a popular choice amongst medical students in placement selection.		
Start date	2001		
Total staffing numbers	6 full time staff 14 fractional academics (0.1/0.2 FTE) 45 academic sessional staff		
Student numbers	**2007**	**2008**	
	17	16	
Capital works and facilities as at July 2008			
Bairnsdale	▪ 3 tutorial rooms ▪ Clinical skills lab ▪ 6 offices ▪ One 6 bedroom house		
Sale	▪ 1 tutorial room ▪ 2 offices and reception ▪ 2 accommodation facilities totalling 10 beds		
Site training capacity	**Nature of training site**	**2007**	**2008**
Bairnsdale	Year 4 MBBS	9	8
Sale	Year 3 MBBS	8	8

[75] Data and information provided by the RCS, as at August 2008, unless otherwise specified

Bendigo Regional Clinical School

DESCRIPTOR	SITE DETAIL[76]	
Name and address of main site	Bendigo Regional Clinical School 37 Rowan St (PO Box 666) Bendigo VIC 3552	
Number and location of additional sites (with office space, personnel)	NA	
Mission statement	▪ 1. Provide short and extended educational programs for medical and other health science students in rural areas in order to develop and strengthen the understanding, skills and values that will enable them to offer the highest standard of health care to rural populations. ▪ 2. Provide rural medical practitioners and other health professionals with ongoing educational support that will enhance their own professional development and the standards of care they provide to rural populations. ▪ 3. Conduct research that informs rural health policy, education and the development of viable and sustainable health services in rural areas. ▪ 4. Promote and support the rural health sector through community engagement training and development. ▪ 5. Develop and implement organisational processes in an environment that is open, dynamic and supportive of personal professional aspirations, based on principles of cooperation and the valuing of all staff. ▪ 6. Support, through all these strategies, the recruitment and retention of a dynamic and effective rural health workforce.	
Start date	2001	
Total staffing numbers	Bendigo Regional Clinical School: 26 staff (16.2 EFT) plus sessional clinical teachers Research: 9 staff (7.05 EFT) Office of Head of School: 16 staff (9.1 EFT)	
Student numbers	**2007**	**2008**
	Yr 1: 145 x 1 week Yr 2: 141 x 2 weeks Yr 3: 18 x 36 weeks and 8 Uni of Melb x 18 weeks Yr 4: 8 x 36 weeks and 28 x 18 weeks Yr 5: 58 x 6 weeks and 8 Uni of Melb x 10 weeks	

[76] Data and information provided by the RCS, as at August 2008, unless otherwise specified

Capital works and facilities as at July 2008			
Bendigo	▪ Lister House office: 30 staff, 2 conference rooms, meeting room, training room ▪ Lister House student accommodation for 55 students ▪ Mercy St: 100 seat auditorium, 3 tutorial rooms, skills lab, library, offices ▪ Rental properties for student accommodation		
Site training capacity	**Nature of training site**	**2007**	**2008**
Bendigo	Hospital, rehab, aged care, psych (Bendigo Health Care Group)	Approx 55 at any one time.	Approx 55 at any one time.
	General practice (6 Bendigo, 2 Castlemaine, Kerang, Swan Hill)	1 per site	1 per site
	Specialist / consultants (6)	1 per site	1 per site
Main areas of research interest	▪ Workforce ▪ Rural health models		

Mildura Regional Clinical School

DESCRIPTOR	**SITE DETAIL**[77]	
Name and address of main site	Mildura Regional Clinical School 231-237 13th Street Mildura VIC 3500 (PO Box 6252 Mildura West)	
Mission statement	Improving Rural Health	
Start date	2001	
Total staffing numbers	7 (5.3 FTE) plus sessional administrative assistance and tutoring staff	
Student numbers	**2007**	**2008**
	Year 1: 20 students rural rotation, 1 week rotation Year 2: 12 students rural rotation, 2 x 2 week rotation Year 3: 8 students full academic year Year 4:10 students full academic year blocks of 1 or 2 semesters Year 5: 6 blocks of 6 weeks, each block up to 6 students	

[77] Data and information provided by the RCS, as at August 2008, unless otherwise specified

Capital works and facilities as at July 2008	▪ RCS site – 10 bed on-site student accommodation adjacent to office building – Administration/teaching block consisting of 2 tutorial rooms, staff offices, small office used as tele-conference room for remote tutorials – No library, no clinical skills lab – Use of Mildura Base Hospital Library – 2 doctors rooms and nurse treatment room for visiting clinic where students form part of the team EG Genetics Clinic, Palliative Care Clinic – Students and staff utilise small office converted into tea room (no student common room/area) ▪ Women's health clinic: 2 consulting rooms		
Site training capacity	**Nature of training site**	**2007**	**2008**
Year 1	Rural health Hospital Community health OH&S	18	20
Year 2	Rural health Community health General practice Ambulance	12	12
Year 3	Medical and surgical Hospital Based	8	8
Year 4	Women's health Children's health Psychological medicine General practice	10	10
Year 5	Medical rotation Surgical rotation Emergency department Rotation	2-6	2-6
Main areas of research interest	Teaching methods		

RCS Site Profile: Spencer Gulf Rural Health School

DESCRIPTOR	SITE DETAIL[78]	
Name and address of main site	Spencer Gulf Rural Health School University of Adelaide Whyalla Campus Nicholson Avenue Whyalla Norrie SA 5608	
Collaborating universities	University of South Australia	
Mission statement	To conduct education and research to improve the health of rural and remote communities	
Start date	1997	
Total staffing numbers	38 (16.8 FTE)	
Student numbers	**2007[79]**	**2008**
	12 in 5th academic RCS year 12 in 6th academic RCS year	19 in 5th academic RCS year (3 international) 8 in 6th academic RCS (4 week SCAP[80] placements)
Capital works and facilities as at July 2008[81]		
Barossa Valley	▪ In partnership with FURCS we have funded 50/50 to lease student accommodation and office space including staff wages and student support	
Booleroo Centre	▪ Resource rooms and consultancy rooms built on to medical centre ▪ Nursing home quarters upgraded (4 bedrooms) with living areas	
Clare	▪ Funds contributed to rebuilding of GP practice for SGRHS to have a resource room which included videoconferencing and a consultant room ▪ Currently lease one 4 bedroom home	
Kadina/Wallaroo	▪ Funds to upgrade general practice to include resource room, videoconferencing and consultancy space ▪ Currently lease one 4 bedroom home	
Maitland	▪ Leased 3 bedroom home, self contained with IT facilities	
Minlaton	▪ One 5 bedroom house purchased and self contained with IT access ▪ Funds to refurbish student resource room and office space	

[78] Data and information provided by the RCS, as at August 2008, unless otherwise specified
[79] Data sourced from 2007 annual report
[80] Specialist Community or Ambulatory Placements
[81] Whyalla, Port Augusta (2), Minlaton. Leased properties: Whyalla, Port Lincoln, Wallaroo, Clare, Maitland - combination of Houses and units/portable units

Port Augusta	▪ Twelve 2 bedroom units purchased and refurbished, self-contained with 1 unit converted to a common room with IT facilities ▪ Part of the old hospital has been refurbished to for a resource room, videoconference room and office space		
Port Lincoln	▪ Two 3 bedroom homes built by RCS funds both units are self-contained and have IT access ▪ One 4 bedroom house leased ▪ Port Lincoln Learning Centre: complex with a tutorial office, academic and research offices and a secure video conferencing/tutorial room		
Whyalla	▪ Block of units purchased and refurbished with 4 self contained 2 bedrooms and 2 self contained 1 bedrooms. One of the single bedrooms has been converted to a common room ▪ A Unisa 8 bedroom unit is leased for RCS and UDRH student accommodation ▪ The University of South Australia has a campus at Whyalla, and the RCS have a department and student facilities there including classrooms, lecture theatre, video-conferencing, computers, library		
Site training capacity	**Nature of training site (eg GP surgery)**	**No. Students 2007**	**No. Students 2008**
Clare	GP practice	2 in 5th Year	3 in 5th Year
Kadina	GP practice	2 in 5th Year	3 in 5th Year
Pika Wiya ACCHO	GP practice	3 in 5th Year	2 in 5th Year 1 in 6th Year
Port Augusta	GP practice Hospital	3 in 5th Year 15 in 5th Year	2 in 5th Year 20 in 5th year 1 in 6th year
Port Lincoln	GP practice Hospital	5 in 5th Year 7 in 6th Year	5 in 5th Year 1 in 6th Year
Port Pirie	GP practice Hospital	2 in 6th Year 5 in 5th Year	1 in 6th Year 6 in 5th Year
Whyalla	GP practice Hospital	 1 in 6th Year 4 in 5th Year	3 in 5th Year 1 in 6th Year 6 in 5th Year
Main areas of research interest	▪ Rural medical workforce capacity ▪ Medical education ▪ Rural health practice		

RCS Site Profile: The University of Melbourne Rural Clinical School

DESCRIPTOR	SITE DETAIL[82]	
Name and address of main site	The University of Melbourne School of Rural Health 49 Graham Street (PO Box 6500) Shepparton VIC 3632	
Number and location of additional sites (with office space and personnel)	In 2008[83] 2 additional sites Ballarat, Wangaratta (full campuses like Shepparton)	
Mission statement	Improved health of rural Australians through health education, research, and promotion of rural health careers as "A road best taken".	
Start date	2002	
Main personnel	53 (23.8 FTE)	
Student numbers	**2007[84]**	**2008**
	52 for RCS year	55 for RCS year
Capital works and facilities as at July 2008		
Ballarat	▪ 4 tutorial rooms ▪ 1 computer lab ▪ Library ▪ Accommodation for 56 total at two locations: Wendouree Parade and Drummond Street	
Shepparton	▪ Clinical skills labs ▪ 5 teaching rooms (includes 2 conference rooms, 1 boardroom, 1 tutorial room and 1 meeting room) ▪ Lecture theatre (seats 96 people) ▪ Library ▪ Computer lab ▪ 55 bed accommodation	
Wangaratta	▪ 3 teaching rooms (2 tutorial rooms and 1 conference room) ▪ 32 bed accommodation	

[82] Data and information provided by the RCS, as at August 2008, unless otherwise specified
[83] From 2010 additional sites at: Benalla, Yarrawonga, Echuca (these will be known as "hubs"). From 2010 students placed in 15 different GP Practices at: Shepparton (x 3 practices), Yarrawonga (x1), Corowa (x1), Cobram (x1), Echuca (x2), Benalla (x2), Mansfield (x1), Mount Beauty (x1), Bright (x1), Wangaratta (x1). A practice is being sourced to replace a practice at Kyabram (these will be known as "spokes").
[84] Data sourced from 2007 annual report

Site training capacity	Nature of site[85]	2007	2008
	Ballarat Health Service - Base Hospital	23	16
	Goulburn Valley Health - Base Hospital	21	24
	North East Health Wangaratta - Base Hospital	8	15
Main areas of research interest	▪ Medical education ▪ Aboriginal health ▪ Rural health		

[85] Student placed at the hospital in their RCS year

RCS Site Profile: The University of New South Wales Rural Clinical School

DESCRIPTOR	SITE DETAIL[86]	
Name and address of main site	The University of New South Wales Rural Clinical School PO Box 5695 Wagga Wagga NSW 2650	
Number and location of additional sites (with office space and personnel)	4 additional sites Albury Wodonga, Coffs Harbour, Port Macquarie, Sydney	
Mission statement	The aim of the Rural Clinical School is to provide diversified educational offerings in rural health and medical practice. The belief is that the School will play an important role in assisting to deal with the recruitment and retention of medical practitioners to work in rural and remote areas of Australia.	
Start date	2000 (Wagga Wagga)	
Total staffing numbers	Paid academic staff: 21.4FTE Paid general staff: 19.1FTE Unpaid conjoint academic staff: 108 appointments	
Student numbers	**2007[87]**	**2008**
	18 1st academic RCS year 57 2nd academic RCS year 55 3rd academic RCS year	24 1st academic RCS year 41 2nd academic RCS year 25 3rd academic RCS year
Capital works and facilities as at July 2008		
Albury Wodonga	▪ Adjacent to Albury Base Hospital ▪ Office space to accommodate 12 people (total of 11 staff, 1 research assistant) ▪ 50 seat seminar room ▪ 3 small group teaching spaces including video-conferencing facilities ▪ Consulting room ▪ Student computer room with 8 computers ▪ Teaching lab set up as hospital room ▪ BBQ area, staff kitchen, student kitchen and break out space	

[86] Data and information provided by the RCS, as at August 2008, unless otherwise specified
[87] Data sourced from 2007 annual report

Coffs Harbour	▪ On site at Coffs Harbour Health Campus, adjacent to Coffs Harbour Base Hospital ▪ Office space to accommodate 19 people (total of 20 staff with some partial appointments, 3 ILP[88] students) ▪ 56 seat seminar room ▪ 3 small group teaching spaces including video-conferencing facilities ▪ Student computer room with 8 computers ▪ 1 combined dry teaching lab (set up as hospital room) and wet teaching lab ▪ BBQ area, staff room/kitchen, student kitchen and lounge, car parking for 19 vehicles ▪ Accommodation facility for up to 12 students with 1 room dedicated as disabled access
Port Macquarie	▪ On site at Port Macquarie Health Campus, adjacent to Port Macquarie Base Hospital ▪ Office space to accommodate 13 people (total of 11 staff, 1 ILP student, 1 research fellow) ▪ 50 seat lecture theatre with video-conferencing ▪ 2 flexible dividable tutorial rooms, 40 seat total capacity ▪ 1 simulation lab set up as ICU ward ▪ 1 wet lab ▪ 1 consulting/interview room ▪ 1 board room set up as seminar room with video-conferencing ▪ 1 staff/student meeting room equipped as seminar room, 50 seat capacity ▪ 1 computer library room with 12 computers and study area
Sydney	▪ On site at UNSW Kensington campus ▪ Office space to accommodate 5 people (total of 5 staff) ▪ 4 offices ▪ Video-conferencing room ▪ Student laboratory and meeting rooms
Wagga Wagga	▪ Adjacent to Wagga Wagga Base Hospital ▪ Office space to accommodate 33 people (total of 26 staff, 3 PhD students, 3 ILP students, 1 research assistant) ▪ 50 seat seminar room ▪ 5 small group teaching spaces including video-conferencing facilities ▪ Student computer room with 8 computers ▪ 1 dry teaching lab set up as hospital room ▪ 1 wet teaching lab ▪ Library with 6 computers

[88] Independent Learning Project

Site training capacity	Nature of training site[89]	2007	2008
Albury Wodonga	Hospital General Practice Community and allied health services Aboriginal Health Services	16	17
Coffs Harbour	Hospital General Practice Community and allied health services Aboriginal Health Services	35	20
Port Macquarie	Hospital General Practice Community and allied health services Aboriginal Health Services	21	26
Wagga Wagga	Hospital General Practice Community and allied health services Aboriginal Health Services Longitudinal Rural Clinical Placement Program	25 5	28 4
Main areas of research interest	▪ Health effects of water and air pollution exposure ▪ Cessation of smoking in Indigenous communities ▪ Refugee health ▪ Indigenous health ▪ Indigenous education ▪ Longitudinal study of RCS students choice of practice location ▪ Medical education ▪ Mental health ▪ Children's health ▪ PhD students: obesity; breast-feeding; International medical graduates (IMGs) and communication ▪ ILP students (Year III): Parkinson's disease, refugee health, sun-protection behaviour, venous incompetence		

[89] The hospital and general practice numbers are not mutually exclusive as students rotate from hospital practice into general practice and back at varying times throughout the year. General Practice rotations also include visits to community and allied health services, and Aboriginal Health Services.

RCS Site Profile: The Rural Clinical School Northern NSW

DESCRIPTOR	SITE DETAIL[90]	
Name and address of main site	The Rural Clinical School Northern NSW Cnr. Dean and Johnston Streets Tamworth NSW 2340 Locked Bag 9783 New England Mail Sorting Centre Tamworth NSW 2348	
Collaborating universities	University of Newcastle, University of New England	
Number and location of additional sites (with office space and personnel)	2 additional sites Taree, Armidale	
Mission statement	Prepare graduates who deliver world-class health care Develop pathways for students to enter rural clinical practice Research aimed at improving the quality of health, education and well-being of rural people Investigate alternative models of rural health service and clinical practice Indigenous cultural education in all UDRH activities aimed at improving Indigenous health	
Start date	2006	
Total staffing numbers	34 (including fractional appointments and casual academics)	
Student numbers	**2007[91]**	**2008**
	18	22
Capital works and facilities as at July 2008		
Armidale	▪ Office space ▪ Student lounge ▪ 2 tutorial rooms ▪ Computer lounge ▪ Video-conferencing ▪ Access to student accommodation for 12 students	

[90] Data and information provided by the RCS, as at August 2008, unless otherwise specified
[91] Data provided by RCS. The evaluators do not have access to the 2007 annual report

Tamworth	▪ 1 clinical skills lab ▪ Student lounge ▪ Library ▪ Lecture theatre ▪ Board room ▪ 2 meeting rooms ▪ Seminar room ▪ Tutorial room ▪ Office space ▪ Video-conferencing ▪ Student accommodation to house 42 students (this will increase in 2009)		
Taree	▪ Office space ▪ 3 tutorial rooms ▪ Video-conferencing ▪ Student accommodation for 16 students		
Site training capacity	**Nature of training site**	**2007**	**2008**
Armidale	Hospital	Figures could not be obtained by site - some students spent time at each site	Figures could not be obtained by site - some students spent time at each site
Tamworth	Hospital		
Taree	Hospital		
Main areas of research interest	▪ Aboriginal health ▪ Workforce capacity research		

RCS Site Profile: University of Queensland Rural Clinical School

DESCRIPTOR	SITE DETAIL[92]	
Name and address of main site	Rural Clinical School University of Queensland 151 West Street (Locked Bag 9009) Toowoomba DC QLD 4350	
Number and location of additional sites (with office space and personnel)	Bundaberg, Hervey Bay/Maryborough, Rockhampton	
Mission statement	School of Medicine mission statement: The University of Queensland School of Medicine works in partnership with the health system to provide world class accredited medical education, underpinned by lifelong learning skills, our leading researchers, and our contribution to innovative best practice in clinical services. We do this for the benefit of all members of our community in Queensland, Australia, and the world.	
Start date	2002	
Total staffing numbers	30 (18.15 FTE)	
Student numbers	**2007[93]**	**2008**
	74 1st academic RCS year 5 2nd academic RCS year	76 1st academic RCS year 16 2nd academic RCS year
Capital works and facilities as at July 2008		
Bundaberg	▪ Teaching and Learning Centre (Qld Health owned, joint facility with Qld Health) comprising – Library facilities – 1 tutorial room/meeting room for up to 12 people – Student study spaces for up to 12 people ▪ Office facilities for 2 staff (Qld Health owned) ▪ Student accommodation – Four 3 bedroom units (owned) – Four 2 bedroom units (owned)	
Hervey Bay	▪ Office facilities for 2 staff (Qld Health owned) ▪ Student accommodation ▪ Two 4 bedroom duplexes (owned) ▪ Access to hospital accommodation	

[92] Data and information provided by the RCS, as at August 2008, unless otherwise specified
[93] Data sourced from 2007 annual report

Rockhampton	▪ Office facilities for up to 12 staff (leased) ▪ 1 conference room for up to 12 people ▪ 1 training room for up to 20 people ▪ 1 clinical skills laboratory ▪ 1 library (collaboration with Qld Health) ▪ Student accommodation – Townhouse and studio-style accommodation for 27 (building owned by UQ and land leased from Qld Health)		
Roma	▪ One 4 bedroom house (owned)		
Toowoomba	▪ Office facilities for up to 14 staff ▪ 1 clinical skills laboratory ▪ 1 library and resource centre ▪ 1 meeting room for 10 people ▪ 2 seminar rooms for up to 40 people each ▪ 1 resource room ▪ 1 student computer room ▪ 1 gymnasium ▪ 1 staff room ▪ Student accommodation – Eleven 2 bedroom units (owned) – Four 3 bedroom (owned) – Access to Toowoomba hospital accommodation		
Site training capacity	**Nature of training site**	**2007**	**2008**
Bundaberg	Year 3: GP, surgery, medicine, mental health, rural medicine	6	15
	Year 4: Obstetrics and gynaecology; paediatrics; medical specialties; surgical specialties	0	5 (+ 1 continuing)
Hervey Bay	Year 3: GP, surgery, medicine, mental health, rural medicine	10	10
	Year 4: Obstetrics and gynaecology; paediatrics; medical specialties; surgical specialties	0	0
Rockhampton	Year 3: GP, surgery, medicine, mental health, rural medicine	21	21
	Year 4: Obstetrics and gynaecology; paediatrics; medical specialties; surgical specialties	1 (+7 continuing)	2 (+ 8 continuing)

Roma	Year 3: GP, surgery, medicine, mental health, rural medicine Year 4:	7 0	0 0
Toowoomba	Year 3: GP, surgery, medicine, mental health, rural medicine Year 4: Obstetrics and gynaecology; paediatrics; medical specialties; surgical specialties	30 4 (+ 11 continuing)	30 9 (+ 6 continuing)
Main areas of research interest	▪ Rural and remote health ▪ Workforce capacity research: profiling future workforce participants, assessment of recruitment strategies and outcomes, trends for retention		

RCS Site Profile: University of Sydney Rural Clinical School

DESCRIPTOR	**SITE DETAIL**[94]	
Name and address of main site	School of Rural Health 11 Moran Drive (PO Box 1043) Dubbo NSW 2830	
Number and location of additional sites (with office space and personnel)	2 additional sites Orange, Bathurst	
Mission statement	Promoting rural practice and research through excellence in the delivery of innovative medical education in rural Australia	
Start date	2001	
Total staffing numbers	On university payroll: 16.6FTE Co-joint appointments: 5.6 (Area Health payroll)	
Student numbers	**2007**[95]	**2008**[96]
	58 1st academic RCS year 54 2nd academic RCS year	29 1st academic RCS year 79 2nd academic RCS
Capital works and facilities as at July 2008		
Bathurst	▪ 9 bedrooms fitted out with computers and printers, with shared bathroom, kitchen and library facilities ▪ Students are in the hospital or in local general practices during the day	
Dubbo	▪ Administration block: 1 meeting/conference room, toilet facilities, 2 open reception areas, toilet facilities, printer/stationary room, storeroom, plant room, and 10 staff office rooms ▪ Clinical/teaching block: 5 small teaching rooms, library, store room, lecture room (capacity 45-50), specialised clinical skills lab/teaching room fully equipped with mannequins, resuscitation and medical equipment as you would find in a rural hospital ▪ Student accommodation: 4 individual student blocks, each accommodating 5 students, plus 2 student blocks accommodating 2 students plus 1 student block accommodating 1 (disabled unit). All blocks have shared kitchen and bathroom facilities	

[94] Data and information provided by the RCS, as at August 2008, unless otherwise specified
[95] Data sourced from 2007 annual report
[96] Students allocated to spend time at RCS for the second half, actual figures for the first half of 2008

	▪ In construction at the present: 10 student bedroom complex, with student common room, estimated completion date is January 2009 ▪ All connected to the main campus in Sydney via licensed microwave link ▪ Video-conferencing equipment in lecture theatres, conference/meeting rooms and small teaching rooms		
Orange	▪ Administration blocks: 1 meeting/conference room, 2 toilet facilities, 2 printer/stationary rooms, storeroom, 8 staff office rooms, 2 stationery/print rooms ▪ Clinical/teaching block: 3 small teaching rooms, student kitchen and library/common room, toilet facilities, storeroom, lecture room (capacity 40-45), specialised clinical skills lab/teaching room fully equipped with mannequins, resuscitation and medical equipment as you would find in a rural hospital ▪ Student accommodation: 2 individual student blocks each accommodating 5 students, plus 1 individual student block accommodating 6 students. All blocks have shared kitchen and bathroom facilities. ▪ All connected to the main campus in Sydney via licensed microwave link		
Site training capacity	**Nature of training site**	**2007**	**2008**
Bathurst	Rural rotation	18 students x 4 weeks each	16 students x 4 weeks each[97]
Dubbo	Full curriculum delivered in a rural location Summary: 1 day per week in structured lectures/training with the other 4 days clinical activities in the hospitals or with individual tutors/teachers	56	55
Orange	Full curriculum delivered in a rural location Summary: 1 day per week in structured lectures/training with the other 4 days clinical activities in the hospitals or with individual tutors/teachers	56	53
Main areas of research interest	▪ Rural adolescent research ▪ Aboriginal health ▪ Skin cancer ▪ Weight control in young adult males, in a rural setting and cardiovascular disease ▪ IT bibliometric rural health research		

[97] Note 2 of these students are SRH students and 4 of these students are still to complete their rotation

RCS Site Profile: University of Tasmania Rural Clinical School

DESCRIPTOR	SITE DETAIL[98]	
Name and address of main site	University of Tasmania RCS Private Bag 3513 Burnie TAS 7320	North West Hospitals' Campus Brickport Road Burnie TAS 7320
Number and location of additional sites	Latrobe	
Mission statement	The Rural Clinical School in the Faculty of Health Science at the University of Tasmania is committed to an integrated education model, with a balance of acute and primary clinical training and experience in regional, rural and remote settings. Its primary focus is medical education, integrating undergraduate and postgraduate clinical training within an inter-professional framework. It has an ongoing commitment to nursing, pharmacy, clinical psychology, paramedic and other allied health professional education. The aim is to prepare clinical practitioners who are able to meet the health needs of rural and regional communities.	
Start date	2001	
Total staffing numbers	Academic staff = 6 (3.525 FTE); clinical academic staff = 20 (6.5 FTE); general staff = 11 (10.5 FTE)	
Student numbers	**2007[99]**	**2008[100]**
	16 in 1st academic RCS year 6 in 2nd academic RCS year	17 in 1st academic RCS year 12 in 2nd academic RCS year
Capital works and facilities as at July 2008		
Burnie	▪ Residential accommodation – Burnie purpose-built (6 x 5 bedroom units) – 1x 3 bedroom rental property ▪ RCS teaching, research and administration hub – The RCS is co-located with the private and public hospitals – The RCS is a complex of 1150 m2 with dedicated teaching/tutorial space, admin, academic and research office space, student break out areas, simulation centre, video-conferencing facilities, student and clinician lounges – Complex undergoing significant expansion to increase capacity by 440 m2. Includes multi-function teaching/meeting room, additional videoconferencing facility, 3 multi-use teaching/consulting rooms, observation room, expanded simulation centre, student centre, office space and learning hub	

[98] Data and information provided by the RCS, as at August 2008, unless otherwise specified
[99] Data sourced from 2007 annual report
[100] 2009: (est) 30 1st academic RCS year; 15 2nd academic RCS year

Latrobe	▪ Mersey Community Hospital – Staff office (2 work stations); computer lab; resource centre, shared dedicated teaching space) ▪ Residential accommodation: 1x 4 bedroom rental property		
Penguin	▪ The RCS has contributed funding to a new GP clinic providing space for students facilities (dedicated teaching/consulting room)		
Other	▪ Residential accommodation through UTAS rural health teaching sites (UDRH) ▪ Queenstown (8 beds); Rosebery (2 beds); Smithton (7 beds); King Island (3 beds); Sheffield (5 beds)		
Site training capacity	**Nature of training site**	**2007**	**2008**
Burnie	North West Private Hospital	Medical 22 Nursing 2	Medical 29 Nursing 1
	North West Regional Hospital	Medical 22 Nursing 70 Pharmacy 9 Other 16	Medical 29 Nursing 75 Pharmacy 16 Other 22
GP Teaching Sites	Bass House Burnie City Medical Devonport East Devonport Medical Latrobe Family Practice Central Coast Ulverstone Central Coast Peng Somerset Medical Upper Burnie Valley Rd Devonport Victoria St Ulverstone Wynyard Medical	Medical 1 Medical 2 + 4 Medical 2 Medical 2 Medical 2 + 4 Medical 2 Medical 1 Medical 1 Medical 1 Medical 2 + 4	Medical 1 Medical 2 + 4 Medical 2 + 4 Medical 2 Medical 2 Medical 1 + 4 Medical 2 Medical 1 Medical 1 Medical 1 Medical 2 + 4
King Island Queenstown Rosebery Strahan Smithton Sheffield Zeehan	Remote medical sites	Medical 6 Medical 6 Medical 6 Medical 6 Medical 6 Medical 8 Medical 6	Medical 12 Medical 12 Medical 12 Medical 12 Medical 12 Medical 8 Medical 12
Main areas of research interest	▪ Rural workforce capacity ▪ New service/workforce models ▪ Health systems reform ▪ Rural medical education ▪ Inter-professional education ▪ Integrated primary care ▪ Community engagement ▪ Pain management ▪ Health literacy ▪ Resilience ▪ Simulation-based clinical education ▪ Health ageing (ARC Linkage Grant) ▪ Dementia management ▪ Palliative care		

RCS Site Profile: The Rural Clinical School of Western Australia

DESCRIPTOR	SITE DETAIL[101]	
Name and address of main site	The Rural Clinical School of Western Australia Kalgoorlie Regional Hospital St Alban's Road (PO Box 1654) Kalgoorlie WA 6433	
Collaborating universities	University of Notre Dame Australia	
Number and location of additional sites (with office space and personnel)	9 additional sites Albany, Broome, Bunbury, Derby, Esperance, Geraldton, Karratha, Narrogin and Port Hedland[102]	
Start date	2002	
Total staffing numbers	80	
Student numbers	**2007[103]**	**2008**
	62 RCSWA students (42 from UWA and 20 from Notre Dame)	67 RCSWA students (45 from UWA and 22 from Notre Dame)
Capital works and facilities as at July 2008		
Albany	▪ The office consists of a reception area, student library, lounge room, kitchen, bathroom, medical coordinator offices and a photocopy room equipped with photocopier, printers, shredder, scanner, and ADSL cabling in each room. ▪ 1 large teaching room that can seat approximately 15, with video-conferencing, data projector, spare laptop, whiteboard and examination table. ▪ Student accommodation: 2 large fully equipped 4x2 and 5x2 homes, each located within a short walk, drive or cycle to the hospital. The houses are very homely and contain many modern conveniences such as entertaining area, big living areas, spa bath. Wireless and ADSL internet is available at the student homes. ▪ An RCS car is available for student use.	

[101] Data and information provided by the RCS, as at August 2008, unless otherwise specified
[102] Busselton and Carnarvon will be established for 2009
[103] Data sourced from 2007 annual report

Broome	▪ The Broome RCSWA Office is based within the Kimberley Aboriginal Medical Services Council (KAMSC) Offices, on the same block as Broome Regional Aboriginal Medical Service. ▪ The RCSWA is part of the KAMSC Centre for Primary Health Care, Training, Education and Research (CAPTER) which includes GP registrar training, PGPPP junior doctor training, Aboriginal health worker training, pharmacy training (in partnership with Curtin University), pharmacy assistant training and a joint RCSWA/KAMSC research arm. RCSWA leases these facilities from KAMSC and most RCSWA staff are also employed by KAMSC. ▪ Facilities consist of: – A teaching room that will accommodate up to 16 people comfortably with RCSWA video-conference facilities and wireless internet access. This room is also used for KAMSC related meetings. – Three offices (with sharing of functions) housing RCSWA and research staff. – One relatively small office shared by three 0.5 FTE medical coordinators, one slightly larger office for 3 administrative staff (0.8 FTE contributed by RCSWA of total CAPTER administrative FTE 2.3). One smaller office for RCSWA and project research staff. ▪ Student accommodation is in 2 bedroom units in a block of 10 units owned by KAMSC that is close to the hospital (less than 5 minutes walk) and only 10 minutes walk from the RCSWA offices. Three units were initially leased for 10 years by RCSWA and a fourth unit is rented without a long term lease. The PGPPP residents are also housed in this same block of units, as are other students (pharmacy students, visiting medical students, dental student) and two units usually house KAMSC staff.
Bunbury	▪ The Bunbury RCSWA Office is located in the Medical Centre of St John of God Hospital, Bunbury. They sit within a co-located public and private hospital. The public hospital has 120 beds, a large ED department, 5 theatres and a HDU unit. St Johns has 102 beds with an oncology department, palliative care and 5 theatres. ▪ The RCSWA office consists of a reception area, an office for the Professor, 5 desks, photocopier/scanner/fax, shredder, storage cupboards, and filing cabinets. ▪ They have a large tutorial room with seating for 14, with a kitchenette. They also have video-conferencing equipment, a data projector, a whiteboard and a large library. All students have access via their laptops to wireless internet whilst in the office. There is some medical training models and equipment available. ▪ Students are accommodated in 3 homes in a neighbouring suburb just a 10 minute bike ride away. Each home, with 4 bedrooms and 2 bathrooms, are very comfortable and modern and have wireless internet connection. ▪ A RCSWA vehicle is available for school use.
Derby	▪ The Derby RCSWA Office is located at Derby Aboriginal Health Service (DAHS). The office is equipped with a computer used by the administration officer and also contains filing cabinets, storage cupboards, printer and scanner.

	▪ There is a large conference room at DAHS which is utilised for tutorials and video conferences. It is equipped with video-conferencing equipment and wireless internet access is available. A projector and whiteboard are also available. The conference room is also used for educational meetings arranged for students and doctors in Derby. ▪ The 3 students in Derby are accommodated in a 4 bedroom house. The student library is located at the house which also has wireless internet access. ▪ A RCSWA 4WD vehicle is available for school use.
Esperance	▪ The Esperance Rural Clinical School is located in the main street of town, in a building shared with the Goldfields Credit Union. We provide wireless internet connection throughout, tele/video-conference facilities, reference library and a full range of equipment including photocopier, printer, scanner, laminator and binder, for the students' use. There is a kitchenette, lounge area and two large study rooms, as well as a medical coordinator's office and reception area. ▪ The student accommodation is a fully furnished 3 bedroom house located a few minutes walk from the hospital, town centre and shopping. The house is fitted with a monitored security system and wireless internet connection throughout.
Geraldton	▪ Three self contained houses which accommodate 10 students, each of which are fully equipped including broadband internet service. ▪ The students have on line connection to the UWA library and access to a number of core text books on site. ▪ The students have use of a computer lab and rest rooms, and a study area at the Combined University Building in Geraldton.
Kalgoorlie	▪ Purpose built office library and study complex completed January 2007. This includes 6 offices for academic staff, 2 offices for administrative staff, a reception area, research offices for the renal research projects, a library with video-conference facilities, conference room, skills laboratory, lecture theatre designed to hold more than 60 people (and which can be partitioned for smaller audiences), and wireless internet access throughout building. ▪ Accommodation: 3 student houses of 3 to 4 bedrooms, each capable of accommodating 10 students.
Karratha	▪ Karratha is one of the two large population centres in the Pilbara region of Western Australia, providing medical services to approximately 15,000 people. The office is based near the centre of the town and comprises a reception area, tutorial room, 2 coordinator offices and a skills lab. ▪ The office has broadband internet, a library containing a range of textbooks relevant to the undergraduate clinical years and a full range of office equipment including photocopier and fax. ▪ The tutorial room has room for 8 to10 people and includes video-conferencing equipment. ▪ The skills lab is a new development and is based around a medium-fidelity patient simulator, the Laerdal ALS mannequin. There are also lower-fidelity mannequins for paediatric and obstetric training. ▪ Accommodation consists of two 4 bedroom houses owned by the University.

Narrogin	▪ RCSWA Narrogin teaching and administrative centre contains: – reception/administrator's workstation/boardroom – 2 offices for 3 medical co-ordinators – library/study area – lecture/tutorial lab – skills equipment storeroom, stationery/file storeroom – recreation/canteen area, kitchen/ablutions – locked garage for RCSWA vehicle(s). ▪ The centre contains the following equipment: – video-conferencing equipment – photocopier/printer/fax/scanner machine – desktop computers (2), laptop (1 spare) – data projector, DVD player, whiteboards – x-ray viewing box – skeleton and other medical training models – broadband is available (either through network points or via wireless) at both the centre and at the student residence and all medical coordinators and students have laptops. ▪ The RCSWA Narrogin has 1 single-storey student residence set in landscaped gardens and located immediately behind the hospital. It is capable of comfortably accommodating 4 single students. All students are provided with bicycles. ▪ The RCSWA Narrogin currently maintains 1 car which is managed as a pool vehicle and used by both staff and students as the need arises.
Port Hedland	▪ Port Hedland is the regional referral centre for the Pilbara. It services a population of approximately 15,000 people in the towns of Port Hedland and South Hedland. ▪ The RCSWA is located centrally in the town of Port Hedland. It contains a reception area, 2 medical coordinator offices, 3 work stations and a large tutorial room with seating for 12 people. ▪ The office contains a colour photocopier, fax machine, shredder, laminator and other assorted office equipment. There are 2 desktop computers located in the office and wireless broadband internet is available for the students. ▪ There is a library containing a range of textbooks and journals. ▪ Video-conferencing equipment is located in the tutorial room. This room is also used as a skills lab utilising equipment shared with the other Pilbara site, Karratha.
UWA campus, Perth	▪ The urban site in the Faculty of Medicine, Dentistry and Health Sciences has 4 dedicated offices, 3 open-plan desk spaces, and 1 tutorial /video-conference room. It has additional access to a large conference room and a further office for video-conferencing/ meetings, and the FJ Clark Lecture Complex in the Faculty. ▪ The urban office regularly books video-conference suites at Royal Perth Hospital, Fremantle Hospital, Princess Margaret Hospital, and Western Australian Country Health Services.

Site training capacity	2007	2008
Albany	8	10
	▪ Albany and the Great Southern region has a combined population of 32,000 and is serviced by 32 GPs and 9 general practices. ▪ Albany Regional Hospital has 135 beds and 6 wards. Many specialists visit Albany frequently throughout the year providing a comprehensive service. ▪ Community services at present in Albany include Aboriginal health services, Community Drug Services Team, population health and Silver Chain. ▪ Private diagnostic facilities include Western Diagnostic Pathology ▪ There are 10 Rural Clinical School students situated in Albany in 2008, and all are encouraged to become involved in the local community in any way they can.	
Broome	8	8
	▪ Hospital (around 50% of clinical time) ▪ Broome regional AMS in Broome (about 30% of clinical time) ▪ 3 remote clinics run by KAMSC (Bidyadanga 4 students visit once a fortnight, Beagle Bay 2 students visit once a fortnight, and Balgo 2 students visit for one week in five): about 10% of clinical time ▪ 1 general practice: about 10% of clinical time[104]	
Bunbury	10	10
	▪ Bunbury has a population of approx 55.000 people and services a regional population of approx 130,000 ▪ There are 55 GPs from 13 general practices and 50 specialists based in Bunbury and 15 visiting specialists ▪ There is an Aboriginal health service available for the local population	
Derby	3	3
	▪ There is 1 public hospital in Derby; the regional obstetric and paediatric services are located here and there is a paediatric inpatient facility that receives referrals from other areas of the Kimberley. The hospital also provides primary care services and services several remote Aboriginal communities. Most of the DMOs are proceduralists with anaesthetic or obstetric skills. ▪ Derby Aboriginal Health Service is a large Aboriginal Community Controlled Health Service providing primary care to the local population. 8 remote communities are serviced by DAHS doctors by air or road. RFDS doctors provide 5 clinical sessions a week for DAHS and are also involved with teaching RCSWA students. ▪ Derby is serviced by a variety of visiting specialists and students also have the opportunity to accompany specialists on visits to	

[104] There was a second general practice but it has closed its doors

	other communities in the Kimberley. ▪ The students are encouraged to participate in community activities and become an integral part of the medical community during their time in Derby.	
Esperance	3	4
	▪ Esperance District Hospital is a GP run 41 bed hospital comprising accident and emergency, medical, children's, maternity, radiology and pathology departments. Allied health services such as speech pathology, physiotherapy, occupational therapy and audiology are also available at the hospital. ▪ There are 4 surgeries in Esperance with a total of 11 general practitioners, some of whom are trained in obstetrics and/or anaesthesia. Esperance has a community health and development centre and a community mental health team. ▪ There are no resident specialists in Esperance but we have regular clinics by visiting specialists in general surgery, gynaecology, paediatrics, gastroenterology, ophthalmology and orthopaedics**.**	
Geraldton	10	10
	▪ There are 2 hospitals; 1 private (St John of God) with 40 beds and 1 regional public hospital with 60 beds. The town has many visiting specialists that cover almost all the fields of medicine and surgery. ▪ In addition to the secondary care facilities, Geraldton has 5 major group general practices and a number of single handed practices. ▪ The town also has an AMS. ▪ In addition to the local experience, students also visit outlying towns and hamlets. Two students each month spend 4 weeks in Carnarvon a coastal town 500 km to the north. ▪ The students are fully integrated to all levels of patient care and are actively encouraged to get involved in social events in the community.	
Kalgoorlie	10	10
	▪ Kalgoorlie is a regional centre for the Goldfields and has a 62 bed hospital which provides a comprehensive range of services including obstetrics emergency, paediatrics, rehabilitation and palliative care general medicine surgery and oncology. There are 5 private GP clinics and 1 Aboriginal medical service in town. There is an RFFDS base at the airport and a number of community health services including population health and an active GP Network. There are allied health services such as podiatry physiotherapy and counselling and psychiatric services both within and outside the hospital. ▪ Students have access to most of these facilities and can follow patients through whatever care resources they access. Two GP practices and the AMS regularly provide education for students. Within the hospital education is done regularly by the paediatricians, the physicians and the obstetrician, in addition to teaching done by midwives and nursing staff.	

Karratha	3	3
	▪ In addition to teaching provided in the RCSWA office, students spend time in the Nickol Bay Hospital, the Mawarnkarra Aboriginal Medical Service and the Karratha Medical Centre for clinical training. There are also shorter rotations and attachments organised with a number of other community health practitioners including allied health services. ▪ Some rotation between Karratha and Port Hedland occurs to maximise clinical experience and some teaching sessions are held combining the 2 Pilbara sites. This is achieved either by 1 group travelling to the other town or by video-conference linkup.	
Narrogin	3	4
	▪ The RCSWA Narrogin is able to train 4 students in any one year. All staff members are currently employed on a part-time basis and consist of 1 administrative officer and 3 medical coordinators. Other medical professionals are sourced to provide additional teaching in their fields of speciality. ▪ Narrogin is a regional centre providing medical services to some 12,000-13,000 residents from the surrounding rural area. ▪ The Narrogin Hospital is the hub for the Southern Wheatbelt, providing 24/7 acute services and support to 6 smaller district hospitals and 3 health centres. Its facilities include an emergency department, RFDS and emergency helicopter retrievals, theatre/day surgery, maternity and general wards, palliative care/cancer support, primary health services (see below) and ancillary services, including a pharmacy, pathology laboratory and medical imaging. ▪ Narrogin also has a community mental health centre, 2 general practices (10 full-time GPs at full strength) and a schedule of regular visits from specialists of most disciplines. ▪ Allied health professionals based in Narrogin include Aboriginal health workers, aged care assessment nurses, asthma educators, community nurses, dieticians, health promotion officers, physiotherapists, psychologists, occupational therapists, speech pathologists. ▪ Narrogin has a cottage style development of 49 self-contained units for able retired, a 35 bed hostel for frail aged and a 50 bed high care nursing home. ▪ Training is delivered to students through attendance at the hospital, both general practices, primary and mental health centres, sitting in with specialists during their consultations, face-to-face lectures and tutorials, video-conference lectures, workshops and seminars.	
Port Hedland	4	5
	▪ Apart from teaching occurring in the RCSWA office, the students are rotated to the Port Hedland Regional Hospital, the Wirrakamaya Aboriginal Medical Service, 2 private general practices, the RFDS and the community health centre.	

Main areas of research interest	▪ Aboriginal health ▪ Workforce capacity research ▪ Diabetes

RCS Site Profile: University of Wollongong Rural Clinical School

DESCRIPTOR	SITE DETAIL[105]	
Name and address of main site	University of Wollongong Graduate School of Medicine Wollongong NSW 2522	
Number and location of additional sites (with office space and personnel)	6 additional sites Shoalhaven Campus, Mudgee, Murrumbidgee, Southern Highlands, North Coast, Broken Hill	
Mission statement	The mission of the Graduate School of Medicine (GSM) is to produce excellent medical practitioners who have the capacity and desire to contribute to the enhancement of health care for patients in all geographic settings, but particularly in regional, rural and remote communities. It is also expected that GSM graduates will have a commitment to patient-centred, evidence-based, reflective and cost-effective medical practice.	
Start date	2007	
Total staffing numbers	18.65 FTE [106]	
Student numbers	**2007[107]**	**2008**
	22	19
Capital works and facilities as at July 2008		
Broken Hill	▪ The UOW collaborates with the RCS of the University of Sydney and also University of Adelaide, through the University of Sydney's UDRH in Broken Hill.	
Mudgee	▪ The UOW contracts the South Mudgee Surgery for the provision of office space for GSM business in this region.	
Murrumbidgee	▪ The UOW contracts the Murrumbidgee General Practice Network for the provision of office space for GSM business in this region.	
North Coast	▪ The UOW is in collaboration on the North Coast with the University of Sydney and the University of Western Sydney, through the North Coast Medical Education Collaboration (NCMEC), based at the Northern Rivers UDRH in Lismore.	

[105] Data and information provided by the RCS, as at August 2008, unless otherwise specified
[106] Wollongong 28 FTE, total staff 49; Shoalhaven Campus 18.65 FTE; Mudgee 0.4 FTE; Murrumbidgee 0.4 FTE; Southern Highlands: 0.8 FTE, North Coast (NCMEC Director and NCMEC Exec Officer); Broken Hill (Director of Education (BHUDRH) and Student Placements Officer BHUDRH)
[107] Data sourced from 2007 annual report

Shoalhaven	▪ 8 separate office spaces Shoalhaven Campus of Graduate School of Medicine ▪ Office facilities for 2 staff at Shoalhaven District Memorial Hospital ▪ Student accommodation: 2 x leased houses (one 4 bedroom and one 5 bedroom)		
Southern Highlands	▪ Office Space, 57 Merrigang Street Bowral (2 staff members) ▪ Student accommodation 57 Merrigang Street Bowral (10 students) ▪ Access to student space in the Bowral and district hospital		
Site training capacity	**Nature of training site**	**2007**	**2008[108]**
Broken Hill Phase 3 (community based)	GP surgery/ hospital and community	0	0
Mudgee Phase 3 (community based)	GP surgery/ hospital and community	0	0
Murrumbidgee Phase 3 (community based)	GP surgery/ hospital and community	0	0
North Coast Phase 3 (community based)	GP surgery/ hospital and community	0	0
Shoalhaven Phase 1 (campus based) Phase 2 (hospital based) Phase 3 (community based)	 GP surgery Hospital GP surgery/ hospital and community	 19 19 0	 34 34 0
Southern Highlands: Phase 2 (hospital based) Phase 3 (community based)	 GP Surgery GP surgery/ hospital and community	 0 0	 55[109] 0
Main areas of research interest	▪ Impact of Phase 3 on Aboriginal Medical Services (patients) ▪ Financial modelling of the cost of community based health education for medical students ▪ Comparison of academic outcomes of students in a regional versus a rural model		

[108] Phase 3 student figures for 2009 are 4, 3, 8, 20, 14 and 8 in order
[109] 2nd year students spend more than 10 weeks in the Southern Highlands

Appendix B Consultation participants

Consultation participants

Peak bodies

Australian College of Rural and Remote Medicine
Australian Medical Students Association
Australian Rural Health Education Network
Council for Remote Area Nurses of Australia
Federation of Rural Australian Medical Educators
General Practice Education and Training Ltd
Medical Deans Australia and New Zealand
National Rural Health Alliance
National Rural Health Students Network
Royal Australian College of General Practitioners
Royal Australian College of Physicians
Royal Australian College of Nursing
Rural Health Workforce Australia
Services for Australian Rural and Remote Allied Health

Government Departments

Department of Health and Ageing
- Office of Rural Health
- Mental Health and Workforce Division
  - Regional Training Models Section
  - Allied and Indigenous Workforce Section
  - Nursing Section
  - GP Registrar Initiatives Section
- Primary and Ambulatory Care Division
  - Strategic Research Evidence Section
- Selected State and Territory Offices

Country Health SA
Department of Health and Human Services Tasmania
Department of Human Services Victoria
Queensland Office of Rural Health
WA Country Health Services

Universities (including senior academics, administrators and students)

Australian National University
Charles Sturt University
Curtin University of Technology
Deakin University
Edith Cowan University
Flinders University
James Cook University
Monash University
University of Adelaide
University of Melbourne
University of New South Wales
University of Newcastle
University of Notre Dame
University of Queensland

University of Sydney
University of Tasmania
University of Western Australia
University of Wollongong

Other stakeholders

Aboriginal Cooperatives
Aboriginal Medical Services
Community members
Community organisations
General Practice Divisions
Local health services
Local governments and other civic officials
Regional Training Providers
Rural Workforce Agencies

Appendix C General interview guide

Thank you for agreeing to be interviewed and to contribute to the evaluation of the Rural Clinical Schools (RCS) Program and the University Departments of Rural Health (UDRH) Program.

Urbis has been contracted by the Department of Health and Ageing to evaluate the RCS Program and the UDRH Program. The project has two objectives:

- To evaluate the current effectiveness, and future role, of each Program within the context of the current national approach to improving rural and remote health services in Australia; and
- To evaluate the degree to which RCSs are satisfying RCS Program parameters and UDRHs are achieving UDRH Program objectives.

We are very interested in your perspective regarding the current operation of the two Programs and their impact on rural health workforce capacity. Our discussion will focus on the following broad areas of interest, and will allow opportunity for you to speak about the Programs in their national scope as well as their implementation within your region.

We would also be glad to receive any documents or other evidence you can provide in support of your perspective regarding the impact of the Programs on workforce and research capacity. Your comments will remain confidential to our team and comments will not be directly attributed within the final report without your permission.

Should you have any further comments, concerns or questions following our interview today, please contact the lead evaluator, Dr Linda Kurti, at Urbis on (02) 8233 9947, or lkurti@urbis.com.au.

1. National rural health workforce outcomes

a. the current operation of the RCS and/or UDRH and its contribution to increased rural health workforce capacity;

b. the extent to which the RCS and/or UDRH has increased training and support for the rural health workforce, and increased rural health research capability and output; and

c. the impact of the RCS and/or UDRH on rural health providers, and the local community.

2. Relationships between the Programs and between Programs and related initiatives

a. the way in which the regional RCS and UDRH work together;

b. the relationship between the RCS or UDRH and other national rural health initiatives (ie RUSC, AGPT), and examples of coordination or integration; and

c. the relationship between the RCS or UDRH and other local health service providers, educational institutions, and other programs supporting rural health, including Indigenous health.

3. Enabling and limiting factors

a. those factors which have contributed to meeting the objectives of the Program; and

b. those factors which have limited the ability to meet Program objectives.

4. Future

a. the sustainability of the university rural health training infrastructure, risks to sustainability, and potential for improvements to current operational models; and

b. potential future impacts of the Programs on rural health including Indigenous health, the rural health workforce, and local communities.

5. Any other issues

Appendix D RUSC parameters

Rural Undergraduate Support and Coordination Program funding parameters

Parameter 1

The University must maintain measures to increase the number of rural origin students selected for entry into the medical degree to, or maintain the number at, at least 25% of Commonwealth-supported places (CSPs). (A rural origin student is defined as one who has spent at least 5 years in an area with a Rural, Remote and Metropolitan Areas (RRMA) Classification of RRMA 3 to RRMA 7 since beginning primary school. Medical school staff with a background in rural medicine must contribute to the selection process.

Parameter 2

The University must provide a rurally-focussed curriculum that promotes rural practice, with delivery commencing early in the medical course. The curriculum must highlight the rural context by focusing on rural health, the rural social environment, cultural and gender issues in rural medicine, clinical skills and decision making appropriate to rural practice.

Parameter 3

The University must maintain a central point of contact at the main campus to help integrate rural medical programs and initiatives with all other medical school activity;

Parameter 4

The University must coordinate development and support for rural medical educators in partnership with Rural Clinical Schools, University Departments of Rural Health and regional vocational medical education training providers.

Parameter 5

The University must, within the medical school curriculum, provide a safe, culturally appropriate, high quality experience of rural medicine for all Australian medical students by facilitating one or more structured residential rural placement/s of at least 4 weeks' duration in total, preferably in the early years of a students' course.

- Placements should only be provided in RRMA 3-7 areas.
- RUSC Program placements may also be conducted in the Northern Territory, through the designated provider of RUSC Program services in this area.
- The University must take reasonable action to ensure that students undertaking training at rural locations do not suffer financial hardship as a result and are adequately and safely accommodated.
- In exceptional circumstances, the Dean of the Medical Faculty (or equivalent) may exempt individuals from undertaking a placement on the basis of financial hardship or demonstrated health concerns.

Parameter 6

The University must, in regard to Indigenous health:

- maintain measures to increase the selection of Indigenous Australian students (of rural or urban origin) into the Medical degree (which may include the introduction of selection targets;
- support Indigenous applicants during selection process and while completing their degree;

- ensure that the medical curriculum enhances the understanding of, and commitment to improving, the health status of Indigenous Australians (with possible reference to the Medical Deans Australia New Zealand Indigenous Health Curriculum Framework);
- ensure that all medical students and relevant staff undertake appropriate cultural awareness and safety training; and
- consider the appointment of Indigenous academic staff to assist in achieving these goals.

Parameter 7

The University must maintain a multi-disciplinary rural health club for students as a means of encouraging interest in a rural career. The activities of the rural health club must be carried out in accordance with the most current edition of the *Framework for Funding Rural Health Clubs* and should also be consistent with the principles and practices of the National Rural Health Students' Network (NRHSN). The University is responsible for the management of Commonwealth funds provided to the rural health club and must ensure that funds are expended in support of the broad outcomes of the RUSC Program as detailed above.

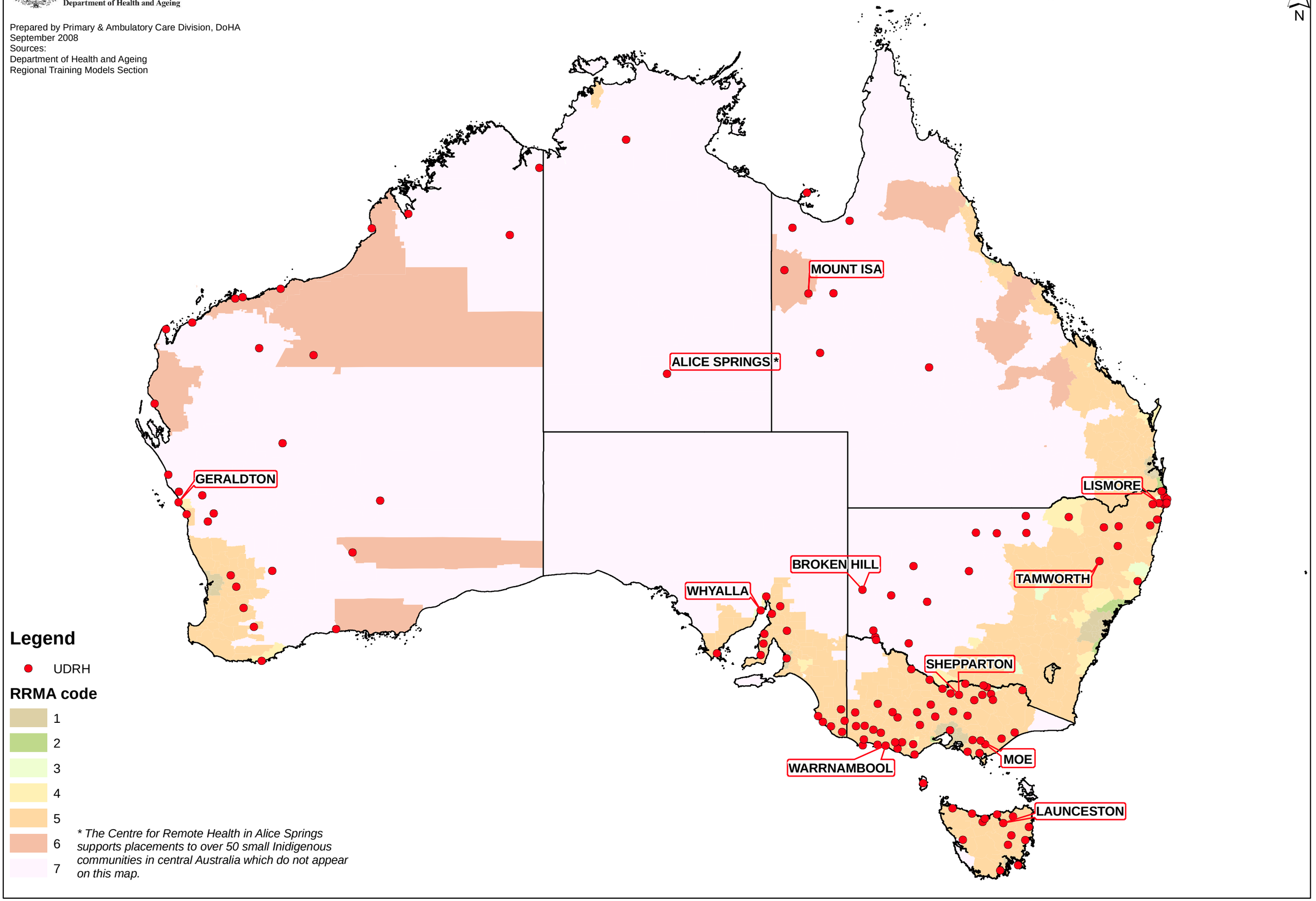
Appendix E Maps

Australian Government
Department of Health and Ageing

University Departments of Rural Health (UDRH) - main centres (labelled) and training sites

Prepared by Primary & Ambulatory Care Division, DoHA
September 2008
Sources:
Department of Health and Ageing
Regional Training Models Section

N



Legend

- UDRH

RRMA code

- 1
- 2
- 3
- 4
- 5
- 6
- 7

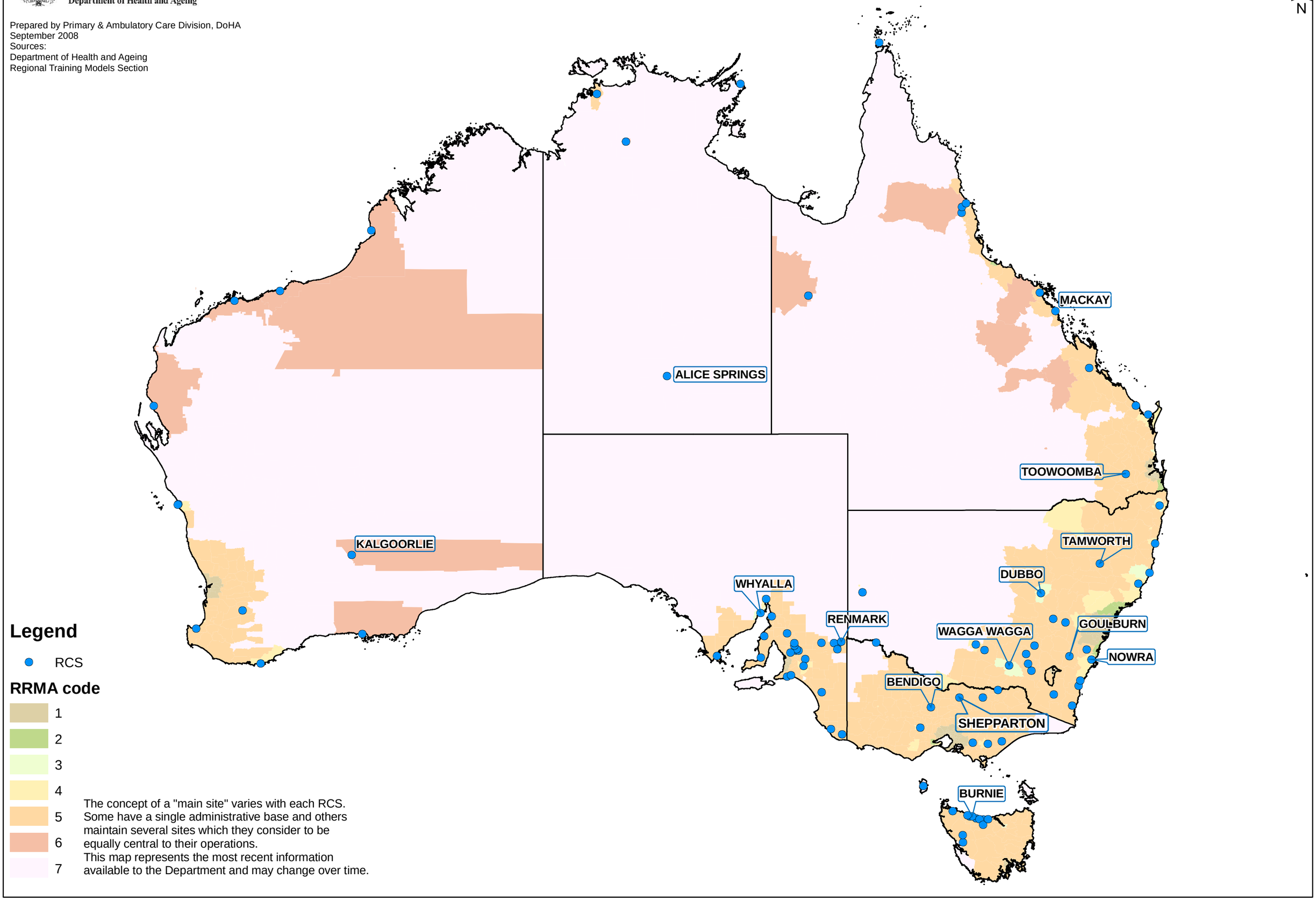
** The Centre for Remote Health in Alice Springs supports placements to over 50 small Inidigenous communities in central Australia which do not appear on this map.*

Australian Government
Department of Health and Ageing

Rural Clinical Schools (RCS) - main centres (labelled) and training sites

Prepared by Primary & Ambulatory Care Division, DoHA
September 2008
Sources:
Department of Health and Ageing
Regional Training Models Section

N



Legend

- RCS

RRMA code

1
2
3
4
5
6
7

The concept of a "main site" varies with each RCS. Some have a single administrative base and others maintain several sites which they consider to be equally central to their operations.
This map represents the most recent information available to the Department and may change over time.

Australian Government
Department of Health and Ageing

Rural Undergraduate Support and Coordination Program (RUSC) - placement sites

Prepared by Primary & Ambulatory Care Division, DoHA
September 2008
Sources:
Department of Health and Ageing
Regional Training Models Section

N

Legend

RUSC

RRMA code

1
2
3
4
5
6
7