

Models of Excellence

Clinical Training in Regional, Rural and Remote NSW

Final Report

November 2013

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Abbreviations and acronyms

ACT	Australian Capital Territory
AH	Allied Health
AHA	Allied Health Assistant
AHP	Allied Health Practitioner
CASP	Critical Appraisal Skills Program
CSU	Charles Sturt University
EPOC	Effective Practice and Organisation of Care
GP	General Practitioner
HCA	Health Care Assistant
MSK	Musculoskeletal
NAHSSS	Nursing and Allied Health Scholarship and Support Scheme
NSW	New South Wales
OT	Occupational Therapist
PT	Physiotherapist
POD	Podiatrist
PRCC	Parallel Rural Community Curriculum
RRMA	Rural, Remote and Metropolitan Areas
RCP	Rural Clinical Placement
SARRAH	Services for Australian Rural and Remote Allied Health
SP	Speech Pathologist
SCU	Southern Cross University
UCRH / UDRH	University Centre for Rural Health / University Department of Rural Health

Executive Summary:

The purpose of this research was to identify what attracts and motivates students to undertake clinical placements in rural and regional health settings, particularly focussing on sustainable clinical placement models. This research draws on multiple data sources to address the following questions:

1. What are the key drivers of (or needs underpinning) regional, rural and remote clinical training placements?
2. In what types of contexts do rural and remote clinical training placements take place (e.g. setting, staffing, organisation, structure)?
3. What are the different models (mechanisms) for the delivery of regional, rural and remote clinical training placements?
4. What measures have been used to capture the impact or effectiveness of different models of clinical placements, and what is the strength and quality of this evidence?
5. What are the barriers and facilitators to students undertaking regional, rural and remote clinical training placements?
6. What factors influence the sustainability of the programs?

Method

The research questions used program logic theory to synthesise data from the following sources:

1. A systematic review of the rural clinical placement literature (both peer-reviewed published and grey literature);
2. Secondary analysis of questionnaires completed by recipients of scholarship funding support to undertake a rural or remote allied health placement in Australia (the Nursing and Allied Health Scholarship and Support Scheme (NAHSSS) and their clinical supervisors;
3. An e-survey of current allied health students who have and have not undertaken rural clinical placements, recent graduates working in regional, rural and remote locations, clinical educators/supervisors in regional, rural and remote locations and clinical placement coordinators.
4. Interviews with key stakeholders including deans of workplace learning, the allied health policy and program manager for Services for Australian Rural and Remote Allied Health (SARRAH), students, clinical educators/supervisors and university clinical education personnel.

Results

Summary of key findings

The key findings from this study are that;

- Students are primarily motivated to undertake a Regional Clinical Placement (RCP) by the opportunities to obtain good quality clinical experiences.
- RCPs are positively associated with an increased intention to work in rural areas on graduation.
- Allied health students consistently reported that the greatest barrier to undertaking an RCP was access to financial support, accommodation and transport.
- Approximately 60% of student respondents had received a scholarship. Scholarships are inconsistently funded, not always timed to coincide with the placement, and often not flexible enough to respond to the variety of placement models.
- Several students and supervisors were unaware of scholarship schemes, and these need to be better and more equitably publicised.
- Well supported clinical supervision models have the potential to build capacity for rural / remote area by bringing skills and expertise through the provision of supervision and clinical educator support.
- There were few examples of innovative allied health RCPs cited by survey respondents, although a small number was identified in the published and grey literature and through the interviews.
- The 'typical' model of RCP observed in this study was a one-student to one-educator, apprenticeship style; approximately 6 weeks duration; in a community or hospital setting; co-located with, and supervised daily by a single supervisor; predominantly undertaken by final year students.
- The dominant models of RCPs place a large burden on clinical supervisors, and in many cases detract from their ability to deliver clinical services and hence service capacity.
- Supervisors are inconsistently supported by universities, and in some cases required to travel to metropolitan areas to receive formal supervisor training.
- Supervisors require better, and more consistent access to training and resources to be able to better supervise students.
- Innovative and capacity building models of RCP tend to have external support, facilitation, community engagement, and are based on addressing community needs.
- The most innovative models of RCPs are supported by external agencies, predominantly University Centres / Departments of Rural Health.
- The development of clinical placements requires strong relationships between the placement site and the placement coordinator, and need to be flexible and responsive to the capacity of the placement site. The clinical placement brokering agencies (ClinConnect and VicPlaces) remove the relationships between the placement sites and coordinators; require a great deal of forward planning on the part of the placement sites; and consequently reduce the capacity and goodwill required to make the system work efficiently.
- This study identifies an "ideal RCP model", based on the current, university based clinical training model. The features of this model are that it will be longer term (three months or more); involve multiple students; utilise shared supervision models; and be

externally supported. The Flinders University IMMERSE (Integrated Multidisciplinary Model for Education in Rural Settings) model incorporates all of these features.

- However, it is proposed that ultimately, the ideal model would be to provide *all allied health training primarily from the clinic*, supported remotely, rather than the dominant model which involves the university as the primary training site.

This report proposes a “good quality RCP” that:

- has a clear learning purpose
- provides a range of clinical experiences that reflect true rural health needs and issues
- enhances, not decreases clinical service capacity
- supports the clinical supervisor in terms of providing supervision back-up and the provision of resources and training to help them support the student
- provides practical and social support the student
- is appropriate to the stage of student training, so that both the supervisor and student can obtain greatest benefit from the placement
- is driven by, and aim to address community needs rather than placement requirements

Overall response rates

This report presents new findings from a total of 1045 survey and interview participants, of whom 550 were students and the remaining respondents were clinical placement supervisors or university placement officers. Respondents were from 25 universities across Australia, of which seven were New South Wales (NSW) universities. Response rates for each data source are detailed below.

Component 1: Systematic review	A total of 312 articles were identified. After duplicates were removed (n=137), the remaining 175 articles were screened resulting in the inclusion of 49 studies in the final review.
Component 2: Analysis of SARRAH data	Responses were available for 355 supervisors and 326 students, from 19 different allied health disciplines and 21 universities across five states.
Component 3: E- survey	357 responses from allied health students (63%), clinical educators (35%) and university clinical placement officers (4%), representing 16 different allied health disciplines from 25 higher education institutions across five Australian states and territories.
Component 4: Interviews	A purposive sample of clinical educators (n=2), university clinical placement coordinators (n=2), deans of work integrated learning (n=2) and a representative from a University Department of Rural Health (n=1).

Drivers for RCPs

The key stakeholders in the development and delivery of RCPs are policy makers (on behalf of the health workforce); universities; clinical supervisors; and students. Each of the stakeholders are motivated to develop, deliver and undertake RCPs by slightly different factors highlighted below.

The over-arching policy driver underpinning RCPs is to attract students to work in underserved regional, rural and remote areas.

A key driver for increasing the supply of RCPs at a university level is increasing the accessibility of clinical placements overall due to current shortages of clinical placements. Other university based drivers include using the RCP as a setting to develop rural work readiness and/or to learn a specific skill set, such as interdisciplinary team working.

Clinical supervisors who work in rural and remote areas are also motivated by the opportunities to recruit students to their area after graduation. Other drivers for supervisors offering RCPs included keeping their own skills and knowledge up to date; for the company; and to “give back” to their own profession.

The strongest driver for students to undertake a RCP is the opportunity for new clinical learning or exposure to a varied clinical caseload. Other motivators included a desire to experience rural practice and rural life; students who were already from a rural area wanting to return to their roots; or a desire for adventure or specific extra-curricular activities, such as surfing.

Models (contexts) of placements

Models of placements refer to the ways the placements were structured and organised. There is currently no overarching taxonomy to describe the variety of allied health RCPs, which makes comparison and classification of the approaches difficult. The only taxonomy available focussed on supervision models in physiotherapy placements and was not specific to RCPs [1].

Synthesis of data from all four components of this research led to the identification of key elements of placement models and matching has matched these with evidence from the literature and this study to depict what an ‘ideal RCP’ should look like.

The “ideal” model is at odds with the findings from this study, which showed that the typical placement model involved a one-student-to-one-educator ratio; medium term duration (approximately six weeks); provided in a hospital or community setting; and supervised by a single supervisor from the same profession as the student, collocated with the student.

A number of innovative placement models were identified. Innovative models of RCP that are driven by and address multiple need areas (increasing RCP capacity, meeting community, student and supervisor needs) were generally able to address these areas successfully and are potentially more sustainable than traditional apprenticeship models. Two examples include the Broken Hill UDRH Allied Health Student Run Clinic Programme (AHSRCP) that offers cohort placements in nontraditional sites (schools, aged care and disability sectors) that respond to community priorities of unmet health need [2, 3]; and the Flinders University IMMERSE programme that offers longitudinal, multidisciplinary, cohort

placements in rural and remote areas for one year in a remote area [4]. These placements require significant resourcing and commitment to the development and maintenance of collaborative partnerships with multiple stakeholders. The AHSRCP for example utilises a ‘shared governance model’ that engages governments, educational entities, communities, private, and public health service providers to address power-sharing, funding allocation, relationships, accountabilities, and policy and practice.

Table: Components of an RCP and an “ideal RCP”

Components of an RCP	The “ideal” RCP
1. Duration	Longer term (three months or more) can be associated with increased desire to work in a rural area; better integration with service and local area.
2. Single or multiple students (or multiple disciplines)	Multiple students or cohorts increase placement capacity.
3. Practice setting	No evidence to support one setting over another, provided there is a variety of clinical experience.
4. Joint / individual supervision	Shared supervision models increase supervision capacity in rural areas.
5. Externally supported / facilitated placement (e.g. UDRH)	Externally supported / facilitated placements are more likely to be innovative; provide support for students, universities and supervisors; and increase placement capacity and learning opportunities.
6. Learning purpose (e.g. develop competence in rural/interprofessional/cultural practice or in a specific skill)	Where the learning purpose is explicit and embedded within the RCP, learning outcomes are more likely to be met.
7. Drivers (e.g. driven by local needs or demands of placement site)	Locally driven: RCP that is close to practice and involves community engagement can increase placement and rural service capacity.
8. Learning approach (eg Vertical integration, peer supported learning)	Peer supported learning if multiple students are provided
9. Compulsory or voluntary RCP	No consistent evidence
10. Year of study in which placement is undertaken	Later, possibly final year of study
11. Mode of supervision	Telehealth supervision has the potential to increase supervision capacity

Mechanisms for RCPs

There are two levels at which mechanisms need to be considered; (1) the *mechanisms that support students* in their uptake of RCPs and (2) those that support the *development and sustainability of RCPs*.

Mechanisms that support students to pursue and undertake RCPs

The most important mechanism to support students to increase the uptake of RCPs was meeting the practical and material needs of the placements, such as the provision of financial support to cover living expenses and access to accommodation and transport to support the placement. The provision of scholarships for example was a substantial (and in many cases essential) enabler of RCPs. However, this study found that scholarships are not

uniformly available, not equitable in the payments provided and did not always coincide with the placement.

Other important mechanisms were the provision of a good quality clinical experience, which includes good quality supervision and ensuring opportunities for clinical or caseload variety and appropriate preparation of the student and the supervisor for the placement.

Mechanisms that support the development and sustainability of RCPs

An important outcome of this project is the voice of the clinical placement supervisors, and their role in the development and sustainability of RCPs.

‘Supporting supervisors is the key to doing this. If they are more experienced and skilled they are going to be more confident supervising more students.’ [University placement coordinator]

The development and sustainability of RCPs was found to rely on the following mechanisms:

- Macro (policy) level - Access to sustained, equitable funding for placements (e.g. Nursing & Allied Health Scholarship and Support Scheme, NAHASS); Infrastructure to support clinical placements regionally (e.g. greater UDRH capacity)
- Meso (university) level - Regional planning and coordination of placements (e.g. via a UDRH) and supervisor support (training); provision of adequate support and resources for university personnel (workplace learning/clinical placement staff) to source, support and coordinate placements; coordinated provision of placement support structures such as combined student orientation and group tutorial opportunities for students whilst on placement; provision of training that is accessible and consistent; provision of dedicated support to manage students whilst on placement; provision of systems that enable effective interaction between the placement site and the university, or a UDRH.

Clinical placements appear to require a carefully negotiated, supported and coordinated interaction between the placement site and the university, or a UDRH. The placement intermediaries (such as ClinConnect and VicPlaces) however were reported to remove the personal interaction between the university and the clinical placement site, reducing the flexibility and responsiveness of the placement and as such, placement capacity.

- Micro (supervisor) level - Provision of information about the university course(s) to help supervisor understanding and support of student requirements; provision of information about the student before the placement, in particular about the capabilities and expectations of the student; provision of student tutorial and orientation opportunities by the health service or university (or UDRH); dedicated support to manage students, particularly those who are not meeting placement requirements.

Outcomes

The research also explored the outcomes and benefits of undertaking RCPs from the perspective of the student and the services.

Student outcomes

Both of the surveys and the literature support the relationship between student exposure to RCPs and their *intention* to work in a rural area with the majority of the responses pointing to a positive relationship.

Other benefits of undertaking an RCP that were consistently reported were

- Increased skills and clinical confidence ‘a good clinical experience’
- Increased awareness of rural issues
- Enhance interdisciplinary team working (in specific types of placements)
- Personal confidence
- Positive social experience

Despite the benefits of undertaking a RCP, where financial support is not available to the student, the cost of undertaking a RCP can have a detrimental impact on the placement’s intended learning outcomes and student well-being.

Service outcomes

There is a perception that student clinical placements increase service capacity. The results of this study suggest strongly that RCPs have the opposite effect; they detract from service capacity and are a resource burden on supervisors. However there were some exceptions, with examples of well-developed placements that led to increased service capacity.

The supervisors found that having links to universities provide beneficial opportunities for learning for supervisors, however this was inconsistent across universities. Supervisors also perceived that by providing better quality, ‘real life’ clinical experiences, they were producing better prepared students.

Discussion

One of the issues highlighted by this study is the paradox of a centralised university training model which uses outsourced clinical placements. External clinical placements are expensive, highly resource intensive to organise and coordinate, and as much of the data in this study suggests, can reduce service capacity. **The technology exists to enable a new model of clinical training where the clinic becomes the primary site of training and textbook learning and theory can be delivered remotely and using simulated technologies where necessary.** There is already substantial rural / remote infrastructure available to support a decentralised training framework for health professionals, such as the University Departments for Rural Health, and the large networks of clinical educators.

This model would embed the student *in situ* from the commencement of their training; outsource the skills and support from the university to the health services to provide optimal learning, knowledge translation and service and research capacity building opportunities; enhance service provision; help addresses rural workforce shortage issues; while reducing the costs of university infrastructure and financial burden on the student. This model also prevents the gap that arises in the career pathway between the training of allied health assistants and allied health professionals due to the need to leave the workplace to attend university to become professionally qualified.

A fully clinically based training model is the ideal and most sustainable model of allied health training. However, it is acknowledged the transition to such a model is likely to take some time, and this report makes recommendations about good practice RCP models which will work with the current system of training.

Conclusion

The ability of students to access quality RCPs depends on two key activities: (1) addressing mechanisms to support and sustain clinical placements and (2) addressing mechanisms to support students to access those placements.

(1) Mechanisms to support and sustain clinical placements

- the supply of appropriately resourced and supported rural clinical placement opportunities
- the supply of clinical placement opportunities which provide a variety of appropriate clinical or caseload experiences for students
- access to training and resources to support the placement and the supervisor
- preparation of the supervisor regarding the student's course, ability and expectations
- innovative supervision mechanisms
- collaboration and engagement with multiple stakeholders e.g. through shared governance models and community-academic partnerships

(2) Mechanisms to support students to access and undertake clinical placements

- financial support to cover placement costs
- access to accommodation, ideally with other students (when appropriate)
- provision of appropriate transport
- consideration of safety
- preparation of the student prior to going on placement, including adequate promotion of RCP opportunities to students

The output of the findings above is a logic model describing the drivers, contexts, mechanisms and outcomes of sustainable clinical placements. The logic model has been further reduced to a series of principles;

1. Sustainable RCPs need to be close to practice: i.e., they should be driven by, and address an identified need of the health care system (a 'community first approach').
2. RCPs which detract from service capacity are unsustainable and should be completely reconsidered.
3. RCPs need to be delivered as part of a coordinated effort that addresses and responds to the needs of the community, the service provider, the supervisor, the university and the student.
4. Good RCP partnerships depend on good management which needs to be resourced appropriately at all levels.

RCPs would be further supported if the professions introduced rural health competencies. However implementing such an approach using the existing models of RCPs would risk introducing systematic discrimination against students who are unable to undertake RCPs (for instance for personal or financial reasons).

Recommendations

Students need to be:

- adequately and equitably resourced (including accommodation, transport and financial support) to undertake their RCP
- aware of access to the funding streams to support RCPs
- made aware of RCP opportunities
- adequately prepared for RCPs

Policy should support:

- equitable access to funding to support RCPs for allied health professionals
- equitable access to regionally based RCP support infrastructure such as UDRHs

Universities could enhance RCPs by:

- undertaking a coordinated response to supporting clinical placement supervisors as close as possible to their practice
- developing clinical training resources for clinical supervisors that are accessible in remote locations
- developing learning contracts between the student and supervisor, which includes provision of information about the student, their capabilities and expectations prior to undertaking their clinical placement
- introducing models of devolved (clinically based) training supported by distance learning
- appropriately resourcing workplace learning teams within the university to source and coordinate quality RCPs
- collaborating and engaging with multiple stakeholders e.g. through shared governance models and community-academic partnerships

RCP intermediaries need to ensure:

- placement mechanisms -(ClinConnect and VicPlaces) are responsive to the needs of clinicians and universities to increase placement capacity
- funding agencies promote, provide equitable access to and support, such as NAHSSS
- funding streams are distributed equitably across disciplines, placements, funding bodies
- funding streams are more responsive to the timing and circumstances relevant to various clinical placement models

Research:

- there is a need for greater consensus around measures used to capture the impact of different models of RCP so that results can be compared. For instance, there is a need to:
 - o use uniform, standardised and validated tools to measure key outcomes of RCPs such as intention to practice in a rural location and placement quality.
 - o define, monitor and consistently measure sustainability as an outcome of RCPs
 - o report capacity as a standard output / outcome
- many of the innovative models of RCPs were identified through word-of-mouth, or grey literature, which means that important learnings from these projects are not routinely published or disseminated in places where it is easily accessible. Clinicians and academics need to disseminate examples of good practice in RCPs.

Introduction

There is strong evidence to indicate rural placements for medical students can lead to future employment in rural areas [5-9]. Playford and colleagues [10] demonstrate that rural placements can be a significant factor that influences the rate of rural employment of newly graduated nursing and allied health practitioners. This being the case, it would follow that greater student exposure to rural clinical placement opportunities should lead to greater numbers of allied health students who are willing and appropriately skilled to work in rural areas when they graduate. Playford [10] however also identified that how students perceived their rural placements (i.e., as offering 'excellent' professional development or not) also play a significant role in influencing the rate of rural employment of newly graduated nursing and allied health practitioners.

The capacity to offer greater numbers of 'excellent' rural clinical placements however is compromised by the current crisis in education in clinical practice [11, 12] brought on by strained training capacity due to growing numbers of health and allied health students.

Whilst a better understanding of the mechanisms that attract, enable, detract and/or preclude allied health students from undertaking a rural clinical placement is required to potentially increase the pool of allied health students choosing rural health employment, without sufficient allied health rural clinical placements to offer, identification of these mechanisms are of no use.

The objective of this research is therefore to identify what attracts and motivates students to undertake clinical placements in rural and regional health employments within the context of identifying the drivers, facilitators and barriers to the provision of sufficient, 'excellent', rural clinical placements for allied health students.

Overview of methods

This project involved primary and secondary research into what attracts and motivates students to undertake clinical placements in rural, regional and remote NSW facilities. It aims to inform an action plan to promote sustainable models that expand the quality of clinical placements in these areas and improve workforce distribution in NSW.

Program logic theory was used to explore, in detail, the contexts, processes and mechanisms around models of clinical placement and examine their relationship to outputs and impacts. This research drew on published and grey literature; secondary data; and new data (questionnaire and interviews) to address the following questions:

1. What are the key drivers of (or needs underpinning) regional, rural and remote clinical training placements?
2. In what types of contexts do rural and remote clinical training placements take place (e.g., setting, staffing, organisation, structure)?
3. What are the different models (mechanisms) for the delivery of regional, rural and remote clinical training placements?
4. What measures have been used to capture the impact or effectiveness of different models of clinical placements, such as future intention for rural practice, and what is the strength and quality of this evidence?
5. What are the barriers and facilitators to students undertaking regional, rural and remote clinical training placements?
6. What factors influence the sustainability of the programs?

The research involved the following components;

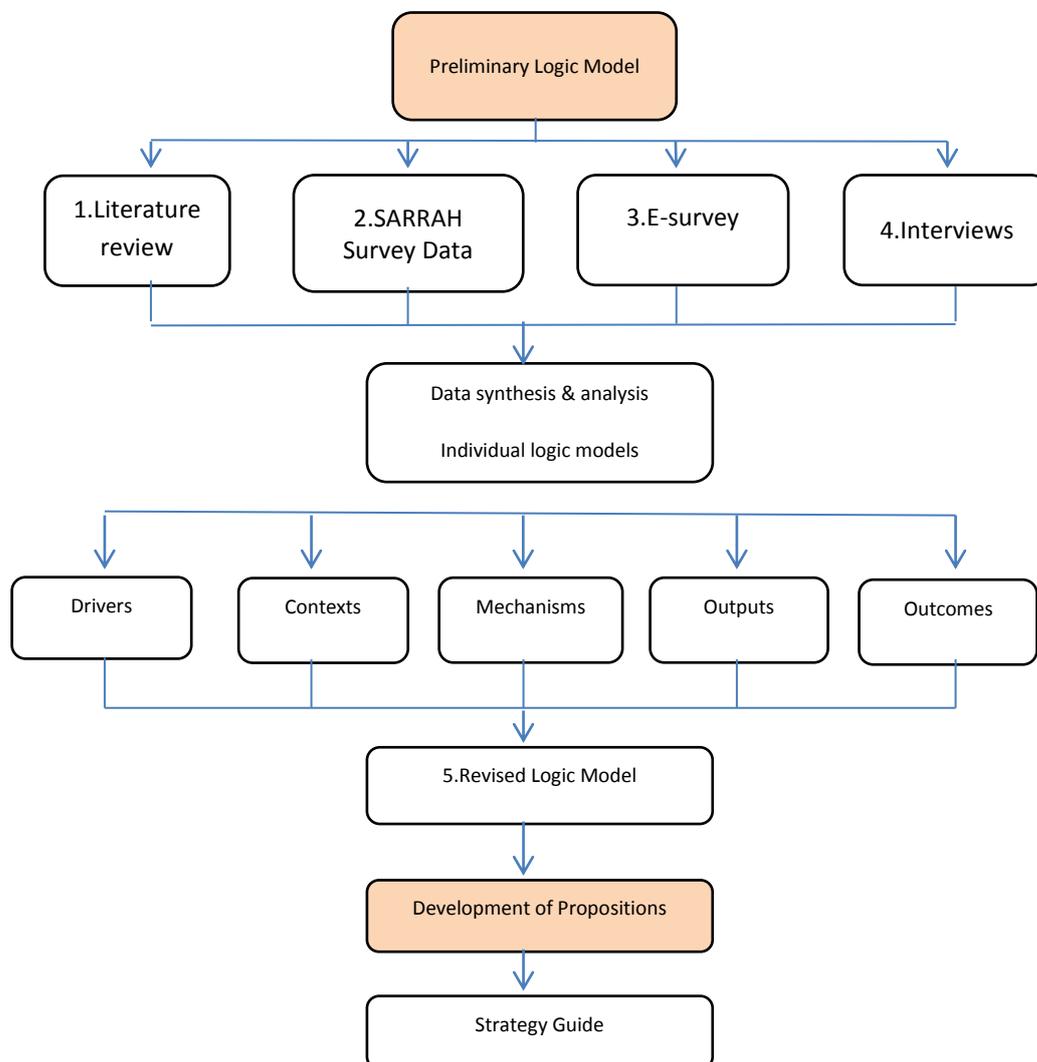
1. Detailed literature review to identify the scope of existing knowledge on this topic (including published and grey literature)
2. Analysis of existing data (through completed questionnaires available to the research team)
3. E-survey circulated to key stakeholders
4. Key stakeholder interviews
5. Synthesis of the data above using program logic theory to develop an evidence based practice and policy guide

The detailed methodology for each component is presented in with the results of each component of the research to help reduce the complexity of the document. Additionally, the findings and discussion specific to each component of the research are embedded within the component sections.

Logic model synthesis

The findings from each of the components has been summarised as a logic model, which are presented in the respective chapters. The logic models summarise the chapter findings under the headings drivers, contexts, mechanisms (barriers and facilitators) and outcomes, although not all of these headings were populated from every component of the research. In the discussion, a meta-logic model was used to synthesise the component logic models to address the research questions and develop propositions.

Figure 1: – Process to develop final logic model, test propositions and develop practice guide



Ethics approval

Ethics approval was received from Southern Cross University Human Research Ethics Committee on April 24th, 2013 (Approval Number ECN-13-091).

Results

Component 1: Systematic review of the literature

Method

A synthesis of published and grey literature was undertaken to identify the key contexts, drivers, mechanisms and outcomes pertaining to the demand for, undertaking, supply and success of regional, rural and remote clinical training placements and clinical placement models for allied health students using the strategy outlined in Table 1.

The review drew on the principles of realist synthesis, which looks at the relationships between the contexts, mechanisms, and outcomes of strategies and interventions relating to the undertaking, supply and success of regional, rural and remote clinical training placements and clinical placement models. This model of synthesis has the advantage of having a range of methodologies that can be incorporated into the review to inform the research questions.

Data were initially extracted from relevant articles using the pre-determined logic model categories 'drivers' (reasons for the research), 'context' (setting for the study, participants, area or field of study, organisation and structure of RCPs), 'mechanisms' (facilitators and barriers relating to the drivers and outcomes) and 'outcomes'. Article quality was assessed using Daly et al's hierarchy of evidence for assessing qualitative research [13] and NHMRC evidence hierarchy for quantitative research [14].

Table 1: Article identification process*

Process	Detail
Sampling strategy	Selective: Samples databases from medicine, nursing, allied health and social science fields within specified limits.
Type of study	All qualitative (grounded theory, ethnography, action research, exploratory approaches, phenomenology), quantitative research (randomised controlled trial, controlled clinical trial, controlled before and after study, uncontrolled before and after study) and systematic reviews.
Approaches	Subject searching, citation searching, contact with authors
Range of years	Beginning of 1995+
Limits	English, human
Inclusion and exclusions [†]	<p>Inclusion: Empirical study of an intervention aimed at allied health‡ student clinical placements undertaken in regional, remote &/or rural areas</p> <p>Exclusions: developing country health care, non-empirical research (commentary, editorial, discussion piece), not allied health (medicine, nursing), not rural/remote/regional</p>
Terms used	<p>“Clinical fieldwork” OR “workplace learning” OR “Student Placement” OR “Work practicum” OR “Clinical placement” OR “Field work” AND</p> <p>“Audiologists OR “Art therapists” OR “Chiropractors” OR “Counsellors” OR “Dentists” OR “Dental Auxiliaries” OR “Dietetic Technicians, Registered” OR “Dieticians” OR “Electroneurodiagnostic Technologists” OR “Exercise Physiologists” OR “Emergency Medical Technicians” OR “Diabetes Educators” OR “Lactation Consultants” OR “Childbirth Educators” OR “Phlebotomists” OR “Medical Technologists” OR “Medical Laboratory Technicians” OR “Music Therapists” OR “Cytotechnologists” OR “Laboratory Personnel” OR “Occupational Therapists” OR “Occupational Therapy Assistants” OR “Ophthalmic Technologists” OR “Optometrist” OR “Orthopaedic Technologists” OR “Orthoptists” OR “Prosthetists” OR “Osteopaths” OR “Pharmacist” OR “Pharmacy Technicians” OR “Physical Therapist Assistants” OR “Physical Therapists” OR “Physician Assistants” OR “Physiotherapists” OR “Podiatrists” OR “Psychologists” OR “Ultrasound Technologists” OR “Radiologic Technologists” OR “Radiation Therapy Technologists” OR “Radiology Personnel” OR “Radiographers” OR “Nutritionists” OR “Nuclear Medicine Technicians” OR “Recreational Therapists” OR “Surgical Technologists” OR “Speech-Language Pathologists” OR “Speech-Language Pathology Assistants” OR “Social Workers” OR “Respiratory Therapists” OR “Registered Care Technologists” OR “Health Educators” OR “Dialysis Technicians” OR “Dental Technicians” OR “Dental Hygienists” OR “Dental Assistants” OR “Allied Health Personnel” AND</p> <p>“Remote” OR “Regional” OR “Rural”</p>
Electronic sources	Academic search premier; CINAHL; EBSCOhost health; Informit: Health Collection; MEDLINE; Cochrane Library; Google Scholar; OpenDOAR; AMED; ERIC; PsychINFO; HWA website; HETI website; NSW Health website.

*Adapted from STARLITE principles for reporting systematic literature reviews. [15]; † detailed in figure 2 decision tree; ‡Allied Health terms taken from SARRAH, Allied Health portfolio of HETI and Allied Health Professions Australia (AHPA) websites (www.sarrah.org.au; <http://www.heti.nsw.gov.au/programs/allied-health/allied-health-professions-in-nsw-health/> and www.ahpa.com.au)

Results

A total of 312 articles were identified. After duplicates were removed (n=137), the remaining 175 articles were screened using the process outlined in Figure 2. As outlined in Figure 3, 49 studies were included in the final review. A breakdown of papers by discipline, type of research, topic of research and country can be found in Table 2.

Of the 49 papers included, 24 described and evaluated the implementation of a regional, rural or remote clinical placement; 6 described and evaluated the implementation of different ways to increase the number of rural clinical placements through a central unit of coordination or intervention; there were 9 studies that examined factors relating to recruitment of AHP students to the rural workforce; 9 studies that examined any other factors relating to the undertaking of clinical placements; and 1 study that describes the validation of a tool to measure attitudes to rural practice and rural life.

Results are presented under the following headings, based on the logic model framework used to synthesize the data:

What are the key drivers of (or needs underpinning) regional, rural and remote clinical training placements?

In what types of contexts do rural and remote clinical training placements take place (eg setting, staffing, organization, structure)?

What are the different mechanisms that enable the delivery of regional, rural and remote clinical training placements?

What are the barriers and facilitators to students undertaking regional, rural and remote clinical training placements?

What measures have been used to capture the impact or effectiveness of different models of clinical placements, and what is the strength and quality of this evidence?

Figure 2: Abstract screening process

Process	Decision		
1. Does the paper relate to clinical placements and/or models of clinical placement?	Yes – Go to 2	No – Exclude	Can't Tell – Exclude
2. Does the study examine regional, rural and/or remote areas?	Yes – Go to 3	No – Exclude	Can't Tell – Get full paper
3. Does the paper relate to the Allied Health Professions?	Yes – Go to 4	No – Consider for Background	Can't Tell – Get full paper
4. Does the paper describe an empirical research study or evaluation (including systematic reviews)?	Yes – Include Paper	No – Consider for Background	Can't Tell – Exclude

Figure 3: PRISMA diagram

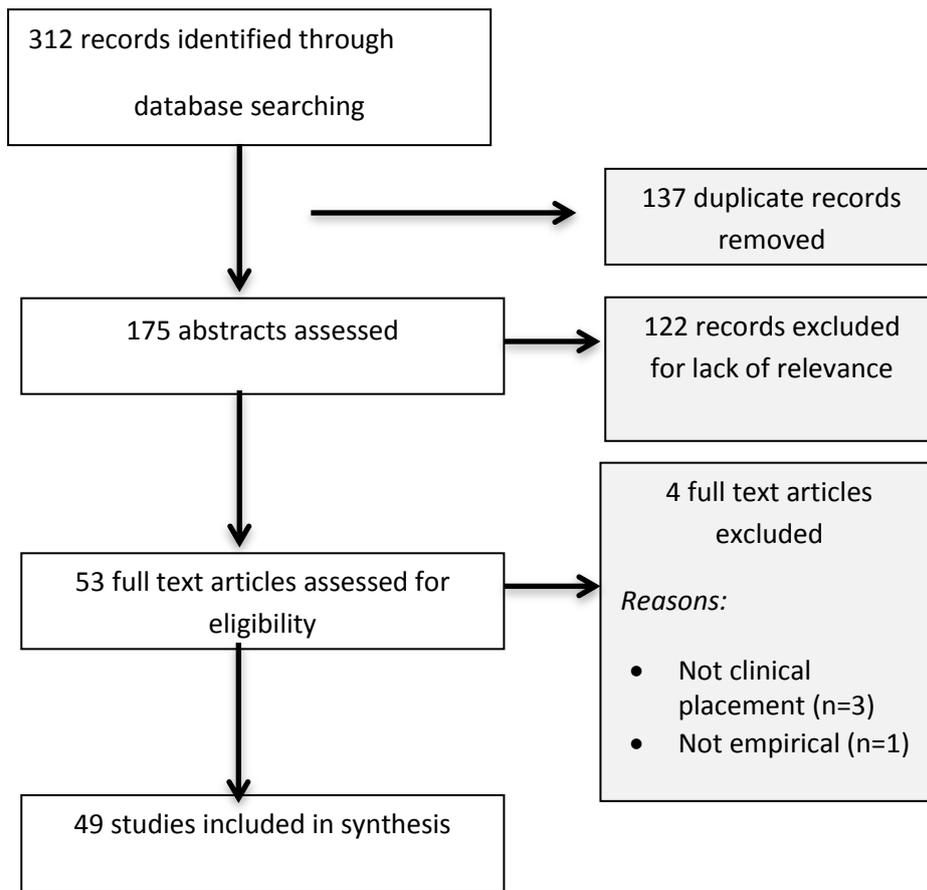


Table 2: Nature of the literature

Component	No. papers
<i>Topic of research</i>	
Describes & evaluates a clinical placement strategy/model	24
Describes & evaluates a strategy/model to increase numbers of rural clinical placements	6
Evaluates or explores various factors, relationships and/or outcomes relating to rural clinical placements	18
Other	1
<i>Type of research</i>	
Qualitative	14
Post placement questionnaire	4
Pre-post placement questionnaire (open & closed responses)	6
Mixed methods	3
Survey	8
Longitudinal survey	3
Descriptive programme evaluation	10
Other	1
<i>Discipline (s) examined</i>	
Medical, Nursing & AHP	15
AHP	17
Physiotherapy	1
Speech Pathology	3
Dentistry	5
Pharmacy	2
Psychology	1
Occupational Therapy	4
Social Work	1
<i>Country</i>	
Australia	44
Canada	2
USA	3

What are the key drivers of (or needs underpinning) regional, rural and remote clinical training placements?

Macro

Several papers referred to rural health inequality and issues relating to underservicing of rural areas contributed to by rural health workforce shortages, an ageing rural workforce and an ageing rural population with increasingly complex health needs. As such, the primary driver for rural clinical placements identified in the literature was around the need for attracting allied health students to rural health employment on graduation.

The evidence base identified macro, governmental policy level drivers that have aimed to facilitate increasing the rural workforce through mechanisms that have boosted health student numbers (e.g. uncapping of university places) and increasing RCP capacity through development of intermediary rural placement coordination agencies such as University Departments of Rural Health (UDRHs) and funding innovation in RCPs (HETI/HWA).

Meso

As a consequence, the literature reports a key driver within the university sector for innovation in RCPs and increasing access to more RCP opportunities is the capacity to simply provide sufficient placement opportunities for students as student numbers grow and competition increases for placement sites.

Equally however the literature demonstrates that within the university sector, the provision of RCPs is also driven by a commitment to increasing the supply of rural AH workforce, ensuring graduates are work ready for rural employment, and by a commitment to improving access to AH services in rural areas through student clinics or student provision of services whilst on placement. The university sector is also driven to supply RCPs as a unique learning opportunity for students where particular skills are identified as key to student competency, such as interprofessional practice or competence in working with particular cultural groups.

Micro

There were only two examples in the literature where the driver was to attract more students to undertake rural placements, both of which were undertaken in the USA. The literature did not detail any drivers for the provision of rural clinical placements from a clinical educator/supervisor perspective. For these two groups, the literature more frequently assessed the *impact* of a rural placement. A clinical educator/supervisor driver that could be extrapolated from placement impact data could include the anticipation that rural students on placement will consider the placement site for future employment.

In what types of contexts do rural and remote clinical training placements take place (eg setting, staffing, organization, structure)?

The rural and remote clinical training placements took place in a variety of settings and were organised and structured in a number of different ways, designed to meet some or all of the following aims:

- to expose students to rural practice, rural health issues and rural lifestyle and provide training in rural clinical skills (n=8);
- to increase the supply of rural placements by creating new service opportunities in underserviced communities (n=7); and
- to provide students with a specific skill set (n=8).

Placements to expose students to rural practice, rural lifestyle, rural clinical skills, rural health issues and rural lifestyle

Placements ranged from compulsory 3-4 week experiences whereby students rotated through a selection of rural locations and clinics in their final year of study, to 4 day voluntary field trips where students conducted observations on a rotational basis in various contexts e.g. a primary healthcare clinic and primary school. Table 3 outlines specific contextual details for these placement models.

Table 3: Placements designed to expose students to rural practice

	Abuzar et al. 2009 [16]	Bazen [17]	Capstick [18]	Johnson [19-21]	Paterson [22]	Watermeyer et al. 2013 [23]
Year of study	Final	Final	3 rd year	Final	3 rd year	Not specified
Professional group	Dentistry	Dentistry	Pharmacy	Dentistry	Occupational Therapy	Speech-Language Pathology
Level of choice	Compulsory	Voluntary	Compulsory (but choice over location)	Voluntary	Voluntary	Voluntary
Duration	4 weeks	3 weeks	1 week	4 weeks	6 weeks	4 days
Setting	Inner regional	Rural & Remote		Rural	Remote	Remote, extreme poverty
Supervision model	Individual & group	Not identified	1:1	2:1	Not identified	Not identified
Context: Structure & organisation	Multi-site programme for 6-10 students rotating through a selection of sites & opportunities.	Multi-site programme where students rotate through a selection of rural locations and clinics (private & public)	Single-site programme where students observed and participated in all activities of the pharmacy.	Single-site programme where students worked in pairs supervised by a registered dentist	Single-site programme supported by pre-placement workshop, teleconferencing during the placement and financial assistance.	Groups of students conduct observations on a rotational basis in various contexts (e.g. a primary healthcare clinic, primary school)

Placements to increase the supply of rural placements by creating new service opportunities in underserved communities
 Student-run clinics in primary schools were developed as a placement option for final year students to address concerns raised by the community about the lack of paediatric speech pathology services in the region [2]. Often termed, ‘service learning’ or ‘role emerging’ placements, the placement for speech pathology students in Broken Hill is an example of this kind of placement. Often these placements send groups of students to non-traditional placement sites such as schools or aged care facilities. Supervision is often less intensive and therefore peer learning is frequently relied upon to drive the learning outcomes of the placement. Table 4 outlines contextual details for these placement models.

Table 4: Placements to increase the supply of rural placements by creating new service opportunities in underserved communities

	Allan et al. (2011) [24, 25]	Boucalt (1998) [26]	Jones et al. (2011) [2, 3]	Moosa & Schurr (2011) [27]	Averett et al. (2012) [28]	Capricornia Allied Health Partnership (Frakes et al. 2011) [29]
Discipline	Allied Health	Physiotherapy	Speech Pathology, Physiotherapy, Occupational therapy, Dietetics, Orthoptics, Exercise physiology, Pharmacy	Speech Pathology	Social Work	Nutrition and dietetics, Occupational Therapy, Exercise Physiology, Podiatry, Social Work, Pharmacy
Year of study	Not specified	Not specified	Final	Not specified	Not specified	3 rd & 4 th year
Level of choice	Not specified	Not specified	Voluntary	Voluntary	Voluntary	Voluntary
Duration	Not specified	Pre-planning ('months'); implementation 1 day; evaluation (weeks);	6 weeks	Not specified	Not specified	Average length of placement 5.6 weeks
Setting	Regional	Rural	Regional	Very remote	Rural	Regional
Supervision model	Not specified	Group	Peer, discipline specific, non-discipline specific, non-discipline non-clinical supervision,	Group	None on-site / remote supervision	Discipline specific, on-site

			on and off site supervision			
Context: Structure & organisation	University clinics include: on-campus university clinic provided by a single professional group; Outreach services offered to another site, coordinated through university clinic; partnership with local health agencies.	Students planned, implemented and evaluated a programme of health promotion for a rural community	Student-run clinics in rural primary schools and aged care/disability services. Students work in pairs running clinics supervised by local therapists.	Under the guidance of the clinical supervisors, the SLP students developed the services and resources requested by the communities, and the programming materials to be shared with the school and hospital staff	A 'macro' rural placement in an underprivileged rural area with no on-site field instructor and minimal structure. Macro and micro experiences requiring number of professional social work roles.	Student- run clinic where students work in an interprofessional clinical environment to deliver outpatient 'chronic disease early intervention and management' services under supervision

Placements to provide students with a specific skill set

All placements described within this theme were models designed to expose students to interprofessional (IP) practice and improve IP skills among students. These placements were located in rural areas as “with fewer practitioners in rural areas, there are frequently close working relationships that can provide role modelling of interprofessional practice”[30]. Table 5 outlines specific contextual details for these placement models.

Table 5: Placements designed to provide students with a specific skill set

	Cragg et al. (2010) [30]	Guion et al. (2006)[31]	Gum et al. (2013)[4]	McNair et al. (2005)[32]	Mu et al. (2005)[33]
Year of study	Not specified	Not specified	Final year	2 nd half of course =>	Not specified
Professional group	Medicine, physiotherapy, nursing, spiritual care	Physician assistants, health information management, occupational therapy, physical therapy, and respiratory therapy	Nutrition & dietetics, speech pathology, paramedics	Medicine, nursing, physiotherapy & pharmacy	Occupational therapy, physical therapy, and pharmacy
Level of choice	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary
Duration	5-12 sessions	Not specified	8-12 months	2 weeks	48 hrs; 1-3 months
Setting	Rural hospital	Rural hospital	Rural clinical school	Rural community	Rural community
Supervision model	1:1 discipline specific	Not specified	1:1 discipline specific and also group IP supervision	Discipline specific	Project coordinator
Context: Structure & organisation	Usual clinical placement supplemented with weekly, one-hour IP education sessions guided by two local facilitators. The sessions were case-based and structured using elements of collaborative learning.	Rural IP clinical rotation where IP teams of students explored health care access and availability problems	Placement supplemented with participation in a joint fortnightly IP learning practicum. Types of activities in the IP program included case studies, role plays, journal club, work shadowing and invited speakers.	Students worked in small IP teams of 2-4 in rural community health settings supplemented with Joint home visits, observation of team working. Online discussion forum and worked on a joint project.	Short & long term programmes involving IP teams spending time as a team in various activities e.g. community visits, shadowing activities with clinicians, volunteer activities.

Articles describing and evaluating different ways to increase the number of rural clinical placements through coordination models

The majority of literature in this category describes ways and models of improved coordination and support for rural clinical placements as a means to increasing the capacity of regional and rural environments to facilitate clinical placements. One further article identifies an approach to clinical placements, ‘collaborative fieldwork’, that supports and enables clinical educators to supervise groups of students in regional areas.

Table 6 outlines specific contextual details for these placement models.

Table 6: Models to increase the number of /capacity for rural clinical placements

	Professional group	Context: structure & organisation
Bartholomai & Fitzgerald (2007) [13]	Occupational therapy	‘Collaborative Model of Fieldwork Education’: students primarily supervised by clinical educator however collaborative supervision is provided by all team members, group supervision – peer learning.
Barney et al. (1998) [18]	Occupational therapy	Rural Student Unit: a funding programme enabled the piloting of a Rural Student Unit Model for allied health (starting with a pilot for OT students). The unit incorporated: an orientation program; regional focus; student support; tutorial programs; accommodation and transport reimbursement; and staff support and education.
Barnett et al. (2012) [19]	All health	Mixed methods study that mapped and described the organization of student placements at three rural hospitals, each with multiple education providers to identify ways to increase the number of clinical placements offered: recommendations around centralised multidisciplinary coordination and planning for placements in the region.
O’Brien et al. (2010)[34]	Allied health	Centralised multidisciplinary approach to planning and coordinating clinical placements: university, department of health and a health service coordinating rural clinical placements for allied health students.
Smith et al. (2009) [35]	Allied health	University Department of Rural Health (Newcastle): describes a model of support for rural allied health students, clinicians and academia.
Lyle et al. (2006)[36]	All health	University Department of Rural Health (Broken Hill): a single coordination point for the whole region and all the health organisations – ‘a one-stop shop for student placements’.

What are the different mechanisms for the delivery of regional, rural and remote clinical training placements?

Placements to expose students to rural practice, rural lifestyle, rural clinical skills, rural health issues and rural lifestyle

Key mechanisms identified that facilitated delivery of these placements included ongoing funding, identification of and engagement with key stakeholders, support and recognition for supervisors and support for students. Table 1A details mechanisms for each study alongside drivers and outcomes (refer to Appendix 1).

Support for students was identified as a key mechanism to the development and implementation of rural placement opportunities. Support mechanisms identified for students to experience 'quality' rural clinical placements included: information booklets and maps provided by the university for the locality; travel and accommodation costs paid for and a daily student allowance provided (funding source for this not disclosed); induction provided to students at the beginning of placement; orientation session and tutorials included discussion of learning objectives and discussion of key concepts of rural health practice; accurate communication about what clinical experience in rural practice will offer to students; duration - one month deemed appropriate; pre placement reflection/acknowledgement of personal strengths/weaknesses; post placement debrief opportunity; 1:1 supervision at the end of every clinical session; group supervision at the conclusion of the rotation; Integrated/interprofessional opportunities provided (e.g. Abuzar et al. (2009) detailed that their placement offered clinical training in an integrated rural dental health service, opportunity to work with dental assistants, opportunity for visits to private practices, oral health promotion involving the wider health sector [16]).

Placements that facilitated rural exposure also required a *funding source* to support and coordinate new models of clinical placement, and a *broker/support mechanism* acting between placement site and feeder university (e.g. UDRH) to develop and implement rural exposure opportunities.

These placements were also reliant on *engagement, consultation and partnership with key stakeholders and organisations*. For example, Abuzar [16] engaged with the Department of Human Services, Dental Health Services Victoria, Goulburn Valley Health, Rumbalara Aboriginal Cooperative and the School of Rural Health to design and implement a compulsory multi-site rural placement for fourth year dental students.

It was also detailed that a key mechanism for these placements was the *support and recognition provided to supervisors*. In the case of Abuzar et al. [16] and Bazen [17], supervisors were either jointly appointed by a university and local health service (Abuzar) or recognised by a university through a title of 'honorary clinical consultants' (Bazar). Other support mechanisms included provision by the university of a dedicated student supervisor for indigenous patients; teaching guidelines for supervisors; a dedicated faculty member to help supervisors with discussions about student performance; and communication to supervisors regarding the clinical ability of students prior to placement.

Placements to meet community needs or fill gaps in service provision in rural and remote areas

Key mechanisms identified that facilitated the 'success' of these placements included identification of and engagement with key stakeholders, a needs or demand analysis prior to establishing the placement, a broker and/or support for students. Table 1B details mechanisms for each study alongside drivers and outcomes (refer to Appendix 1).

Identification of and engagement with key stakeholders alongside a needs or demand analysis prior to establishing the placement and assistance from a broker or support mechanism acting between the placement site and feeder university (e.g. UDRH).

Key to the success of these placements is the conduct of a needs or demand analysis prior to the establishment of the programme or placement. In order for a thorough analysis to be conducted, engagement with local communities is essential. For example, as Jones et al. [2] detail, through engagement with the local community in Broken Hill it became apparent that "local primary school teachers and parents had concerns about the lack of paediatric speech pathology services and the impact this was having on educational attainment" (p52). Jones details further that the development of the Broken Hill placements relied on 'community – academic partnerships' brought about through development of the *Shared Student Run Clinic Governance Model* within Broken Hill and region. This includes all partner schools, NSW Department of Education and Training, Broken Hill UDRH, the University of Sydney, Greater Western Area Health, Service, Far West NSW Local Health Network, Riverina Division of General, Practice including the Barrier Division of General Practice, Maari Ma Health Aboriginal Corporation, Broken Hill, City Council, residential and community aged care providers and disability sector. As Jones states "This model addresses power-sharing, funding allocation, relationships, accountabilities, and policy and practice in the delivery of effective long term health care to improve the health outcomes for communities in the region and student learning experiences." (p4) [3].

These mechanisms are also reflected in Allan's articles that explore the utility of university clinics that either operate as clinics on regional or metropolitan campuses or form partnerships with local regional or rural health services to supply health services in the public and private sectors where services are lacking or there are insufficient health professionals to provide the service [24, 25]. As Allan describes, it is essential to first 'recognize unmet demand' and investigate how a clinic may be able to address this unmet demand through mapping the workforce available to supply health services in the public and private sectors, and the types of services demanded by policy or lobby groups that are not yet supplied. It was indicated that should such an analysis not occur there is a risk that the clinic may not provide a sufficient amount or range of clients due to poor geographic positioning of clinic within the campus, sporadic and ineffective marketing and/or lack of range of clients/problem types in the immediate area. As such, a key mechanism for success of an on-campus clinic model that arose out of such a mapping exercise was the need to strategically place the clinic in high demand areas and resourcing/supporting the clinic to run the service year round. Formal partnerships between the university and 'partner' health service were also described as useful ways to provide a range of student experiences, manage the costs of placements while addressing community need.

Academic support

Adequately supporting academic workload to run the clinic, in particular if it is a year round clinic was recognised as a key mechanism for successfully sustaining university clinics. Equally there needed to be a level of flexibility between the clinic and academic requirements such that as opportunities arose within the clinic they could align with course content and curriculum requirements.

Participation selection / voluntary placement / student traits

Moosa and Shurr [27] described a placement opportunity for students to develop speech pathology resources in extremely remote and under resourced communities in Canada. They iterated the importance of a selection process to ensure the students had the aptitude and character to cope with the demands of the placement and the 'hands-off' supervision model utilised. The authors stated the following requirements for students to undertake the placement:

“Interest in rural issues/working rurally, strong academic record, clinical placement evaluations that identified strong professional and ethical conduct, exceptional interpersonal communication skills, rapid integration of feedback, independent problem solving, critical thinking skills” (p162).

Averett et al. [28] described a similar placement for social work students whereby the placement was in an underprivileged rural area where no on-site field instructor was provided and there was minimal structure to the placement. Their research demonstrates the following *student traits* are essential to the success of these placements: “students need to be open (open-minded, respectful, mindful of the agency culture, flexible, and self-directed), flexible, self-directed, and maverick in personality (determined, inner strength)” (p80).

Placements to provide students with a specific skill set

Key mechanisms identified that facilitated the 'success' of these placements included funding, identification of and engagement with key stakeholders, adequate resourcing, support from registration bodies, student traits and support for students. Table 1C details mechanisms for each study alongside drivers and outcomes (refer to Appendix 1).

The key mechanism for successful IP placements in rural areas was *establishing collaborative partnerships with all key stakeholders* to identify needs of the community, students, supervisors and academics. For example, McNair et al. [32] described the development of an interprofessional steering group representing “eight Victorian universities (comprising 14 different departments), health care providers and students” (p580). Furthermore the importance of 'building meaningful partnerships' and 'monitoring that all roles and visions are clear and understood' [4] were essential components of engagement with stakeholders when devising and delivering rural IP clinical placements.

As can be extrapolated from these mechanisms above, a number of articles described the resource intensity of establishing these placements. For example Drolet et al. [37] reported that time was a factor in trying to plan a pilot rural IP experience in terms of planning the coordination of student timetables; gaining the support and commitment of decision-makers and stakeholders in the academic departments and health authority; and that people were either too busy or unable to coordinate a common meeting.

As such a key mechanism for the success of these placements was also the availability of *funding* and/or the support from a funded agency (e.g. rural clinical school,[4]) to ensure *adequate resourcing* for planning and implementation.

Adequate resourcing for rural IP placements refers to providing adequate support for the time, resources and staffing required to plan, develop, coordinate and deliver key mechanisms that may directly influence the success of an IP placement such as: keeping track of and coordinating all student placements within the health service and organising and delivering structured IP opportunities (integrated clinical debrief sessions; group sessions; case studies; online IP activities; and journal clubs). For example Gum et al. [4] found that the key element of IP education is that “students from different disciplines must be given the opportunity to interact with those who they are learning with, from and about”. However as described by supervisors, the ability to provide adequate IP opportunities and IP education is often difficult in regional areas where administration and clinical staffing are already stretched to deliver services [37] as supervisors perceive IP education is additional to their workload [38].

Registration / University support

One study identified the need for IP placements/IP experience to be part of registration and therefore university requirements for students. As quoted by one participant in Jacob et al. [38]“clinical training requirements are set by the universities who set requirements for placements—they don’t require cross discipline work, so the hospital won’t provide it” (p225).

Student traits

Another study reported that the preceptors involved in the IP placement perceived the experience of taking ‘highly enthusiastic students’ increased their inclination to take students again in the future [32].

Student support

It was reported that students needed some understanding of their professional identity prior to placement and therefore IP placements need to be undertaken later in health degrees. Other support mechanisms for students on rural IP placements were identified as the need for clusters of students being placed together; orientation tutorial at beginning (where students can identify placement goals) and debrief at the end of the placement; work in small IP teams; online discussion forums moderated by a project manager; and a 1:1 discipline specific supervision model.

Articles describing and evaluating different ways to increase the number of rural clinical placements

Key mechanisms identified that facilitated increased rural placements included regional coordination, funding, collaboration with key stakeholders, provision of infrastructure and student support, provision of supervisor support, and composite placement schedules. Table 1D details mechanisms for each study alongside drivers and outcomes (refer to Appendix 1).

The primary mechanism detailed in these articles that contributed towards increasing the number of rural clinical placements was *regional coordination*. For example Lyle et al. [36] stated that the Broken Hill UDRH is a single coordination point for the whole region and all the health organisations – ‘a one-stop shop for student placements’. As expressed by Lyle et al. [36] regional coordination involves “streamlining administrative procedures and

maintaining important links with service partners, the clinical supervisors and the feeder universities (faculties) to ensure the acceptability and sustainability of the program as it evolves” (p246). These functions are similar to that described by Smith et al. [35] for the Newcastle UDRH where central coordination of rural allied health placements has led to a significant increase in allied health students participating in UDRH placements, and where research seminars and workshops conducted by the UDRH are attended by over 300 allied health participants. Barney [39] emphasized the importance of a central broker, advocate or ‘go-between’ in the success of implementing a ‘collaborative fieldwork’ model to a regional health service in increasing the capacity of a clinical educator to take multiple occupational therapy students at one time. A unit coordinator was employed for the project duration and was responsible for meeting regularly with students or telephoned those in remote locations, coordinated the placement with the university and field work site, provided support and training to supervisors and organised accommodation and transport. The importance of these roles was also emphasized by Smith [35] who identified the role of staff specifically employed by the UDRH to undertake academic teaching and support, clinical duties in the area health services and research capacity building activities.

The importance of coordination on increasing and sustaining rural placement opportunities was emphasized in Barnett’s study [40] that mapped and described the organisation of student placements across three regional hospitals. The authors found that key to increasing rural placements were mechanisms that encourage student placement data (needs/requirements/availability of supervisors) to be collated and coordinated centrally. For example the Broken Hill UDRH is able to provide multiple rural clinical placements through ‘*composite placement schedules*’ that enable rotation of students through more than one clinical site during their placement. This is made possible through a centralised coordination processes.

A key mechanism embedded within the need for regional coordination is that of *collaboration with existing and new partners*. Broken Hill UDRH for example works closely with service partners and systematically determines the carrying capacity of the current clinical placement sites and identifies additional placement opportunities, either in health facilities already taking students or in new services, locations or in outlying communities [36].

As demonstrated by Barnett [40], provision of *supervisor support* was another key mechanism enabling health services to increase the number of placements offered and is a key feature of UDRHs and other models that coordinate rural clinical placements (e.g. Rural Clinical Schools, [4]). Barnett’s study demonstrated that the ability of clinical agencies to accommodate students was constrained by the availability and preparedness of clinicians to teach and mentor students, and this in turn was influenced and exacerbated by cumulative pressure on clinical facilities to accept more students; the final impact being supervisory impost on clinical staff and their potential for burnout. Examples of supervisor support included provision of supervisor courses for local clinicians, providing support to supervisors during clinical placements and provision of tutorial programs for students run by the UDRH/Rural Clinical Schools or university.

As Lyle et al. [36] described, other key mechanisms for successfully increasing placement opportunities included *provision of infrastructure and student support to ensure the placements are sustainable and successful*. The Broken Hill UDRH for example “operates student accommodation, maintains educational facilities such as a local library collection,

electronic resources to supplement the physical collection and provides students access to photocopying, printing and an experienced health librarian. Students have 24-hour access to computers and the Internet in Broken Hill and just recently in some of the remote communities as well” (p247). Student support also includes an orientation program on arrival, a special briefing for students going to remote locations, and students are also advised about bush survival skills such as driving on unsealed roads and safe travelling in harsh environments. Barney [39] described provision of a unit coordinator who met regularly with students; accommodation and transport reimbursement (free accommodation in the hospital’s on-site residential home); and provision of social opportunities available for students. O’Brien pointed out the importance of a ‘consistent approach to accommodation’[34]. There are reports for example in the literature where allied health students are aware of funding discrepancies among different health departments leading to inconsistent support for the costs of rural placements [41, 42].

Finally there is recognition that funding is a key mechanism required to support and sustain regional clinical placement coordination models. Smith et al. [35] noted the funding disparity between medical and allied health departments with the consequence of fewer academic and administrative staff to support innovative education and practice models.

What are the mechanisms (barriers and facilitators) that influence students to undertake regional, rural and remote clinical training placements?

The following mechanisms were identified as influencing student uptake of rural clinical placements.

Macro: Funding support for AH placements/regional coordination and capacity building for AH placements e.g. in the form of UDRH facilities; scholarship support for AH students.

Meso: Availability of rural clinical placements; being a regional as opposed to metropolitan university (see Helmes 2011, regional students are more likely to seek RCPs [43]); alignment with a UDRH or Rural Clinical School or a regional placement coordination network; investment in and commitment to delivering innovative rural clinical placements (in particular IP placements and placements that utilise students to meet community needs in rural areas); matching student personality and ability to the placement; investment in resourcing required to plan, coordinate and deliver rural placements, in particular innovative models such as IP placements or placements that utilize students to meet community needs in rural areas.

Micro: Attending a regional university (see Helmes 2011, [43]); subsidies for cost, accommodation and travel; adequate promotion (awareness of rural placement options); accurate and timely information available to student prior to placement; student researching information about the community prior to placement; student is enthusiastic, open-minded, respectful, mindful of the health service/community culture, flexible, self-directed, determined and/or maverick in personality; if the placement is a unique opportunity and provides exposure to a broad scope of professional experiences; if the placement offers development in their specific field of interest; if the placement offers opportunities for social experiences in the community and with other students; if there is access and information related to recreation and leisure for the placement; geographical location of the community; impact on immediate family and an introduction/familiarity to the host community prior to the placement as well as positive testimonies for a given rotation.

What measures have been used to capture the impact or effectiveness of different models of clinical placements, and what is the strength and quality of this evidence?

Information pertaining to the measurement, impact and quality of evidence relating to rural clinical placement strategies is presented under two headings:

1. Models of clinical placement evaluated in the literature
2. Literature that evaluates or explores various factors, relationships and/or outcomes relating to rural clinical placements

1. Models of clinical placement evaluated in the literature

i) Placements to expose students to rural practice, rural health issues and rural lifestyle, and provide training in rural clinical skills.

These models of placement were measured in a variety of ways. Outcome measures included (Table 1A in Appendix 1): Educational outcomes; student outcomes (satisfaction, enjoyment); intention to work in rural area; interest in rural affairs; programme evaluation (satisfaction with accommodation, support, pre-post placement expectations etc.); students' perceptions of different issues that relate to rural practice; enthusiasm for rural work; and attitude to living and working in rural areas. The majority of these items were measured post placement using un-validated self-report questionnaires with open and closed questions.

Given the variation in outcomes measured, the impact of these models of clinical placement was varied and clear conclusions cannot be drawn. However key findings included:

- N= 78 dental students completed a program and outcome evaluation following completion of a compulsory multi-site rural clinical placement. 26% of students who participated in the placement in 2002 were employed in a rural area within the first 12 months of graduating, 38% from the 2003 cohort, 60% from the 2004 cohort and 48% from the 2005 cohort [17].
- N=123 third year pharmacy students participated in a compulsory single-site rural placement. A pre-post placement survey was conducted [18]. Significantly more students overall indicated post-externship that they would consider rural work than those surveyed pre-externship (P = 0.0001). A lower incidence of interest in rural work by urban/rural origin was seen to be largely removed through participation in the rural placement [proportion of students of urban origin indicating they would consider rural work increased significantly from 38% to 67% (n = 53 of 79; 95% CI, 0.57–0.77) (P = 0.0003)].
- *Supervisors* - being linked to a university was considered extremely important; student supervision was perceived as a positive learning opportunity; students had helped to reduce the patient waiting lists at two of the placement clinics [20].
- *Students* - increased clinical confidence and time management skills; participants would recommend the rural placement to future students; financial assistance for travel and living expenses made a considerable difference in terms of enabling students to experience opportunities that would not normally be available to them; improved awareness and appreciation of the constraints for rural communities; improved attitudes towards rural practice.

ii) Placements to meet community needs or fill gaps in service provision in rural and remote areas

These models of placement were again measured in a variety of ways. Outcome measures included (Table 1B in Appendix 1): Perceptions of learning opportunities; impact on student learning; impact on the community; awareness of rural issues; student and supervisor perceptions on personality traits best suited to the placement.

The majority of these items were measured post placement using un-validated self-report questionnaires with open and closed questions or through interviews and focus groups.

Given the variation in outcomes measured, the impact of these models of clinical placement was varied and clear conclusions cannot be drawn. However key findings included:

- The student speech pathology clinic established as part of the Broken Hill UDRH recorded a total of 231 primary school aged assessed in 2010; 58% of kindergarten children received a speech pathology intervention; the number of new referrals on the speech pathology service waiting list decreased from 250 clients in September 2009 to eight in September 2010 [36].
- On-campus university clinics enable students to undertake 'graduated exposure' to practice, and provide an opportunity to assess the need for additional education and provision to students who may require additional assistance/who are more challenging. However university clinics may offer poor diversity of experience and poor exposure to 'real' demands of practice [24, 25].
- Partnership models of university clinics offer: learning opportunities that are more realistic; a consistent supply of patients; opportunity for increased service capacity in rural areas/meeting community needs through introduction of clinics; and increased clinical placement opportunities [24, 25].
- *Students:* Students have commented that field trips and field work placements to service rural areas give them increased awareness of rural issues for these communities; increased services to communities; strengthened collaborations with communities; that they had been prepared for generalist practice; developed their use of self and creative thinking skills; and had become more client centred and better team players.
- *Community:* The field trips to under serviced rural areas were perceived by students to provide input in communities with limited physiotherapy resources (or non-existent), which supported the work of local health workers.
- Matching student types/characteristics to an unstructured rural placement was perceived by supervisors and students as essential to get the best outcome from the placement [28].

iii) Placements that provide students with a specific skill set

These models of placement were again measured in a variety of ways. Outcome measures included (Table 1C in Appendix 1): Student and supervisor perceptions of IP learning outcomes (including Kirkpatrick's educational outcomes framework); IPE scale measuring IP attitudes pre and post placement; community, university and student needs identified for establishing an IP placement; student intention to practice in rural area; perceptions of rural practice; attitude to rural practice. Health professionals from three rural/regional health services were sampled to ascertain their views on the role of IP experiences in clinical

education; pre placement self-assessment tool (expectations, values/beliefs on health); observation field notes; reflection journal.

Given the variation in outcomes measured and level of quality of the evidence, the impact of these models of clinical placement was varied and clear conclusions cannot be drawn.

However key findings included:

- *Learning outcomes* –improved understanding of others’ roles; influenced attitude towards IP practice for students and supervisors; a significant increase in participants’ positive perceptions regarding IP practice after they participated in the project ($p < 0.05$) [33]
- *Rural outcomes* - Improved knowledge about local health care issues in a rural community; improved appreciation for IP practice in rural settings/ awareness that collaboration is a necessary ingredient in rural practice; knowledge of rural resources; appreciation of cultural diversity; preparedness for the practice environment; 76% of respondents stated they would accept employment at their practice site if offered (Guion et al. 2006) however another study found that while many students specified an interest to work in a rural team and rural setting, less were inclined to identify more permanent rural work as a long-term goal [32].

2. Literature that evaluates or explores various factors, relationships and/or outcomes relating to rural clinical placements

The evidence fell into two groups:

- (i) studies that examined factors, including rural placements, relating to recruitment of AHPs to the rural workforce ($n=9$) and
- (ii) studies that examined any other factors relating to the undertaking of clinical placements ($n=8$). Table 1E details the research aim, method, level of evidence and outcomes reported for group (i) studies and Table 1F for group (ii) studies (refer to Appendix 1).

Group (i) studies that examined factors, including rural placements, relating to recruitment of AHPs to the rural workforce:

There was moderately strong (Level IV) evidence that participation in a rural placement can lead to greater rural employment of nurses, physiotherapists, occupational therapists and human communication scientists, particularly if the placement is 4 weeks or less (OR 1.995, $p=0.040$), is voluntary (OR 0.294, $p=0.015$) and is reported by students as ‘excellent’ for professional development (OR 1.812, $p=0.027$) [10].

There was also moderately strong evidence (Level IV) that undertaking a rural placement can have a positive influence on nursing, medical, audiology, nutrition and dietetics, occupational therapy, podiatry, physiotherapy, speech therapy, prosthetic and social work students’ intention to practice in a rural area. In particular, students’ intention to practise rurally significantly increased after rural placement for students from RRMA classifications 1 ($P<0.001$) and 3-5 ($p<0.001$)[44].

This evidence however was contradicted by one smaller study ($n=58$) of final year occupational therapy students reporting that although students who had family or close friends in rural and remote areas were 7.12 times more likely to consider working in rural

areas ($P < 0.05$), participation in rural and remote fieldwork placements was not been found to be a predictor of intention to consider rural employment in the final year of study [45].

Schofield et al. (2009) also highlight that the two factors within The Careers in Rural Health Tracking Survey (CIRHTS), undertaken by 121 health students on rural placement, that were consistently nominated as those most likely to influence student workplace location decisions included: "career factors" (e.g. type of work, career opportunities and challenges) and "financial factors" (e.g. cost of accommodation and cost of living). The authors purport that the decision of health professionals to work in a rural location was not determined simply by background or rural placement but varied between individuals and indeed locations as a result of the complex interaction of many factors [46].

Group (ii) studies that examined any other factors relating to the undertaking of clinical placements

Due to the variation in outcomes measured within this group of studies and quality of evidence (Level IV quantitative, Level III qualitative) a broad picture of findings can only be presented. The evidence base suggests that RCPs for allied health students are costly as they are relatively unsupported to undertake RCPs in terms of provision of scholarships, subsidised accommodation, travel stipends and/or support for lost earnings compared to medical students. Allied health students are more likely to undertake a RCP if they are: from a regional university; if RCPs are promoted as a clinical placement opportunity; and if travel stipends, support for lost earnings, subsidised accommodation and/or rent free housing are provided. Key findings from this group of literature include:

- Students (n=190 surveyed) at regional universities are significantly more open to undertake a placement in a rural setting than their urban colleagues ($t = 4.75$, 167 d.f., $p < .001$, 95% CI for the difference = .60 to 1.43) [43]
- Students (n=468 surveyed) are more willing to complete a clinical placement in an underserved community if provided travel stipends (75%), rent-free housing (92%) and where IP opportunities (65%) were offered [47].
- Students (n=379 surveyed) who did not take a rural placement indicate this was because: there was none offered; financial cost; lack of awareness/information about rural placement opportunities; and an inability to maintain employment whilst on placement [48].
- Allied health students (n=121 surveyed on RCP) are most likely to be working while studying as are students from a rural background [41].
- Scholarship support is unevenly distributed, with nursing and allied health students (n=121 surveyed on RCP) being relatively under-supported in relation to lost earnings [41] [48].
- Medical students are more likely to have their accommodation costs covered on RCP compared to pharmacy, nursing and allied health students [48] [42].
- Approximately 75% of medical and pharmacy students receive travel reimbursement while only 28% of nursing and allied health students enjoyed the same privilege [48].
- For those students (n= 200 interviewed & surveyed) who held part-time or casual jobs, a non-metropolitan placement required them to forgo their paid employment and often incurred additional expenses such as accommodation, while continuing to meet financial commitments at home [42].

Discussion

The primary aim of this literature synthesis was to identify what attracts and motivates students to undertake clinical placements in rural and regional health employments. However as the literature review progressed, it became clear that whilst a better understanding of the mechanisms that attract, enable, detract and/or preclude allied health students from undertaking a rural clinical placement is required to potentially increase the pool of allied health students choosing rural health employment, without sufficient allied health rural clinical placements to offer, identification of these mechanisms are of no use.

Therefore this review sought to identify what attracts and motivates students to undertake clinical placements in rural and regional health employments within the context of the drivers, facilitators and barriers to the provision of sufficient, quality, rural clinical placements for allied health students.

Given the broad scope of the review, the diversity of topics identified within the 49 selected papers is not surprising. However it was possible to group the evidence into a number of more meaningful categories which included papers that: described and evaluated the implementation of a regional, rural or remote clinical placement; described and evaluated different models of centralising and coordinating RCPs; examined factors relating to recruitment of AHP students to the rural workforce; and those papers that examined a number of factors relating to the undertaking of RCPs in general.

A number of innovative placement models were identified and are summarised alongside advantages and disadvantages of these models in Table 7. The evidence from innovative models of RCP that are driven by and address multiple need areas (increasing RCP capacity, meeting community, student and supervisor needs) were generally able to address these areas successfully and are potentially more sustainable than more traditional apprenticeship models. Two examples include the Broken Hill UDRH Allied Health Student Run Clinic Programme (AHSRCP) that offers cohort placements in nontraditional sites (schools, aged care and disability sectors) that respond to community priorities of unmet health need [2, 3]; and the Flinders University IMMERSe programme that offers longitudinal cohort placements in rural and remote areas akin to the PRCC medical student programme [4]. Disadvantages of these RCPs are that they require significant sustainable resourcing and commitment to the development and maintenance of collaborative partnerships with multiple stakeholders. As such successful examples of these models tend to be brokered or supported by external agencies, such as University Departments of Rural Health.

Table 7: Summary of innovative models of RCP found in the literature

RCP Approach		Example	Advantages	Disadvantages
Apprenticeship		1 student : 1 supervisor	<ul style="list-style-type: none"> • Intensive support and supervision for student • Preferred by supervisors • Most common model of RCP 	<ul style="list-style-type: none"> • Limited capacity for more student placements • Limited to one supervisor's style • Can reduce service provision capacity
Increase placement opportunities through <i>responding to community needs</i>	University Clinics	<i>Allan et al. (2011)</i> : On-campus university clinics provided by a single professional group; Outreach services offered to another site, coordinated through university clinic; and/or partnerships with local health agencies.	<ul style="list-style-type: none"> • 'Graduated exposure' to practice • Opportunity to assess the need for additional education and provision to students who may require additional assistance • Provision of new and/or augmented services in an underserved community 	<ul style="list-style-type: none"> • Dependent on supply and demand of clients which can lead to poor diversity of experience • Poor exposure to 'real' demands of practice • High resource intensity for staffing year round service • Financial cost of running a student clinic
	Student-led / student established programmes	<i>Jones et al. (2011)</i> : Student-run clinics in rural primary schools and aged care facilities. Students work together in groups/pairs running clinics at local primary schools/aged care facilities supervised by therapists.	<ul style="list-style-type: none"> • Ability to meet community needs/service under serviced rural areas • Peer learning and peer support • Increases student placement capacity • Encourages collaboration between community and university 	<ul style="list-style-type: none"> • Significant resource intensity to establish, coordinate and sustain • High level of commitment required of all stakeholders
Increase placement opportunities through <i>collaborative supervision</i>		<i>Bartholomai & Fitzgerald (2007)</i> : four students supervised by a single clinical educator on a regional multidisciplinary rehabilitation ward. Supervision is 'collaborative' in that it is jointly shared by all team members.	<ul style="list-style-type: none"> • Capacity for greater numbers of placements to be provided; more junior staff gain skills in supervision as part of a 'supervisory team' • Students are on placement together in a rural area (peer support and peer learning) • Can increase productivity / occasions of service 	<ul style="list-style-type: none"> • High level of support (and training) may be required for the supervisor • Often an experienced supervisor is required

<p>Increase placement opportunities through <i>interprofessional collaboration & responding to community needs</i></p>	<p>Inter-professional student-assisted clinic in regional area</p>	<p><i>Interprofessional pre-entry allied health student clinical service: Capricornia Allied Health Partnership (2011):</i> allied health clinical placements to produce a student workforce that delivers clinical services in chronic disease to a regional community in QLD</p>	<ul style="list-style-type: none"> • Specific skill set acquired (IP skills) • Creation of new placement opportunities • Provision of new and/or augmented services in an underserved community 	<ul style="list-style-type: none"> • Significant set up costs • Significant resource intensity to establish, coordinate and sustain • Commitment level required from all stakeholders • Similar to university clinic, placement numbers and opportunities are driven by clinic supply and demand, clinic location, clientele and also supervisor availability • Requires recruitment of experienced clinical educators • Restricted to students nearing the end of their studies
<p>Increase placement opportunities through <i>coordinating multiple students across multiple sites</i></p>		<p>Abuzar et al. (2009) and Bazen et al. (2007): describe a multi-site programme where groups of dental students rotate through a selection of rural locations and clinics (private & public) within a specified regional area.</p>	<ul style="list-style-type: none"> • Opportunity for group placement of students (peer learning, peer support) • Exposure to numerous aspects of rural practice and rural life 	<ul style="list-style-type: none"> • Significant resource intensity to establish, coordinate and sustain • High level of commitment required of all stakeholders
<p>Meet specific learning goals</p>	<p>Interprofessional (IP) placements</p>	<p>Gum et al. (2013): Longitudinal clinical placements supplemented with participation in fortnightly IP practicums involving case studies, role plays, journal club, work shadowing and invited speakers</p>	<ul style="list-style-type: none"> • Can increase student skills in collaboration and interprofessional practice • Opportunity for group placement of students (peer learning, peer support) • Best results occur when students nearing the end of their studies undertake the placement 	<ul style="list-style-type: none"> • High resource intensity to establish and sustain • Tendency for profession specific and 1:1 supervision limiting capacity for more placements • Restricted to students nearing the end of their studies

This review reiterates the findings of a systematic review of physiotherapy clinical placements [2], which found that given weak evidence and significant variation in outcomes measured there was little opportunity to draw clear conclusions from the evidence. To overcome this approach and capture the complexity of the context in which RCPs are operationalised, data from literature were extracted utilising a logic model framework. The final logic model arising from this review is presented in Table 8.

The increasing demand for clinical placements for allied health students was identified as a key driver for innovation around rural clinical placements. This review identified good evidence that models of RCP that are jointly driven by increasing RCP capacity and meeting community needs e.g. to increase the supply of rural placements by creating new service opportunities in underserviced communities can meet these goals successfully and may be more sustainable than more traditional apprenticeship models.

There was also good evidence to indicate RCPs that are driven by learning outcomes such as rural work readiness or competence in a specific skill set (IP competence) can meet these goals successfully. It was also identified that most models of RCP, regardless of the overarching driver or goal, will successfully increase student awareness of rural issues and therefore meet the goal of exposing students to and providing skills in rural practice.

Although there was some evidence to support the proposition that undertaking a RCP can lead to increased intention to practice in a rural area or even increases in rural health employment, there was little evidence to determine any particular *type or model* of RCP that will consistently meet these goals.

There were two levels at which mechanisms linking drivers to outcomes were identified; (1) the *mechanisms that support students* in their uptake of RCPs, and (2) those that support the *development and sustainability of RCPs*. Mechanisms supporting students in their uptake of RCPs included availability of placements, being in a regional university, provision of infrastructure, adequate promotion/awareness of RCP opportunities and student support (particularly subsidies for cost, accommodation and travel). Mechanisms supporting the *development and sustainability of RCPs* included support for clinical educators, sustained funding, coordination / facilitation roles that mediate and broker relationships between feeder universities and placement sites, engagement, consultation and partnership with key stakeholders and organisations and conducting a needs or demand analysis prior to establishing the placement.

Access to a central unit of coordination for students, universities and supervisors e.g. a UDRH was identified as a key mechanism that facilitates successful outcomes at a student level (uptake of RCPs), university level (increases in capacity and sustainability of RCPs) and supervisor level (links to universities provide beneficial learning for supervisors). This is especially the case for those RCPs that are more innovative.

The evidence base lacked a number of elements that would be useful for any future research in this area. There is a need for the evidence base to more systematically measure the impact of different models of RCP such that results are able to be compared for example there is a need to utilise more uniform, standardised and validated tools to measure key outcomes of RCPs such as intention to practice in a rural location and placement quality.

There is also a need to define, monitor and consistently measure sustainability as an outcome of RCPs.

Study limitations

The review has focussed on interventions for rural and remote allied health practitioners and as such the mechanisms identified are limited to this group. Future research could consider integration of research for all health care practitioners and also for workers outside the health care industry.

Table 8: Logic model arising from the literature review

Drivers (policy and university drivers)	Contexts	Mechanisms	Outcomes
Attracting students to RRR workforce	Duration (short-term, medium term, block)	Support for students (accommodation)	Intention to work in a rural area (student)
Increasing the No of clinical placements available for AHP students	Single or multiple students (or multiple disciplines)	Support and recognition for supervisors	Increased skills and clinical confidence
Exposing students to and providing skills in rural practice	Mode of supervision (remote or on-site)	Sustained funding	Service impacts: reduced waiting lists; increased service capacity
To attract more students to undertake rural placements	Year of study in which placement is undertaken	Regional coordination / infrastructure and support (eg UDRH)	Links to universities provide beneficial learning for supervisors
Increase service capacity in underserved areas	Compulsory or voluntary RCP	Coordination / facilitation roles that mediate / broker relationships between feeder universities and placement sites	Better quality, 'real life' clinical experiences
Provision of a specific skill set (e.g. interprofessional competence)	Learning approach (eg Vertical integration, peer supported learning)	Engagement, consultation and partnership with key stakeholders and organisations	Increased awareness of rural issues
	Drivers (eg driven by local needs or demands of placement site)	Needs / demand analysis prior to establishing the placement	Enhance interdisciplinary team working (in specific types of placements)
	Practice setting (eg community, hospital, public, private)	Academic support for clinical placement staff / clinical educators on site	
	Learning purpose	Selection criteria / student traits and adequate resourcing	
	Externally supported / facilitated placement (eg UDRH)	Provision of infrastructure	
	Joint / individual supervision (single or multiple supervisors)	Availability of placements	
		Academic support for running university clinics	
		Being in a regional university	
		Adequate promotion of RCP opportunities (awareness of rural placement options)	

Component 2: Analysis of SARRAH survey data

Overview

Aim: To identify the barriers and facilitators to accessing and providing rural clinical placements from the perspective of the student and clinical supervisor.

Method: Secondary analysis of existing survey data collected by SARRAH from students and supervisors who were recipients of the NAHSSS. The data were collected annually over a three year period from 2011 – 13. Qualitative (open ended questions) and quantitative data were available.

Results: Responses were available for 355 supervisors and 326 students, from 19 different allied health disciplines; 21 universities across 5 states. A number of mechanisms were identified to support RCPs from the perspective of the supervisor and the student. The key outcomes identified from providing RCPs were that it changed the students' perception of working in a rural area; increased (and decreased) students' intention to work in a rural area; better understanding of rural and indigenous issues; return to rural background; and achieving a good clinical experience.

Key findings from this study:

- RCPs increase the likelihood of allied health students considering a rural career
- students predominantly require access to support for accommodation, transport and finance
- supervisors need to be better supported in the provision of high quality RCPs
- students and supervisors need to be better informed about the scholarships available
- funding is inconsistently available, sometimes inequitably distributed (between different disciplines); not always available in time for the placement; sometimes too inflexible to tailor to certain types of placements
- some students undergo substantial personal growth on placements, which needs to be considered if guidelines around the 'appropriateness' of students are developed
- well planned RCPs can provide sustainable benefits for the service, such as the development of resources
- lack of resources are a barrier to good quality supervision, including difficulties accessing high speed broadband, telephone networks, transport and physical space
- RCPs can reduce the capacity of the service and place a large personal and sometimes financial burden on clinical supervisors

Method

SARRAH is the peak body responsible for administering the allied health clinical placement stream of the Nursing and Allied Health Scholarship and Support Scheme (NAHSSS). As such SARRAH has the responsibility for working with recipients of scholarship funding support to undertake a rural or remote allied health placement in Australia and a partner in this application. SARRAH has performed an e-survey with all recipients of national allied health scholarships and their clinical supervisors following their placement, annually since 2011. The survey includes questions about student motivation for and experience of their rural clinical placement and supervisor perceptions of the success and sustainability of the placement.

At the time of completing the survey, participants provided approval of the use of their data for research purposes. This allows the use of de-identified data for use and publication. The data were de-identified by SARRAH before being provided to the research group in a Microsoft Excel spread sheet for analysis.

The relevant questions include open-ended responses and Likert scale data. A thematic analysis of open ended question responses and descriptive analysis of the remaining data was undertaken. To protect participant confidentiality, not all of the questions were available for analysis. Only those questions perceived to add the most value to addressing the research questions were included in this analysis. These were predominantly open ended text questions exploring the drivers, barriers and outcomes of RCPs from the students' and supervisors' perspectives. The results are presented under the headings of the types of placements; drivers for undertaking an RCP; barriers to RCPs; and outcomes and impacts of RCPs.

Results

Respondents and response rates

Responses were available for 355 supervisors and 326 students from 19 different allied health disciplines, representing 21 universities across 5 states (Tables 9 & 10). The majority (82%) of students were in their final year of study and 65% had been on a previous RCP.

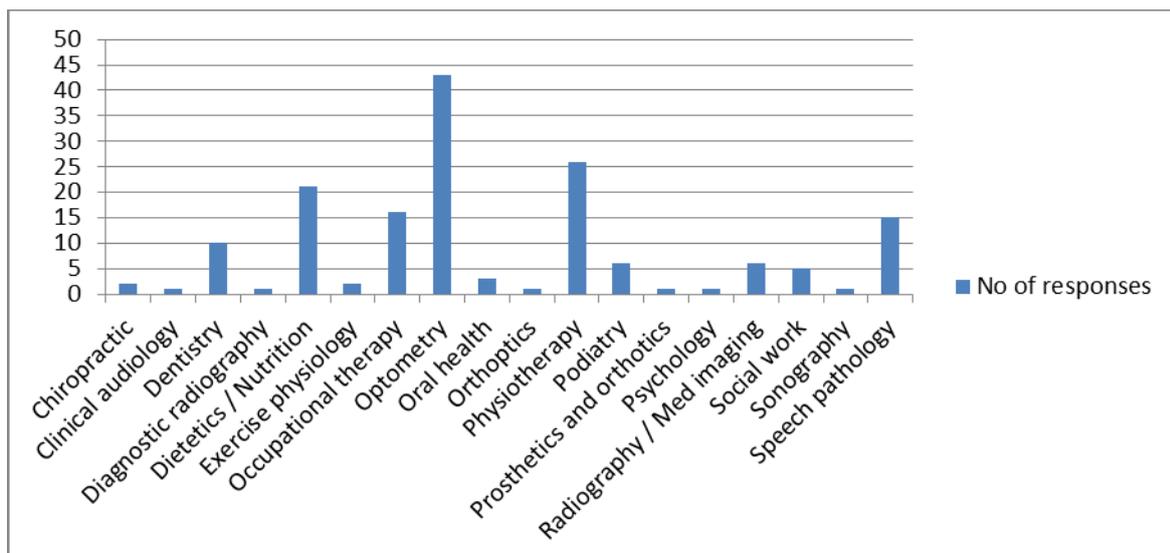
Table 9: Response rates

Year	Supervisor responses	Student responses
2011	161	159
2012	110	100
2013	84	67
	355	326

Table 10: Universities represented (from 2012 / 2013 survey responses only)

State / Territory	University	No. of student responses
NSW	1. Charles Sturt	7
	2. Newcastle	12
	3. Southern Cross	5
	4. Sydney	12
	5. Wollongong	4
Qld	6. Griffith	5
	7. James Cook	7
	8. Central Queensland	2
	9. QUT	10
	10. Queensland	10
	11. Sunshine Coast	2
SA	12. Flinders	2
	13. South Australia	6
Vic	14. Deakin	4
	15. La Trobe	7
	16. Melbourne	45
	17. RMIT	2
	18. Victoria	1
WA	19. Curtin	12
	20. Edith Cowan	4
WA / NSW	21. Notre Dame	2

Figure 3: Professional groups represented (students only, 2012 / 2013 respondents, n=161)



Types of placements

The following graphs, extracted from the 2012 survey, gives an overview of the nature of the placements undertaken by students. The majority of students had daily contact with their supervisor and slightly less than half of the respondents spent the majority of their time with their supervisor. The placement locations were predominantly in public hospitals and community health / primary care settings. Nearly a quarter of placements were with private practitioners.

Figure 4: How often did you have contact with your supervisor (from 2012 student survey, n=82)

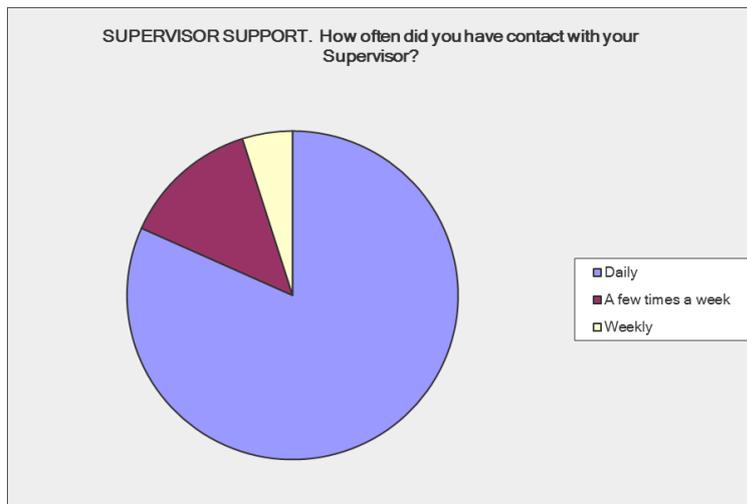


Figure 5: What percentage of time was spent with your supervisor? (from 2012 student survey, n=82)

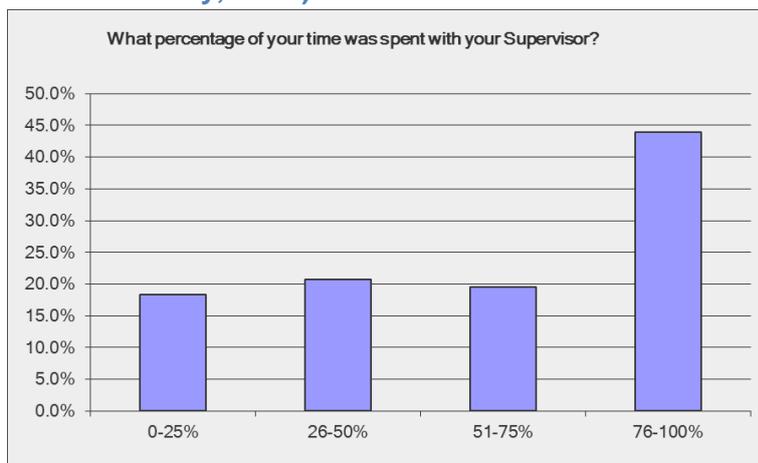
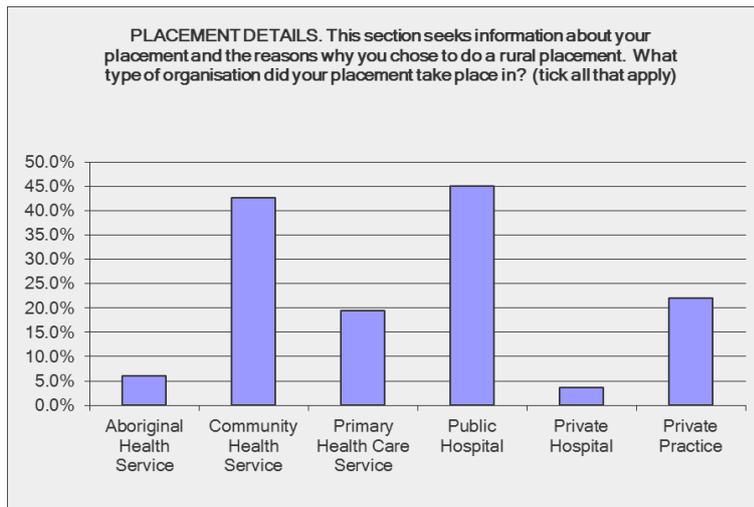


Figure 6: Location of placements (Source 2012 student survey, n = 82)



Drivers for undertaking an RCP

The students identified the main drivers to working undertake an RCP. The themes below reflect those identified in other studies, so have not been expanded here beyond the heading level:

- Considering living in a rural area
- Financial freedom to explore RRR placement option due to scholarship
- Social considerations
- More friendly environment
- Variety of clinical and caseload experiences
- Adventure
- Desire to work in a rural area
- From a rural background
- Likelihood of getting a job
- It was compulsory
-

These points were reinforced in the closed ended responses, which highlight the clinical experience (range of health issues and range of patients) as the major drivers, followed by a chance to experience country life. The social aspects such as the feeling of community and better socialising were far lower on the priorities of students.

Table 11: Motivation for undertaking an RCP (2012 Student Survey)

Answer Options	Response Percent	Response Count
Feeling of community	40.2%	33
To be a valued member of a small healthcare team	42.7%	35
A broader range of health issues seen	69.5%	57
Better clinical supervision received	26.8%	22
The broader variety of patients seen	67.1%	55
The rural lifestyle	39.0%	32
The friendliness of local people	42.7%	35
A chance to experience country life	51.2%	42
My rural background	26.8%	22
A chance to experience Aboriginal culture	26.8%	22
Better socialising	6.1%	5
Other (please specify)		14
Answered question		82

Barriers

The supervisors were asked to give their opinions on the principle barriers to the running of the allied health clinical placement in their setting. They identified the following themes which are expanded on below;

- challenges providing adequate supervision
- lack of access to physical resources, including technology
- patient resistance to having a student
- practical barriers (accommodation and transport)
- placement not long enough
- Social support for the student
- lack of awareness of RCPs
- competition for AHP places
- preparatory information for the supervisor
- levels of preparation and student experience
- student away from family and friends
- detracting from service delivery
- lack of clinical variety
- lack of feedback from the student about the placement
- the cost of the placement and timing of the funding

Challenges providing access to supervision

The barriers to providing supervision included the lack of time available to support students; the other pressures placed on supervisors who work in a rural area (such as family); lack of availability of staff to supervise students; remote geographic locations making access difficult; and high staff turn-over in rural areas which leads to lack of continuity of understanding and support for supervisors.

As I am dealing with a large caseload spread across a moderate geographical area it can be difficult to quarantine the time to provide quality supervision. However this is crucial to

clinical placements so it is prioritised. As a working Mum the work life balance is always tricky and adding a student into the mix can be a little more stressful.

Remote location can make observation for assessment difficult.

Availability of supervising staff.

Full time qualified staff. Workforce is mostly part time & contractual - there is a lack of full time ongoing staff who are able to have students on placement.

Country staff frequently change and knowledge of the program is often not passed on to new supervisors and therefore lack of knowledge and understanding of the process involved.

We currently have one full- time position shared by two workers. We have to carefully share the load of having students, particularly when we have two together. We serve a population that should have at least 1.7 FTE, so the students can find the caseload management issue quite challenging.

Physical resources including technology

Lack of resources are a barrier to support the supervision process. Several supervisors highlighted the lack of technology, such as broadband, that was fast-enough to link to teaching resources. Lack of phone and email limited the amount of support that was available from the university. Lack of mobile phone coverage is an important issue in remote areas, and potentially impacts on the safety of students. Physical space to support the student was also a limitation to providing student placements, and placement capacity.

We have space limitations on the number of students we can take at once.

Our barrier(s) at the moment are having our space threatened - hospital looking at taking away 50% of our space. If this occurs, student placements will have to cease.

Distance is sometimes an issue. Communication via email or Skype could improve with a faster broad band internet

Using IT fully with blackboard, Elluminate, Skype are helpful, but I need broadband speed and video link in to for example a class room activity ... Live web streaming would be helpful."

Having to purchase a 3G mobile phone and run it for students, as their phones don't have coverage in remote areas.

Support from university's student placement co-ordination is limited to phone/e-mails due to geographic barriers

Patient resistance to having a student

While the supervisors were happy to provide student placements, some reported resistance from patients to being treated by students.

Some patients (when private practice) prefer not to have a student, however the private hospital was happy to allow a student to observe and participate in staff and patient education.

Willingness of patients to be treated by students

Practicalities: accommodation and transport

The supervisors identified the practical and resource issues of lack of accommodation; issues around transport and insurance risk; and the financial burden on the student of being on the placement.

Car use; when they have to travel and students not having insurance (apart from 3rd party) when windscreens crack or tyres puncture.

Our students really need to have access to a car or a bike to get around. The accommodation is quite some way from the CBD. Neither of these students brought their own car, so they did do a lot of walking.

Accommodation for non-local student.

Financial cost of being away from home.

Placement not long enough

The models of clinical placements varied, but some supervisors felt that the student was not in the RCP long enough to fully benefit from the experience.

Limited time to accustom to the town, feel confident to work and then evaluate any work completed.

Social issues / support

The supervisors highlighted some tensions around the social expectations of student placements. They acknowledged the potential for social isolation if the student is isolated from other students, however there was also an issue about expectations on the supervisor to provide social interaction with students, and the potential conflict of interest between their roles as an assessor and friend.

The students' accommodation being in a shared house with other students, such as medical students, encouraged her to mix with people her own age and to discover the regional area such as other towns beached markets trivia nights and rain forests. If she was placed in more isolated accommodation the social interaction may not have been so easy."

A community support person is important, and there aren't always appropriate people available.

It is tricky to be a clinical supervisor but also be expected to have a "social" role for students. As we need to have assessments and milestones that are achieved it would be difficult to maintain professional judgement if the student was not achieving milestones but you had develop a social relationship (not in this case but generally it may be an issue).

Not every supervisor would like to spend extra personal time with their student.

Timing is an issue student may not want to participate in extra community/ leisure activities after clinical time.

It does help if there are 2 students doing their community Nutrition placements together as they find it inevitable to bounce ideas off each other work together and not feel isolated when

they are far away from their homes. They also tend to spend their free time together socialising."

Lack of awareness of RCPs and of the scholarship scheme

Some supervisors perceived that there was still a lack of awareness of the availability of RCPs and the importance of this for increasing the rural workforce. Similarly, several of the supervisors were unaware of the NAHSSS and the support available.

Knowledge of these programs in surrounding universities.

I think this program that encourages students into rural and remote. Publicity is Vital!!

Being aware of Launceston, and indeed Tasmania as a clinical placement option.

Less awareness of the program and what support was provided.

Competition for places

The supervisors in some areas reported strong competition for their RCPs from a range of different institutions.

Preparatory information for the supervisor

The level of preparation for supervisors varies widely. Both students and supervisors reported that the supervisors were not always adequately briefed on the skills, abilities and level of the students, in some cases, creating unreasonable expectations of the student.

More about knowledge base of the program and level of skills of supervisor for the student.

Level of preparation / experience of student for the placement

On a related note, the students also need to be well prepared for the placement. Supervisors suggested that students need to possess certain traits to be able to take on an RCP, such as independence. Other students were placed in settings in which they had not had much previous exposure to the client group, or were unused to being away from home.

I feel the Universities need to prepare their students better at a clinical level. I only accept final year students in anticipation that are getting ready to graduate with a certain level of practical skills, I have been disappointed to date how limited their skills in fact are when they will be potentially graduating within a few months.

It is a challenge to plan for a student when we have overall workloads, I am confident we met this for the student. Much of the challenge arose because she had not had much paediatric training at University.

The first time she had been away from home

Her first placement and this was a community one

Due to the remoteness of the communities that we work in, it is important for the scholar has a high level of independence and ability to self-reflect.

Away from friends and family

A further barrier was the challenges of being away from friends, family, and support structures such as ongoing employment and having to break accommodation leases.

Distance of placement being away from family and friend support.

Living arrangements they have to break leases to do their placement.

Detracting from service delivery

Several supervisors identified the burden on their clinical activities of providing RCPs, including reducing service capacity which impacts on costs and their ability to meet performance targets.

After a few placements now in here in Broken Hill I am beginning to question the value of doing these placements and using up valuable practitioner time. Having a student on board does slow the clinic down and when a business needs to be run this can be a costly exercise.

Time, it is difficult when working in a rural area which covers a wide geographical area to dedicate enough time to students without impacting on your role and responsibilities.

Meeting KPIs and performance targets while students are on placements

Time constraint/stress balancing student supervision with usual responsibilities

Lack of clinical variety

Some supervisors found that the lack of, or appropriateness of clinical variety limited their appeal in comparison with the opportunities provided in other settings.

Limited case mix compared to other larger regional- metro hospitals

Finding a balance between observation and hands on clinical experience in a private clinic is difficult

Lack of OT specific activity. However, despite this the student took up this challenge and addressed this lack through other means following discussion re:- same with supervisor.

Lack of feedback from the student about the placement

The feedback mechanisms to the clinical placement sites appear to be inconsistent, and in some cases, non-existent. The supervisors value receiving timely feedback from the student to help improve the RCP experience.

We plan to get feedback from the scholar about what she feels would have been beneficial during the placement.

Cost of placement and timing of the funding

There appears to be a great deal of inconsistency as to whom and when the funding is made available to students and supervisors which reduces the ability of the supervisors to plan and use the funding effectively. Several participants were unaware of the funding program to support placements. A number of students did not apply for the funding in time to receive it before the placement. In addition, there appears to be a lack of flexibility in the funding which makes it difficult to tailor to certain types of courses or placements.

The fact that the scholarship funds come after the placement. These funds could have been used to perhaps purchase some materials which may have benefitted the scholar.

Not every student who allocated to rural area placement has this scholarship and not every supervisor got the same.

The major barrier would be our lack of knowledge of the NAHSSS. Our major problem as a private practice in the country is that we wish to supervise Physio students so that they can experience the diverse nature of rural Physio and enjoy the country experience. Every year we are asked to supervise a number of students for [university] with no financial compensation for our time out of our work day. It has become a costly exercise for us as we wish to supervise well and appropriately. So it was delight we received this registration form with the possibility of payment for the work our clinic does. We had planned to reduce the number of student placements we offer but would now consider giving priority placement to NAHSSS students in the future.

Awareness [of the scholarship] - I had never heard of you until this placement.

Students not applying for scholarships before placements

Several senior members of staff here were unaware of the program prior to the student's placement here. Perhaps suggest a mailing list of some memo of making more awareness of the program and its functions.

The structure of the Master of Clinical Psychology degree is such that it is quite difficult for students to get blocks of time away from university to complete a remote placement. It would help if students could do some of their coursework units by distance education but not many universities are set up for this mode of learning.

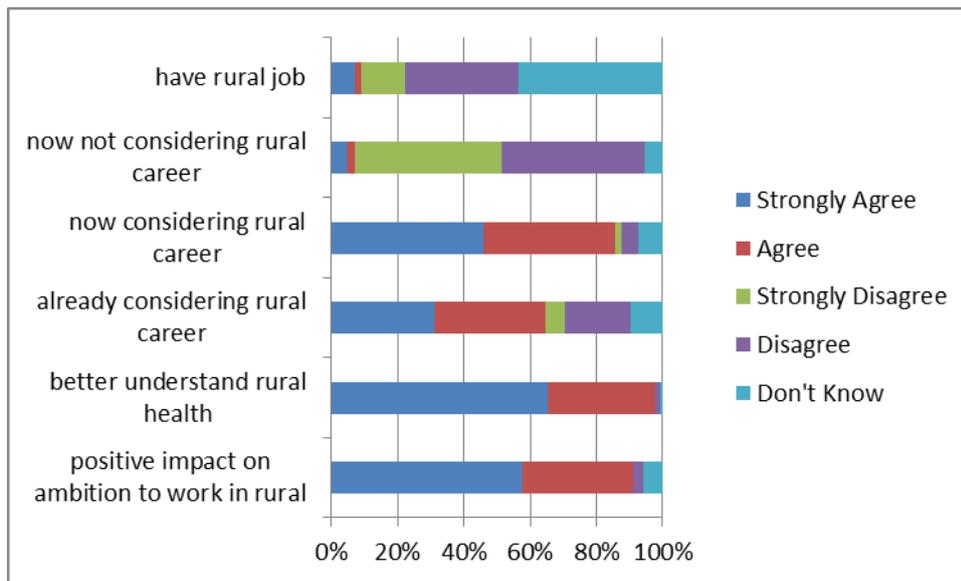
There were also some difficulties with the timing of the placement and the timing of the SARRAH scholarship so that the scholarship needed to be applied for about 6 months prior to the allocation of placements. The way in which placements are allocated, however, can vary from university to university so it could have been the case that Rachel was awarded the SARRAH scholarship but was not allocated the remote placement.

The need to commit to student well in advance before leave/plans for the year are developed.

Outcomes and impacts of the RCP

The 2012 and 2013 student surveys asked students to report on the impact of undertaking their RCP on their intention to work in rural practice. The results are presented in Figure X below. Nearly 10% of students reported that they secured their job as a result of their RCP; nearly 50% said that they are now considering a rural career; nearly 60% said that their RCP positively impacted on their decision to work in a rural community. A smaller number, around 8% said that they are now *not* considering a career in rural practice.

Figure 7: How has the NAHSSS: Allied Health Clinical Placement experience impacted on your ambitions to work in a rural or remote community? (n=167)



The key outcomes of undertaking the RCP from the perspective of the student and supervisor are summarised below. Students responded to the question “How has the NAHSSS: Allied Health Clinical Placement experience impacted on your ambitions to work in a rural or remote community?” The supervisor responses are in response to the question “What do you see are the principal barriers (if any) to the running of NAHSSS: Allied Health Clinical Placement at your place of work?”

Table 12: Outcomes of undertaking an RCP

Student perspective	Supervisor perspective
Increased desire to work in rural setting	Personal growth
Decreased desire to work in a rural setting	Understanding of rural issues
Better understanding of rural issues	Understanding of Indigenous issues
Better understanding of Indigenous issues	Adding value to the department / service
Return to rural background	Clinical experience
The clinical experience	Developed skills and confidence
Benefits of the scholarship	

Student perspectives

Increased desire to work in rural community

Initially I found working in a rural area quite daunting. But after my placement, I feel if I were offered a job out of Sydney I would gladly accept, ensuring family and living circumstances were appropriate. I enjoyed working within a small hospital and I felt there was a level of care, which was higher and more intimate when comparing to city hospitals, everyone was happy to take all the time they needed for the patient whereas from my experiences at city hospitals, not much time is taken to know the patient and ensure a great outcome.

My time in Broken Hill was the best six weeks of my life. Working in a rural or remote community is now my plan for the future.

I am extremely keen to obtain work in a rural/remote setting. Prior to this clinical placement I would not have considered work in rural communities - made me realise the additional freedom you can have in the rural setting, getting to know patients and provide more effective treatment.

Decreased desire to work in rural area

Previously was interested in rural health, however have reconsidered now. Rural health has high percentage of outpatient vs inpatient rotations on offer when working. Not what I prefer as a new grad. I would consider it in the future as a stable grade 2 or 3 physiotherapist.

Better understanding of issues in rural community

I felt it was a great opportunity to understand both the life and work environment in rural areas, to establish needs within the community and to gain an understanding of how the dietetic profession can meet those needs.

From what I experienced on placement, there was a large caseload of patients to be dealt with by a small number of staff (compared with metropolitan hospitals). There was also minimal opportunity for professional development and staff support (in the acute hospital as there was only one physiotherapist employed there). Therefore, working in a rural or remote community may impose an increased workload with less support by other staff. I feel it would be best to gain experience in a metropolitan hospital where there are more opportunities for professional development and staff support.

This placement experience opened my eyes to the nature of remote practice. Whilst it seems it can be incredibly difficult working in such an environment, it seems that this is more related to systematic issues (i.e., difficulties accessing professional development; difficulties accessing Communities of Practice) than to the work itself. I found many of the clients I encountered inspirational, and was able to clearly identify how large the unmet need is in the areas visited.

Better understanding of Indigenous issues

I am still ambitious to work in rural communities, but more so communities with other populations (i.e., perhaps with less Indigenous population).

It opens your eyes to the challenging needs of the Indigenous population.

Return to rural background

I am from a rural background and have always had a high interest to return to a rural area to pursue my career as an allied health professional. Being a recipient of this amazing scholarship has allowed me to reach my ambition of completing a clinical placement in Darwin. Darwin is a rural area I have always considered working in, so to be able to complete a clinical placement there and be supported to do this opens up my horizon and offers me with a broader awareness of rural places that I would like to seek employment in.

Despite these factors, I really enjoyed working in regional Victoria. There was a real sense of community, where staff and patients are really friendly, and know each other from previous admissions/consultations (so there was also a sense of continuity). This is not always experienced in metropolitan hospitals.

Clinical experience

It allowed me to interact with different patients of all ages.

Benefits of the scholarship

It has given me the opportunity to explore the community of Cairns without the financial stress I would have experienced if I had not received the scholarship, which made the placement much less stressful and more enjoyable.

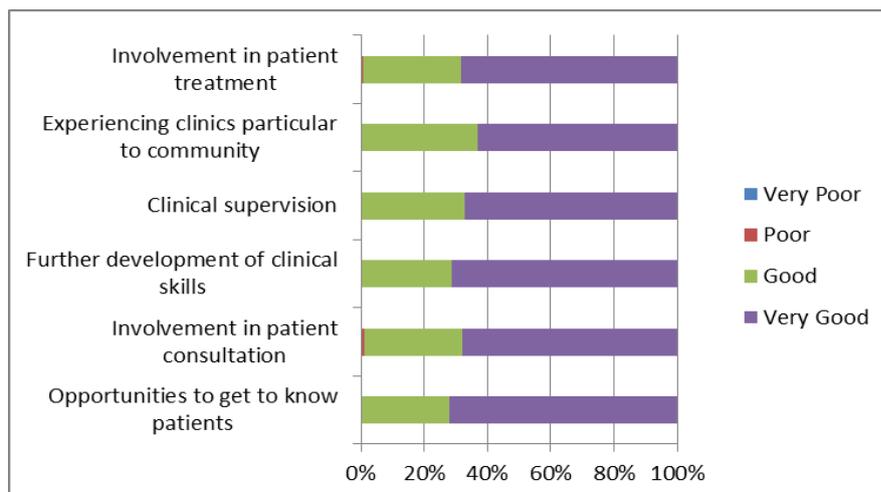
Without the financial support I received from NAHSSS, I would have struggled to be able to support myself whilst on placement. I am very grateful to have been given this scholarship which enabled me to gain a good insight into what it would be like to work in a rural community and therefore from gaining this experience it has made me more open and very interested in working in rural health communities.

The financial support meant that a rural placement was open to me, as normally I would have had to work to support myself.

Supervisor's perspectives

Supervisors were asked to rate the quality of the RCP in terms of the learning opportunities for students. All of the areas identified in the survey (Figure 8) scored highly.

Figure 8: Please rate the following in relation to the scholar (n=347 supervisors)



Skills development and confidence

The student worked hard during her clinical placement and developed her skills as a base grade speech pathologist by gaining more experience with familiar client groups and exploring new client groups. Her undergraduate skills and experience in Primary Health Care was of great benefit and she demonstrated these skills planning and implementing a PHC event on behalf of the speech department and the Growing Healthy Kids team. She integrated well into the multi-disciplinary team and took on responsibilities within the department and the team and completed these tasks to high standard.

Scholar had an expansive reaction to placement in country practice. His skills, technical and people related improved when compared to and following his previous placement. I feel scholar enjoyed his stay here and grew in all skills relevant to a practice such as ours.

Personal growth

A city based student with no experience of leaving the city or the family home... enormous personal growth and professional growth to being self-caring and responsible to engaging with Indigenous families in their homes and remote communities.

Despite the challenging placement the scholar was able to grow personally and well beyond the safety net she had known.

The student seemed a little shy to start with and lacked some communication skills. His base knowledge was pretty good and as the placement progressed he was able to clinically reason quite well within his knowledge and skill level. He also became more confident with his decisions and made good efforts to improve his communication. He always showed interest to learn more and wasn't afraid to ask questions, listen and implement any changes. Overall he was a good student to have here.

The scholar's negative attitude, on arrival, was changed to one of respect and understanding. Very negative to commence the placement.. fear from perhaps parents and friends from the city. Majority of the work was with Indigenous families and school children. I wondered why she requested a scholarship. It seemed to contradict her feelings. However she left much stronger and more resilient. More confident with community presentations and speaking in public. Much more confident to befriend an Indigenous person and speak with them, not at them. To her credit the scholar relaxed, and enjoyed working with Indigenous community in a very remote location.

Understanding of RRR area and Indigenous health issues

Exponential learning about social and health disparity for rural and remote communities and Indigenous health. Living the experience is more powerful than text book acknowledgements.

The student developed a strong understanding of the barriers and limitations living in a rural community and services available to the community.

Adding value to the department

The student worked really hard on her placement, the team she worked in produced a body of work that has been used extensively in the department since the completion of their project.

She also made a PowerPoint presentation for Patient generated subjective global Assessment (PG-SGA) which she presented to us. We plan to use aspects of it when training others in the use of (PG-SGA) and nutrition screening."

Access to diverse experiences

Experience was diverse and included chronic disease management, inter professional working with diabetes educators, Aboriginal Health Workers, RNs, school teachers, and shire community development officers.

Discussion

The findings from the survey are summarised in the logic model below (Table 13).

The results of the SARRAH survey have provided in-depth perspectives from students and supervisors. The survey findings confirmed that RCPs increase the likelihood of allied health students considering a rural career, although in a small number of cases (10%), students said that they are now not considering a rural career.

The main facilitator of RCPs for students is access to support for accommodation, transport and finance. All of the respondents to this survey were scholarship recipients, however they reported that funding is inconsistently available, sometimes inequitably distributed (between different health professions); not always available in time for the placement; and sometimes too inflexible to tailor to certain types of placements. Both students and supervisors need to be better informed about the scholarships available.

The major barrier to undertaking RCPs was the large personal and financial cost to students. For instance, students identified having to break leases, give up jobs, or support their families. The universities perceive that “these are not extenuating circumstances”. Students are generally notified of the compulsory RCPs prior to taking on the course. Courses need to build in flexibility to achieve their RCP goals, while enabling access to students who have other commitments to be able to participate.

Supervisors provide RCPs, often at the expense of their ability to deliver services and meet their own performance targets. They are inconsistently supported and rewarded by the university system. Lack of resources are a barrier to good quality supervision; including difficulties accessing high speed broadband, telephone networks, transport and dedicated physical space.

RCPs can reduce the capacity of the service and place a large personal and sometimes financial burden on clinical supervisors. Conversely, well planned RCPs can provide sustainable benefits for the service, such as the development of resources, new services and increased capacity.

Supervisors reported that students may arrive and seem negative, shy, immature, resistant or out of place; however a good quality, well supported experience can provide substantial personal growth, and change their attitudes and understanding of working in a regional area. From this perspective it might be worth considering having competencies around students’ understanding of RCP. The considerable personal growth experienced by students needs to be considered if guidelines are developed around the ‘appropriateness’ of students for RCPs.

Table 13: Logic Model arising from the SARRAH survey data

<i>Drivers</i>	<i>Facilitators</i>	<i>Barriers</i>	<i>Outcomes</i>
Considering living in a rural area	Financial freedom to explore RRR placement option due to scholarship	Challenges providing adequate supervision	Increased desire to work in a rural setting
Social considerations		The cost of the placement and timing of the funding	Decreased desire to work in a rural setting
More friendly environment		Lack of feedback from the student about the placement	Better understanding of rural issues
Variety of clinical and caseload experiences		Detracting from service delivery	Better understanding of indigenous issues
Adventure		Lack of clinical variety	Return to rural background
Desire to work in a rural area		Student away from family and friends	Quality of clinical experience and access to diverse experiences
From a rural background		Levels of preparation and student experience	Benefits of the scholarship
Likelihood of getting a job		Preparatory information for the supervisor	Develop skills and confidence
It was compulsory		Competition for AHP places	Personal growth
		Lack of awareness of RCPs	Adding value to the department / service
		Social support for the student	
		Placement not long enough	
		Practical barriers (accommodation and transport)	
		Patient resistance to having a student	
		Lack of access to physical resources, including technology	

Component 3: E- survey of students and supervisors

Overview

Aims: To identify the drivers, barriers and facilitators to allied health students undertaking rural, regional and remote clinical placements (RCPs).

Method: An electronic survey was distributed to students (pre and post clinical placement), clinical education supervisors and university clinical placement coordinators. The results were summarised into a logic model.

Results: 357 responses were received from allied health students (63%), clinical educators (35%) and university clinical placement officers (4%), representing 16 different allied health disciplines from 25 higher education institutions in 5 Australian states and territories.

The main drivers for undertaking a RCP are the potential opportunities for clinical learning; experiencing a rural lifestyle; personal growth; a desire for new experiences; and because it is compulsory. Mechanisms that support RCPs are practical supports with accommodation, transport and living expenses; preparedness of the student and the supervisor; and good quality supervision. Concerns about safety and social isolation are deterrents to the RCP. The outcomes of the RCP are high levels of student satisfaction; an increased intention to work in rural areas, although this result is not significant (odds ratio = 1.64 (95% CI 0.79 to 3.43, $p=0.19$)); a better understanding of rural issues/needs; clinical learning and exposure to different conditions/population groups; personal confidence and having positive social experiences.

Conclusions: A good RCP experience positively encourages students to want to work in rural, regional and remote (RRR) areas, breaks down stereotypes, and exposes students to different ways of doing things. Students are able to relate better to the challenges of working in a rural / remote area. However it is proposed the model of central, urbanised education provision which is supported by decentralised, rural and remote clinical placements needs to be rethought. In this technological age, it makes more sense to support students to remain within a clinical training setting with the provision of text-book education remotely.

Method

Email was proposed as the best way of contacting participants who may be working and/or studying in disperse geographic communities, institutions and organisations, and was the most expedient approach given the tight timeframe for the project (12 weeks in total). The research involved the distribution of an E-survey to 4 groups of participants:

- Higher education allied health students *who are yet to go on* a regional, rural or remote student clinical placement
- Higher education allied health students and graduates *who have been on* a regional, rural or remote student clinical placement
- Clinical education supervisors
- University clinical placement officers

Survey development was informed by a detailed literature review, an existing SARRAH questionnaire and expert stakeholder input (Appendix A). A single survey tool was developed which was partitioned by participant type. Surveys were distributed to these networks through contacts known to the research team. The survey was developed using a Qualtrics online survey tool; an email invitation with an embedded link to the Qualtrics

questionnaire was sent to all potential participants from distribution lists supplied by the aforementioned networks.

The survey was distributed via email to current, final year allied health¹ students; recent graduate alumni; clinical educators; and university clinical placement officers/coordinators. The surveys were distributed to the following groups of participants;

- University of Sydney Faculty of Health Science [clinical placement officers – approx. n=20]
- Southern Cross University, School of Health and Human Sciences [students - approx. n=50, clinical placement officers - approx. n=2]
- Charles Sturt University, School of Community Health, [students – approx. n=700], clinical placement officers – approx. n=5]
- Northern NSW Local Health District
- SARRAH NAHSSS questionnaire to students and clinical supervisors (national)
- Australian Rural Health Education Network (ARHEN) [approx. n= unknown] (national)

Through these networks, it was intended to ensure representation of regional and urban universities; a range of allied health disciplines; students who had been and had not been on RCPs; clinical educators from a range of professional, geographic and organizational backgrounds (eg hospital, community).

Data were analysed descriptively using the reports generated by Qualtrics, with some analysis undertaken in Microsoft Excel. Open ended and short answer responses were analysed thematically. The data were synthesized into a logic model using the headings of drivers, barriers, facilitators and outcomes.

Results:

Respondents

357 responses were received from allied health students (63%), clinical educators (35%) and university clinical placement officers (4%), representing 16 different allied health disciplines from 25 higher education institutions across 5 Australian states and territories. The majority of the respondents were from NSW universities (Tables 14, 15).

¹ *Allied health incorporates the following disciplines: Athletic Trainers, Audiologists, Dieticians, Exercise Physiologists, Massage Therapists, Medical Imaging Professionals (including Sonographers and Radiographers), Medical Laboratory Scientists, Medical Radiation Scientists, Music Therapists, Nuclear Medicine Technologists, Occupational Therapists, Optometrists, Orthoptists, Paramedics, Podiatrists, Perfusionists, Pharmacists, Phlebotomists, Physiotherapists, Psychologists, Prosthetists, Radiation Therapists, Speech Pathologists, Social Workers.

The exact response rate to the survey was difficult to gauge because of the networked mode of survey distribution. However, a range of universities, disciplines, settings, and roles (students pre and post clinical placement and supervisors) were successfully sampled, although these responses were in no way proportionally representative of these respective groups [49]. The groups not clearly represented within the survey were private practitioner supervisors, and while there were responses received from 16 different allied health groups, the following disciplines were not represented; chiropractors, exercise physiologists, medical laboratory scientists, nuclear medicine technologists, orthoptists, orthotists or pharmacists, with the exception of one clinical educator who is an orthoptist. The sampling approach meant that there was over-representation of regional universities in NSW however this appeared to be balanced against the number of respondents from other metropolitan universities.

The largest professional groups represented in the survey were occupational therapists, physiotherapists and speech language pathologists in both students and clinical supervisor groups.

Table 14: Demographics of respondents

	Students with no previous RRR placement (n=120)	Students with previous RRR placement (n = 99)	Clinical Education supervisors (n=118)
% female	82%	82%	79%
Age (mean / median / mode)	Mean 26 (18 – 63) Median 22 Mode 22	Mean 26 (20 – 63) Median 23 Mode 22	N/A
% married / partnered	23%	20%	N/A
% dependent children	10%	4%	N/A
Region of origin (%) RA1 - Major Cities of Australia RA2 - Inner Regional Australia RA3 - Outer Regional Australia RA4 - Remote Australia RA5 - Very Remote Australia Other (predominantly born overseas)	RA1 38% RA2 32% RA3 15% RA4 5% RA5 1% Other 10% (n=111)	RA1 31% RA2 35% RA3 22% RA4 4% RA5 1% Other 6% (n=94)	RA1 33% RA2 30% RA3 33% RA4 4% RA5 1% Other 1% (n=117)
Year of study /years working as clinical supervisor	1 28% 2 26% 3 12% 4 22% 5 9% 6 1% 7 1% (n=107)	1 0% 2 11% 3 23% 4 43% 5 20% 6 1% 7 1% (n=83)	1 6% 2 11% 3 7% 4 10% 5 5% 6 – 10 36% 11 – 20 18% 20+ 7% (n=111)
% RRR placement compulsory	37% compulsory 24% unsure		

Table 15: Universities represented

State / Territory	University	No. student responses
ACT	Canberra	1
NSW	Charles Sturt	68
	Newcastle	8
	NSW	1
	Southern Cross	27
	Sydney	13
	Western Sydney	1
	Wollongong	4
Qld	Griffith	2
	James Cook	2
	Central Queensland	1
	QUT	8
	Queensland	3
	Sunshine Coast	1
SA	Adelaide	1
	Flinders	3
	South Australia	2
Vic	Deakin	2
	La Trobe	4
	Melbourne	14
	Monash	1
WA	Curtin	5
	Edith Cowan	3
	Western Australia	1
WA / NSW	Notre Dame	2
	Other	3

There were some differences between the students who had been on RCPs and those who had not. Both groups had the same mean age (26), although the group who had been on a RCP had a slightly higher median age. Those who had not yet been on a RCP were more likely to be of metropolitan origin, married and have dependent children than those respondents who had been on a RCP. Not surprisingly, those students who had been on a RCP tended to be at a later stage in their course.

Figure 9: Discipline of student respondents broken down by rural placement status (n=219)

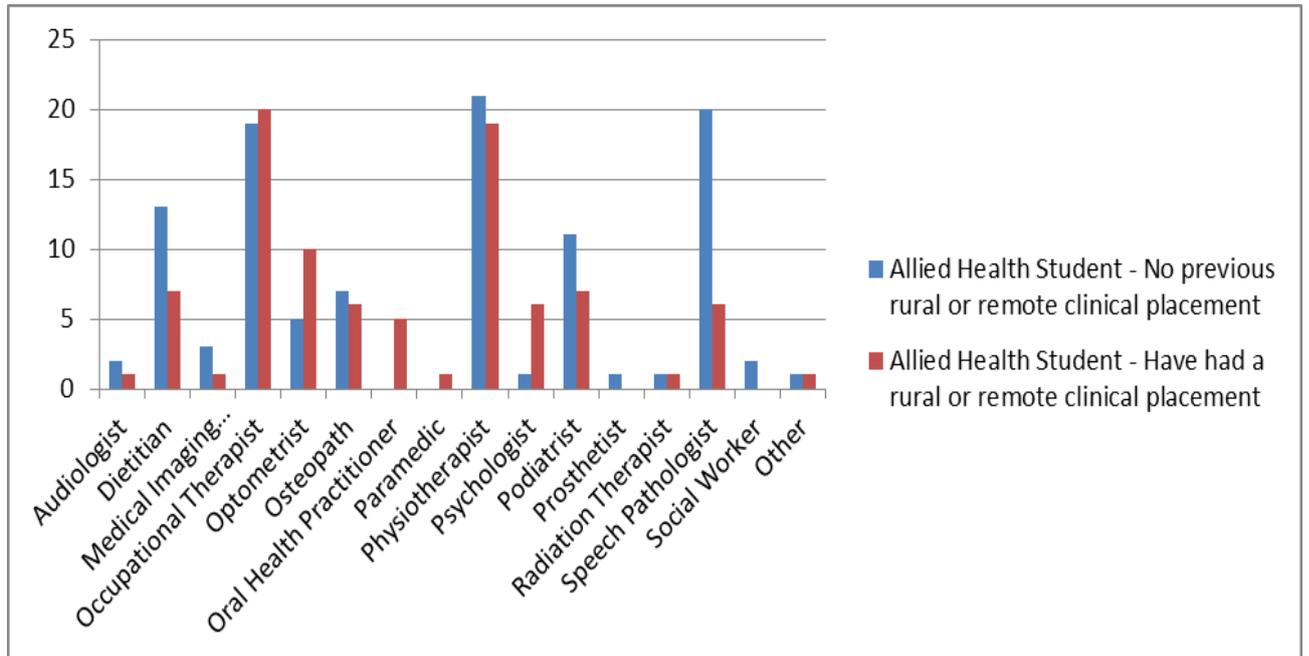
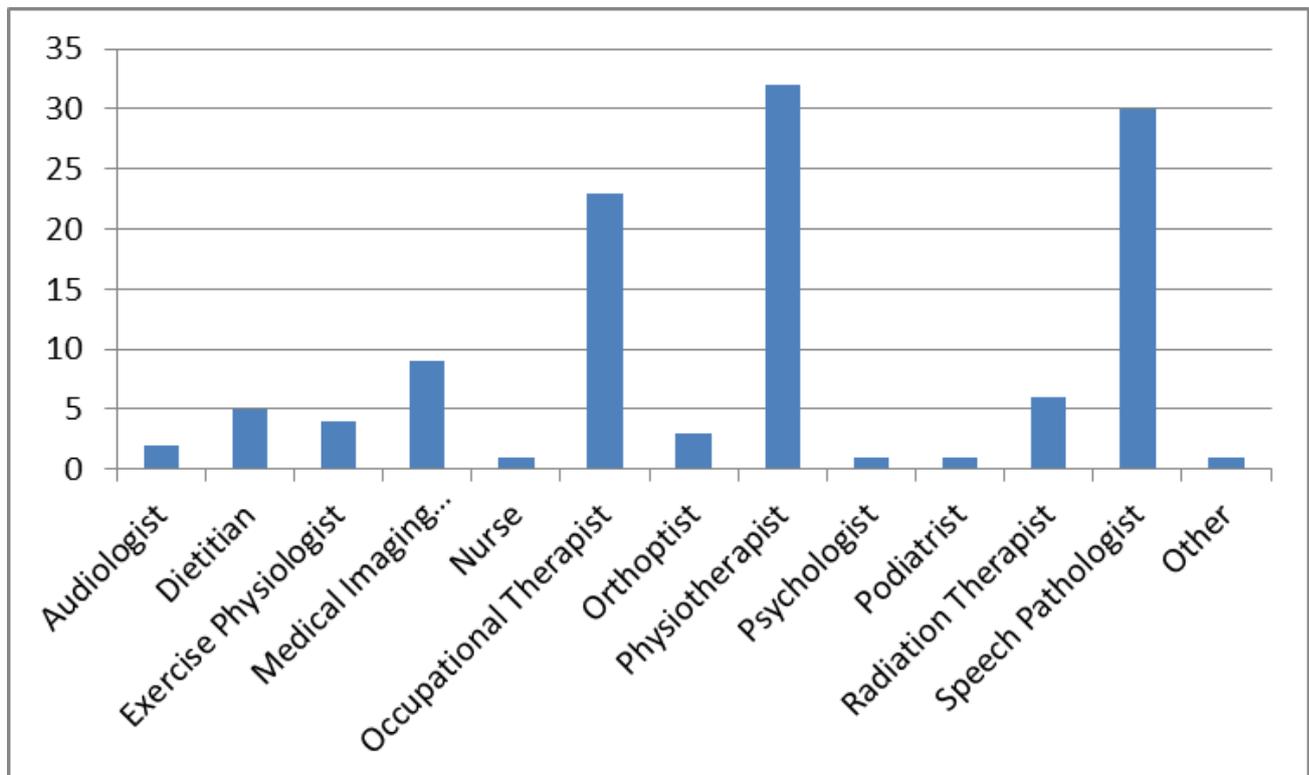


Figure 10: Professional discipline of clinical supervisor respondents (n=118)



Types of clinical placements offered

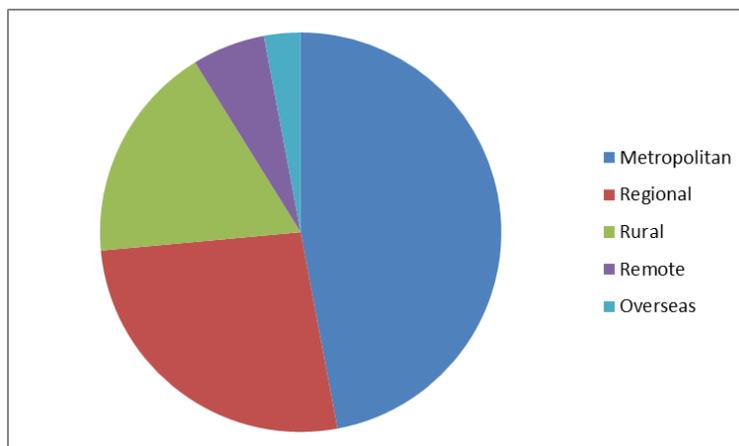
The majority of RCPs take place in the 4th or final year of study (54%); 27% said RCPs are optional at any stage; and 16% of students said that they do not have to do a rural placement (Table 16). A smaller proportion of RCPs are provided in first and second year (23%). The location of the majority of placements (81%) are organised by the university.

Table 16: Year in which clinical placement occurs (n=123)

Answer	Response	%
First year	7	8%
Second year	13	15%
Third year	19	22%
Fourth or final year	47	54%
Any year of study - it is optional	23	27%
I do not have to do a rural placement	14	16%

University clinical placement officers were from Sydney University, Charles Sturt University, Southern Cross University and the University Centre for Rural Health (Lismore). University clinical placement officers are responsible for coordinating between 24 – 100 clinical placements in metropolitan settings; 10 -94 placements in regional settings and 5 – 77 placements in rural / remote settings. The proportion of placements in different sectors is outlined in Figure 4 and the settings outlined in Figure 5. The majority of students are placed in the metropolitan setting, and predominantly in hospitals (Figure 5).

Figure 11: What proportion of students do university placement officers place in each setting?

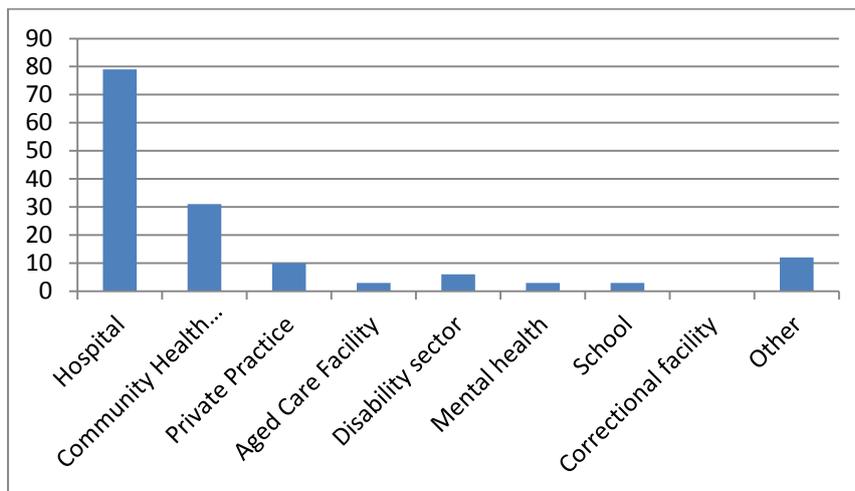


The locations of the RCPs experienced by students were as follows: NSW (33), Victoria (23), WA (3), Qld (13), SA (3), Tasmania (5) and Northern Territory (2).

There three distinct models of clinical placements reported

- short duration (0 – 12 days) (n=25)
- medium duration (1 – 10 weeks, mean 6 weeks) (n= 62)
- longer duration (3 – 9 months) (n=10)

Figure 12: Practice location of clinical education supervisors (n = 147 responses)



Supervisors were asked to describe the types of clinical placements they provided to students. Over one hundred descriptive responses were provided to this question (n=103), which identified several different opportunities, including specific types of client groups (eg paediatrics, adults, seniors); diagnostic and treatment categories (eg diabetes, musculoskeletal, rehabilitation); specific settings (inpatient, outpatient, schools, food services, private practice, split placements across settings); and uni-disciplinary / multidisciplinary / interdisciplinary team working options.

Short term private practice on a fly in/fly out basis to cover a wide variety of neuro-musculoskeletal interventions in an allied health perspective to an isolated indigenous community for humanitarian purposes. Students cover the cost of their own airfares for the experiences. Ages -3 mnths - 90yrs +

I offer a service learning model school based placements across three communities during each term of the school year. I also offer a service learning model aged care placement in one community in a number of facilities.

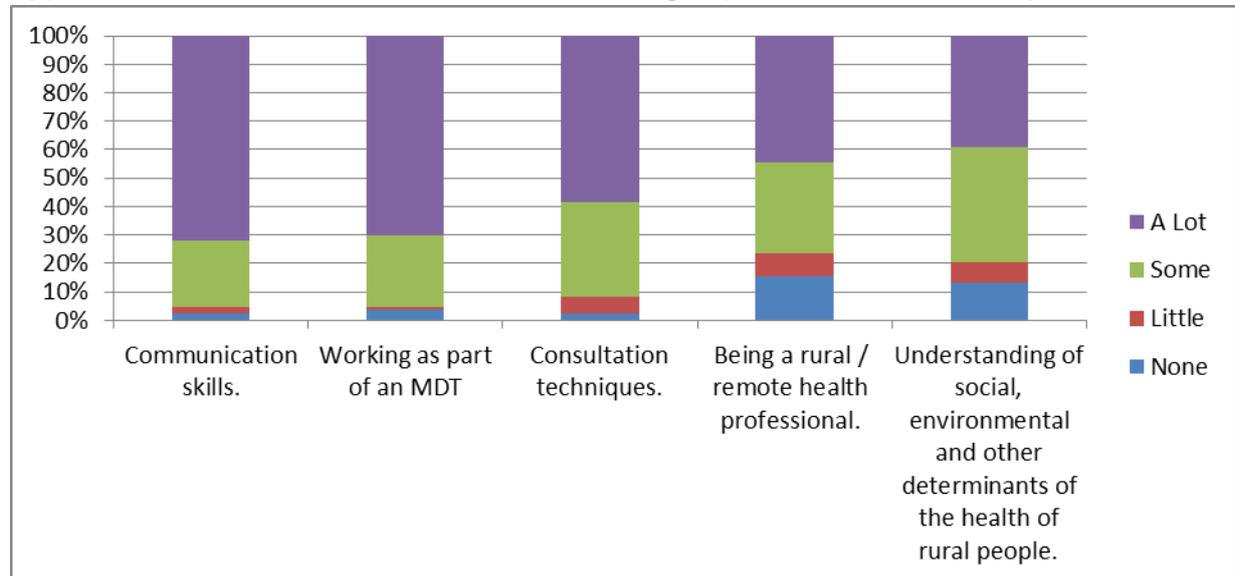
Inpatient (subacute) and outpatient (community health centre based) neurological rehabilitation, inpatient acute care of the elderly unit, geriatric outpatients. Primarily 1:1 assessment/ management/ therapy, with opportunity to participate in inpatient morning tea groups, community aphasia support group, and/or inpatient social integration group, depending on where placement is primarily located. Working as part of a multidisciplinary team, with opportunity to observe/ participate in joint sessions with other disciplines.

Rehabilitation setting where there is assessment, goal setting and interventions completed with the client and a focus on discharge planning to enable a safe and optimal discharge for the client. I aim for the clinical placement to be a learning experience but also supportive and where the student can gain the most from their time in the placement.

Students get the opportunity to treat a wide variety of medical conditions with a wide variety of clients. Students get the opportunity to mix with other disciplines and experience and observe how a multi-d approach works.(eg with Diabetes Educators, wound management with Community Nurses, Paediatrics with Speech, OT, Physio and Diet.) Students get to analyse what is different for clients in a rural versus metro area. ie access to services such

as x-ray, distance travelled to receive services, distance travelled to provide services - Students attend outreach locations. Students attend a clinic at the Aboriginal Health Service.

Figure 13: Supervisors (Q 90). To what extent does your placement provide opportunities for students to learn the following aspects of rural clinical practice?



Supervisors were asked to report on the extent to which their placement provides learning around specific aspects of RCPs (Figure 6). The responses indicate that generic, rather than rural specific issues are more prominent. These findings were reinforced in open ended responses in which 38 supervisors described, in some detail, the types of opportunities provided to students on their clinical placements. These fell under the three headings of experiencing rural issues; clinical variety; and aspects of team work and/or integration.

Experiencing the rural lifestyle

Experiencing life in a rural community... unfortunately without much co-ordinated support from the health service.

Often get to work in environments very different to the metro setting including across sites and a broad work range with a large geographical area. Can be very isolating and challenging for the student.

Thinking outside the square in arranging intervention due to limited resources available.

Clinical variety

A wide range of clinical therapy models of intervention – we incorporate a HUGE option of assessment / therapy models, it's one of the strengths of our working environment. The student gets plenty of experience of inpatient, out-patient, face-to-face, telephone, school based, pre-school based, clinical directed, family centred, home based, etc.

Aspects of team working / integration

The rural networks and culture are very important. Many of the kids referred to us really require referral to other services and you have to know the "ins and outs" of referrals to these agencies. I would recommend that we provide experience in this area. I cover

communication skills and culture when I get a chance to interact with the student, which is not often.

Drivers for undertaking a RRR clinical placement:

Figure 14: How important are the following factors in helping you decide to undertake a rural or remote clinical placement?

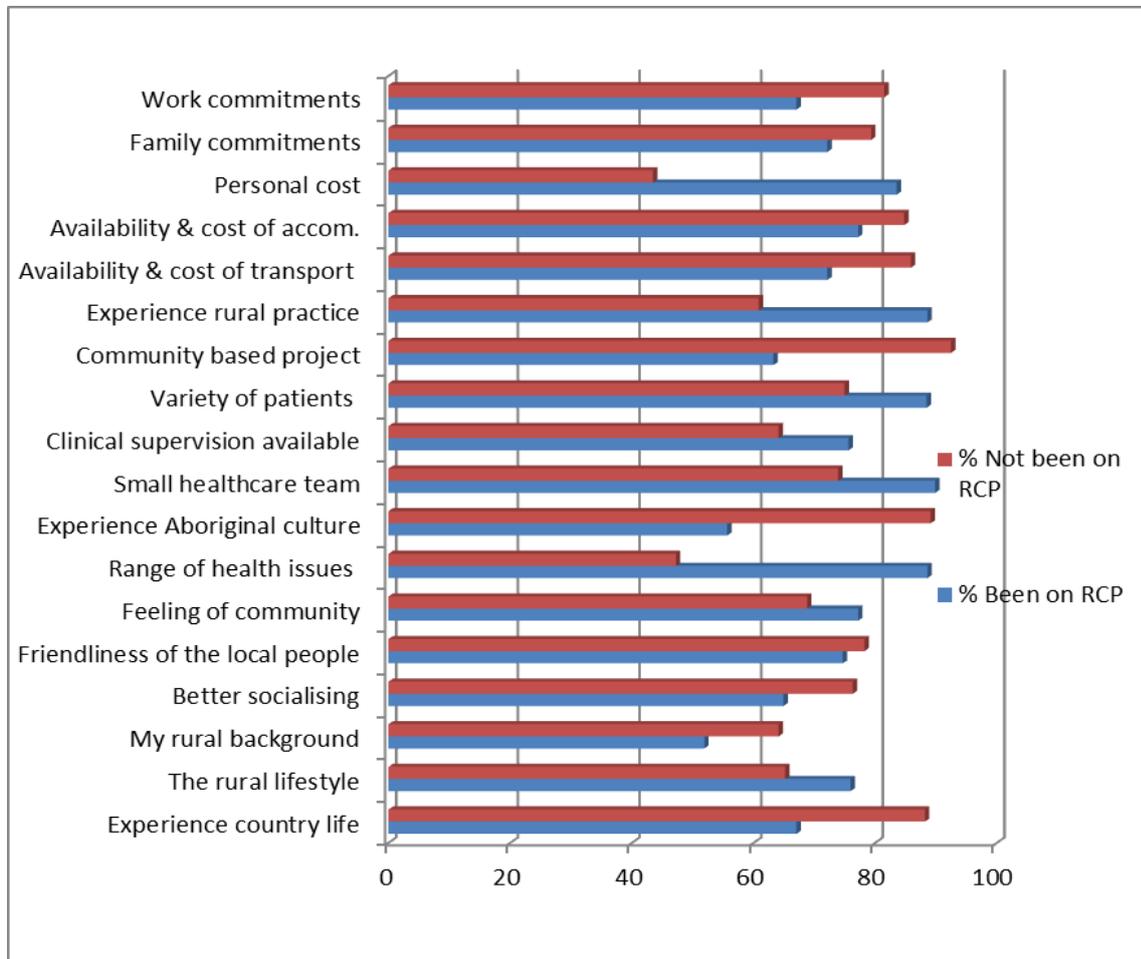


Figure 14 summarises the factors that students reported as important drivers to undertaking a RCP. These factors fit under the following headings;

1. practicalities (cost, accommodation, transport, family and other commitments);
2. clinical experiences (patient variety, supervision models);
3. social; and
4. experiencing rural practice.

The practical issues of cost and accommodation were deemed important by the majority of respondents from both groups, although the personal cost was more of a consideration for those who have been on a RCP than those who are yet to go. The variety of clinical issues were valued more by those who have already been on a RCP. Social issues and desire to experience country life were less important for both groups, although students who are yet to go on a RCP value the potential to experience country life.

In terms of priorities, broadly, it can be seen that the most important aspects were the practicalities of the clinical placement – the cost and availability of accommodation; followed by potential learning experiences; then social aspects.

In the open ended questions, students were asked to identify any other factors that make a RCP attractive. Student responses were similar between the groups who had had a RCP and those awaiting a RCP and fell into five categories; cost and practicalities; the quality of social experiences; clinical experience; experiencing rural practice; and personal growth. An additional factor identified by those who had been on a RCP was that some had “no choice”.

Incentive with a job offer. More scholarships through uni, a locked in programme, work 5 years in country etc.

The scholarship and opportunities to be more independent and be able to have better supervision and see a range of conditions.

Good surf in the rural area.

I live in Sydney, and I hear that recruitment for new grads is v competitive in Sydney. I am keen to 'try before I buy', having a rural placement to see if I would be happy to take a job outside of the city.

Being in a challenging environment; limited resources and services.

The varied and unique experience. I am about to undertake a placement in Cairns and the have a scholarship which has taken the financial stress out of the placement.

I am already from a rural town and eventually want to work in a rural setting.

The opportunity to experience a rural health setting and we all know how hard it is for facilities in rural areas to gain qualified professionals after graduating! The range of diagnosis isn't substantial but within rehab ward that I am working in, I am able to work closely with patients for long periods of time.

Facilitators of clinical placements

Around half of the respondents who had been on a RCP said that they had received financial support to for their placement. Forty students received financial support for accommodation and 40 received support for transport to get to the rural clinical placement, and 19 reported receiving funding to cover living expenses. 59% of students said that they received a scholarship, the majority of which were provided by SARRAH. Others were provided by a professional placement equity grant from a regional university; Queensland Health scholarship; OT Queensland. However, the access to grants and support was not universal, leaving some students to feel 'quite hard done by':

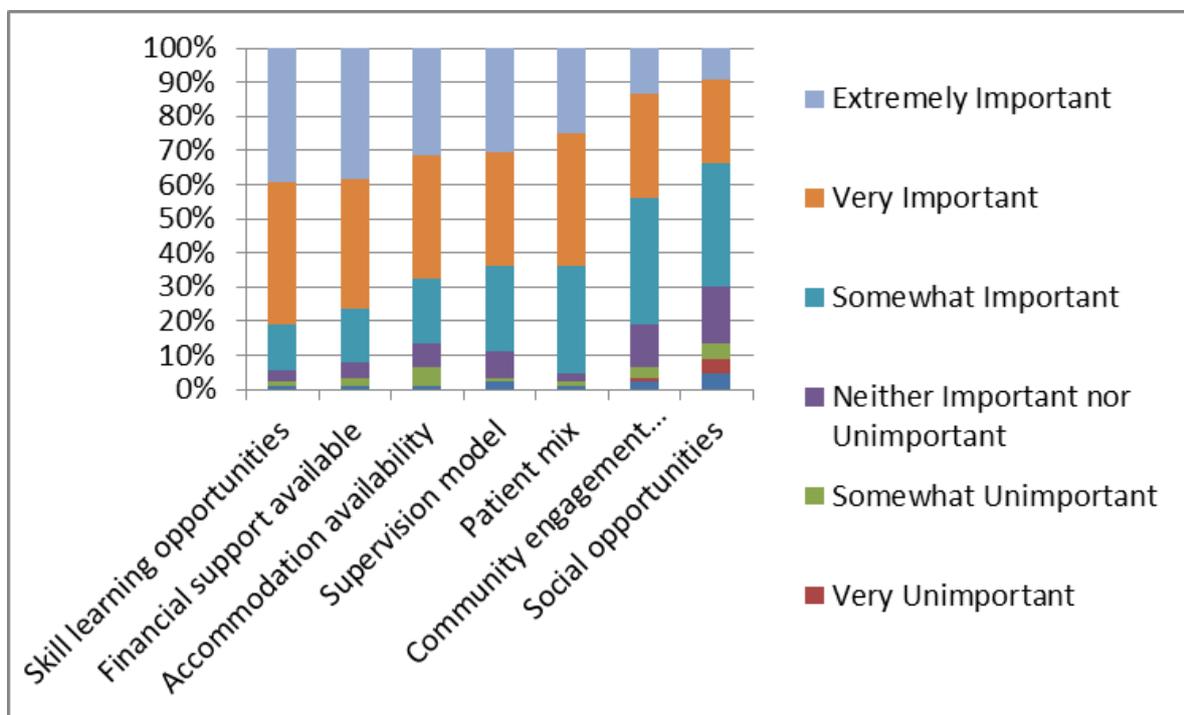
Access to grants with ample time prior to placement to apply. It was very unfair how some students received finances and other didn't. A number of students had grants that also had free food and accommodation and this was very unfair for those that had to pay for these things and didn't get any funding. Either everyone should have received something or no one. (Student, post-placement).

From the clinical educators' perspective, the support most commonly provided to students undertaking rural clinical placements are orientation; meet and greet on arrival; access to a desk; and working with the student and university to develop a learning agreement. Cultural training and access to transport were reported by only 12 and 6 respondents respectively. Other support services offered to students included: peer support; accommodation or access to subsidised accommodation; and pastoral care. Interestingly, transport was the area of least support provided, despite this being a very high priority for students.

Important information to guide decision making about rural clinical placements

For students who had not been on a clinical placement the most important single piece of information to guide their decision to undertake a RCP was skill learning opportunities, followed by the availability of financial support, and availability of accommodation (Figure X).

Figure 15: Students who have not been on a clinical placement.



These points were reiterated in open ended questions. In addition, participants identified transport as an important issue:

Instead of trying to 'cover it up' so to speak, placement coordinators need to be honest and up front about how long of a drive it is to the actual locations of the placement – simply for planning sake.

Other respondents were concerned about safety; hearing stories from others about their rural experiences; child minding facilities; and having information about the variety of patient caseload to help meet competency standards for specific disciplines.

Respondents identified that they would predominantly source information about their clinical placement from their university and the internet. The majority of students perceived that it was the responsibility of the university to provide information to help them decide on whether

or not to undertake a RCP. Only two participants suggested that they felt it was their own responsibility to find this information.

The responsibility is mine but I will need to consult with the university if they are willing to cover insurance, to what extent they will cover and my family will need to be involved in decision making.

The university – they tell use the potential sites we can go to so I wouldn't think I could organise it outside of that.

Would be great if government organisations provided more information about what specific rural placements are available and made provisions for us to independently apply for them instead of waiting for uni staff to find something.

Transport. Child minding facilities. Structure of placement i.e., 6-8 week block or 2-3 week blocks, one week on-one week off. Compensation for any Transport back and forth to maintain family commitments.

Clear indication of patient area specialised in, if any. Available accommodation and transport. Experience of supervisory team. How many other student would be there and student to supervisor ratio.

One fifth of students who had been on a placement confirmed they did not seek any information about the placement prior to undertaking it. Half of all students said that it was their (the student's) responsibility to find out about the rural clinical placement and around one third perceived it was the responsibility of the clinical placement coordinator.

The information that was useful to students who had already been on clinical placements was largely practical, including the location of the practice; accommodation; maps of the town; information about the supervisor and supervision arrangements; which days to be there; daily schedule and details about how the clinic operated; preparatory reading materials; information about the local area; the caseload; and amenity location /.

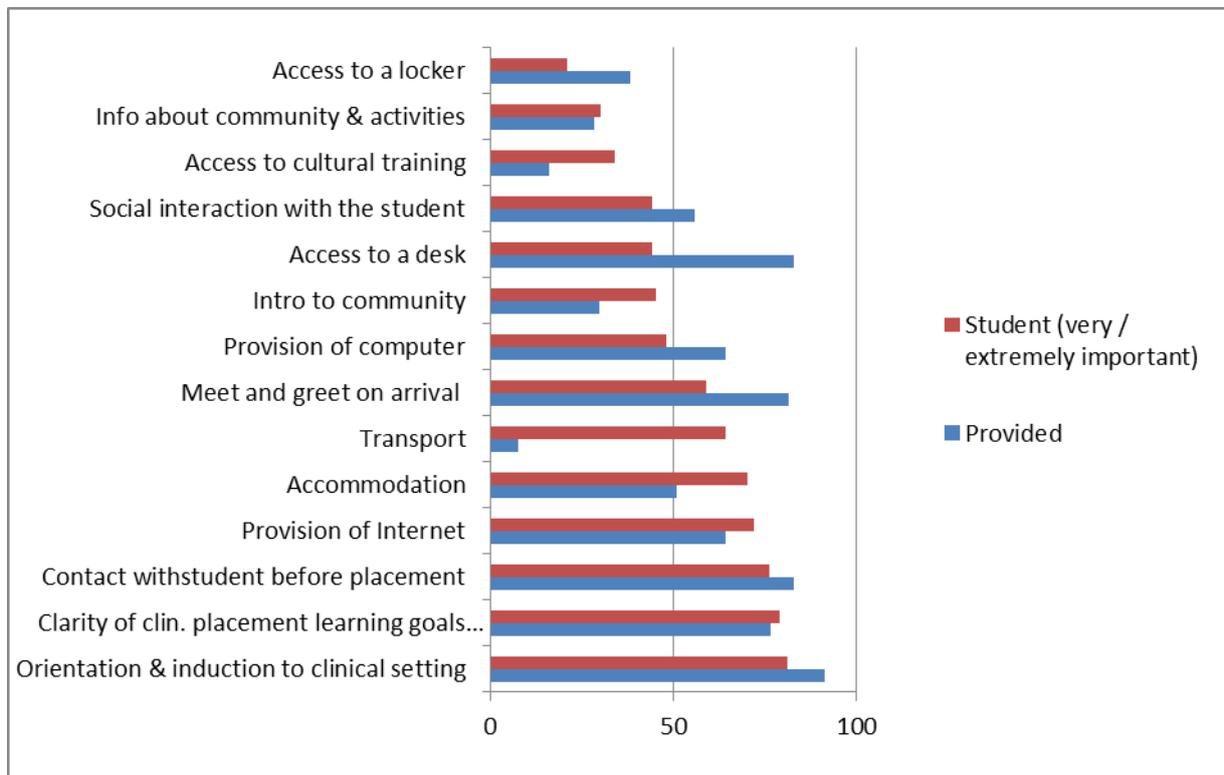
When asked what additional information would have been helpful, students identified resources on good cheap places to stay; transport; what uniforms to take; equipment required; information about internet access and mobile phone coverage; whether or not to bring own computer; extra-curricular activities; exact address of the clinic; whether a car would be necessary; a handover from a previous student; access to a mentor; and information about what to expect.

It would be beneficial if there were some understanding of the importance of rural placement from AHPRA and they supported these placements more fully.

A guide to read would have been most helpful. A formal out of date guide is given but not the need for a cup or you couldn't have a cuppa type of advice. Where the toilets are etc was neglected too.

Weekly phone calls with the university supervisor whilst living away was really helpful as an outside party from the supervision of my supervisor. More grants should be available if the university expects us to be away for 6 weeks. We pay thousands of dollars for this unit and deserve financial support too.

Figure 16: How important is provision of support in the following areas in arranging your rural clinical placement: Students who have had a rural or remote placement against whether supervisors report that these things are provided for students



The graph above compares features that students deemed to be very important or extremely important in arranging their clinical placement (red bars), with what the clinical supervisors said was available for the students (blue bars). The largest areas of discrepancy were in the areas of transport and accommodation, of which nearly 75% of students deemed very/extremely important, but were only provided in 6% and 50% of placements respectively. The other areas that were lacking from the student perspective were access to cultural training, an introduction to the community, and provision of the internet. The social aspects of the placements appeared to be well catered for.

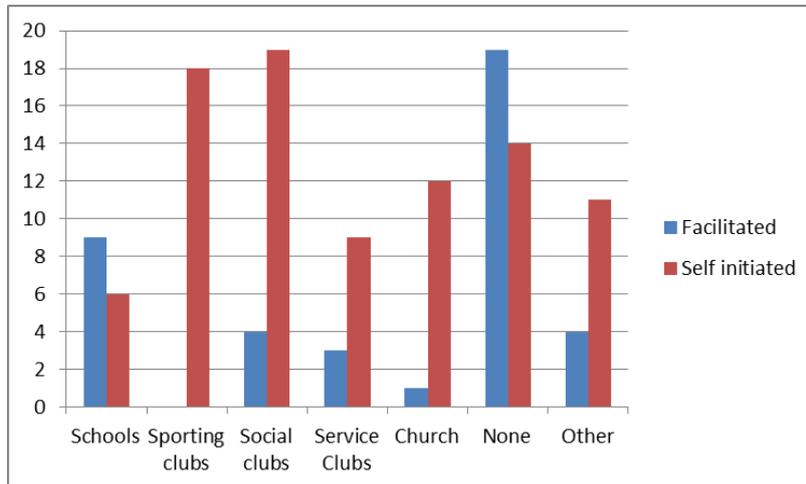
Access to computers & internet is via clinical educator log on which isn't ideal. Access to physical resources is not good - no desks, little space, no lockers (for staff either). Public transport is expensive and scarce. Students really need access to their own transport for a placement in the Byron Shire. Hospital accommodation is located in Murwillumbah which is 45mins drive away - students really to find their own accommodation locally, which can be very expensive, especially if placements are around school holiday times (Clinical supervisor).

Pastoral care for students separate to clinical educators 5 day orientation program 'Working out west' training- building resilience and self-care strategies Supportive community partners (Clinical supervisor)

Reading the above points regarding properties that assist a student in a rural placement, I think we are very underprepared to support a student on a clinical placement in the rural setting (Clinical supervisor).

Students were asked to report on the type of engagement they had with their local community and whether it was self-initiated or facilitated. With the exception of linkages with schools, most of the engagement was student-initiated with an emphasis on sporting and social clubs.

Figure 17: Q 44. What engagement did you have with the community during your rural clinical placement?



Students were asked what advice they would give to others considering a RCP (n=39 text responses). Their responses were overwhelmingly “go for it”. Other practical suggestions included;

- own portable internet
- own transport
- having a buddy to go on placement with
- finding out about the community and the practice you are going to before you go
- be assertive about your needs
- have financial back-up

Barriers: Deterrents to undertaking a RRR placement

Both groups of students were asked to report the deterrents as well as the negative aspects of undertaking a RCP. The barriers responses fell under the headings of:

- cost;
- loneliness / isolation / being away from family;
- a perception that learning opportunities might be reduced or less valued in the rural settings;
- safety; and
- distance from home.

The single major deterrent identified by respondents awaiting their placement was cost; a smaller number identified loneliness and time away from family or their child as significant barriers. One participant identified that undertaking a RCP comes at the expense of participating in an international clinical placement.

If it is a long placement, it is very difficult to find paid work in the rural setting, so you need to have adequate funding.

Considerations associated with transport and accommodation. Other problems may be lack of resources, food and perhaps certain connection with people.

As part of my course – you need to decide between rural and international, choosing rural means I am unable to experience international.

The same factors were identified by students who had been on clinical placements, particularly the costs, accommodation and the difficulties with transport, both to get to the placement, and once at the placement. A further issue identified by students was the potential disadvantage to them from missing out on activities happening while they were away; the risk that their placement was not valued as highly by potential employers. The practicalities of being away from home also features strongly, including missing family and friends; regular sporting events; casual jobs and the loss of income from being away from their home and work environment. Several students commented that without a scholarship they would not have been able to afford the placement.

Lack of employment whilst I was away from home for 18 weeks.

The cost was the main difficulty, if it wasn't for SARRAH's scholarship, I would have had to ask for a closer placement due to the cost (more than \$1000 for one week!)

Fuel costs, and the worry that potential employers will not value my clinical experience as much as a metro placement experience.

The factors that made it difficult to attend a rural clinical placement revolved mainly around funding! I applied for many scholarships (not receiving any), do not receive Centrelink. The funds are coming out of my own pocket and that of my parents. If I did not have supportive parents, I would not be able to support myself in a rural clinical placement so far away from my home town (approximately 4 and 1/2 hours)

The biggest problem has been that my rural placement has put me in a bad position with regard to completing my degree on time - it's hard enough to get placements where I live and doing this has put me on the back foot with regard to securing future placements at home.

Overall cost and the amount of notice given to make appropriate arrangements. My rural placement was confirmed 12 days before I was set to start. No subsidised accommodation was available and as the location was a mining town the cost of living and accommodation was very expensive. It was also difficult to find somewhere to live in the amount of time provided. There was accommodation for medical students however allied health was not supported and accommodation providers for the medical students refused to provide advice or help when contacted. Although I was able to go ahead with the placement these factors made me consider the possibility of deferring my placement until I was in a more appropriate financial position. Have heard of some similar experiences with other students and combined with my own experience am not sure if I would recommend volunteering for a rural placement, however the overall experience apart from these issues was excellent.

Negative aspects of RCPs were identified as:

- problems with travel / accommodation / infrastructure (eg. poor network coverage)
- poor quality or unvaried clinical experiences:
 - I was not pushed as far out of my comfort zone as I had hoped.*
 - Lack of patients due to patients not attending appointments.*
- student not adequately prepared for the placement by their university beforehand
 - I felt uni didn't prepare me with the right content for that placement. So a lot of information was new.*
- clinical supervisor not adequately prepared for or experienced to support the student
- safety fears and social isolation
- the placement was at the detriment of the completion of the degree due to competing time commitments
 - Effect on degree completion – some supervisors unhelpful with regard to helping me meet degree requirements.*
- placement duration too short
- boredom

Outcomes of rural clinical placements

The main outcomes of undertaking a RCP that were identified through this survey were;

- high levels of student satisfaction and meeting expectations
- having a RCP was associated with a greater intention to work in a rural setting
- students increased their understanding of the issues and needs associated with working in rural practice
- clinical learning and exposure to different conditions, different population groups and different ways of addressing these needs to what they would experience in a metropolitan area
- improved personal confidence

Overall, students were extremely satisfied with their RCP experience, stating that the experience met or exceeded their expectations in 97% of all cases. Additionally, satisfaction with the placement was high with 86% of students reporting that they were satisfied or very satisfied.

Figure 18: Q46 To what extent were your expectations of the clinical placement met (n=65)?

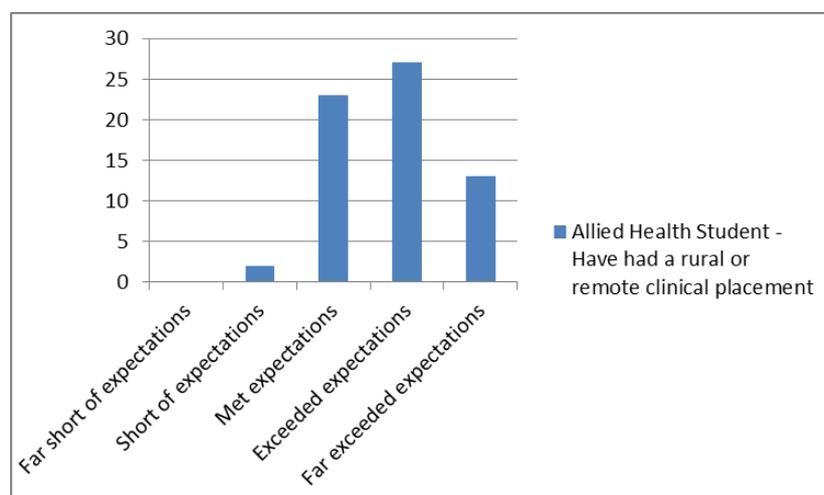


Figure 19: Q48 Overall, how satisfied were you with your RCP? (n=65)

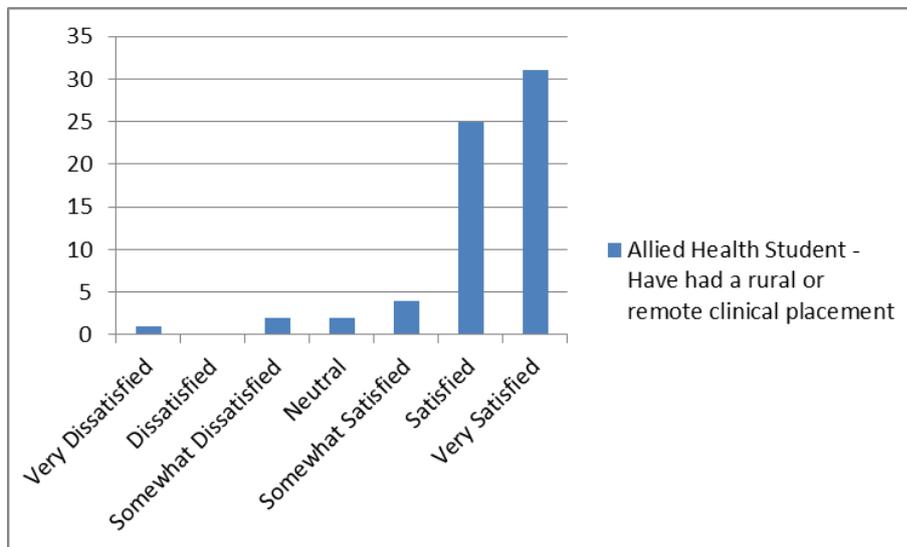
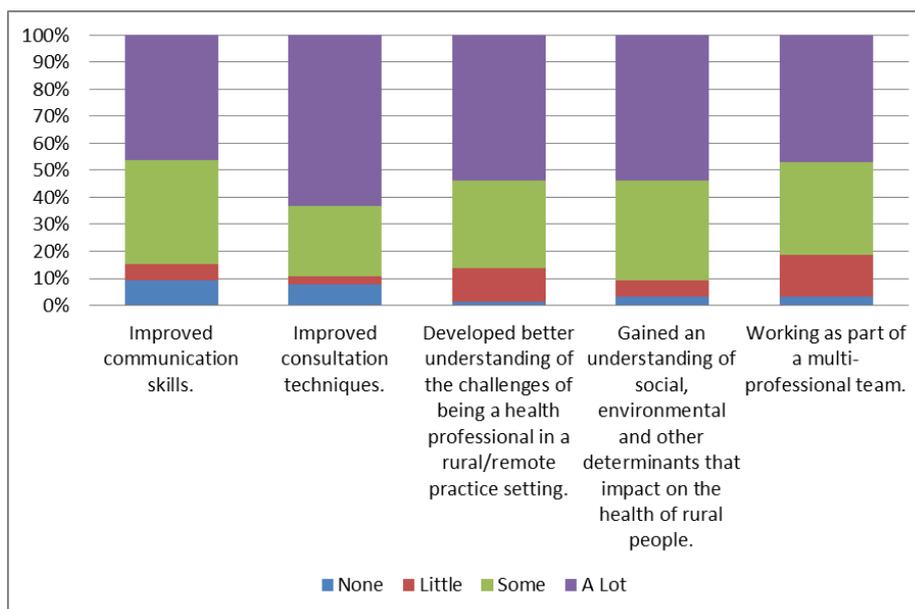


Figure 20: To what extent did the placement assist you to learn the following aspects of RCP?



Students who had been on a RCP were asked to describe their expectations of the placements. Almost all of the student expectations focussed on the development of clinical skills, learning new techniques, having different experiences in terms of diseases and pathology; and having a greater understanding of different types of roles in the community.

Students outlined positive aspects of their RCPs;

I learnt so much more than I expected and realised a lot of the things we are taught at uni are not quite as applicable in real life and it was much less stressful and more enjoyable than I expected.

I really enjoyed the community feeling, particularly between the other students and the hospital staff. Every weekend we would take road trips and explore the surrounding areas and we would all do group exercise classes together and go out for dinner, have BBQs at the beach etc. In terms of clinical experience, I saw a huge range of patient types, I have the greatest range of clinical experience of any one in my cohort now, as I saw all patients in the hospital from paediatrics to geriatrics, as well as outpatients, rather than only working on a few wards. I feel much more confident tackling new clinical areas as a result of this.

Two of three days on placement was spent performing intake for the health service. Whilst this may be helpful to younger students it detracted from my personal experience because it did not provide me with additional skills.

It was pretty amazing seeing how certain conditions which in Melbourne would send the patient straight to the emergency room, in Burnie, the optometrist was the first point of call in an eye injury etc.

My supervisor was trusting and gave me more and more responsibility as I progressed.

The negative feedback included the disorganisation of the placement; one student felt that his supervisor was not adequately prepared for him. Another respondent said that undertaking a RCP detracted from their ability to arrange other placements.

Supervisors were asked how they gauge the success of their RCP. The majority reported that they use feedback forms from the student, the university and the clinical placement site; expressing a desire to work in a rural / regional area; progression and competency of the student; skills development.

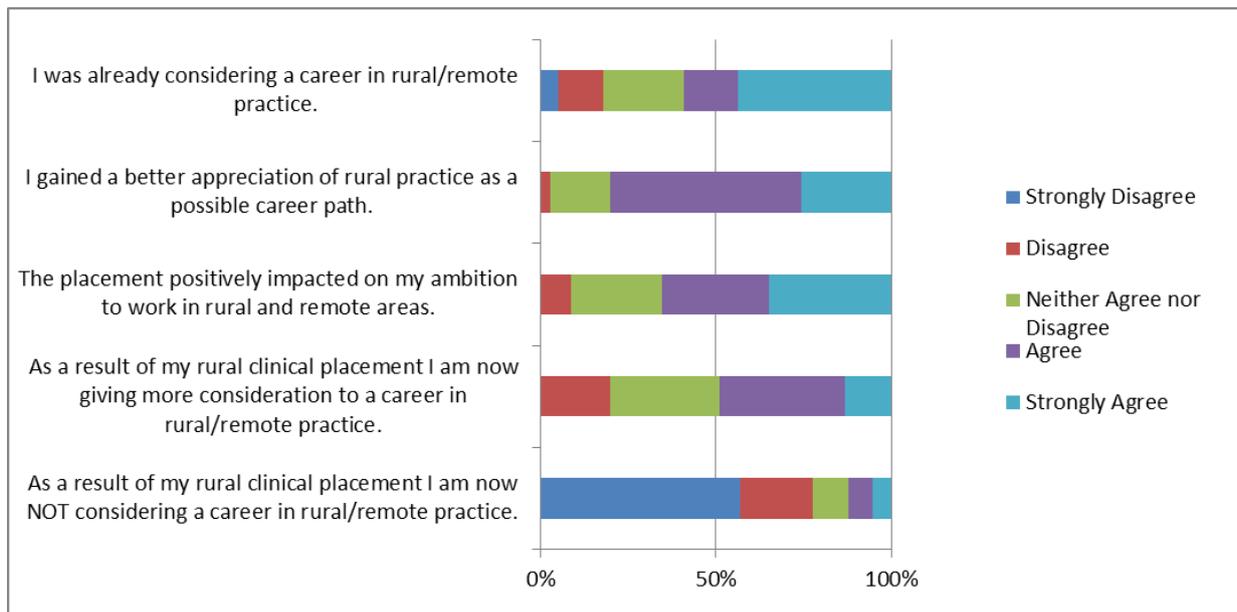
We once had a city girl who came for a clinical placement. Previously she has no idea where this place is. She enjoyed the placement and loved the region so much that eventually she relocated herself to this region and got a job in a nearby hospital. I would say this is a successful story of a rural clinical placement.

When the student comments that they would consider working remotely when they graduate. When the student takes on board feedback provided and changes their behaviour/approach accordingly. When the student reports that they are enjoying their placement, particularly the rural lifestyle and caseload.

It made me not want to settle for a commercial job, but to go out and find a rural job

Student willingness to engage in rural placement and embrace learning opportunities When students say I'm unlikely to want to work in rural areas, but now know what info needs to be sent with patients returning to rural areas Students keen to work in rural areas in the future.

Figure 21: Please rate the following statements in relation to your rural clinical placement. (students who have been on a RCP)



What would make the rural clinical placement worthwhile?

Participants were asked to identify what would make the RCP worthwhile for them. The responses were predominantly around the quality of the clinical experience, which included access to different populations, comprising culturally and linguistically diverse communities and cultural education; learning new skills; having access to good supervision and mentorship.

The opportunity to work closely with someone whose expertise and experience I rate highly.

Experiencing varying patients and treatments other than just seeing a clinician cut toenails the whole time. Accommodation must be available without costing a fortune. Also being able to experience a community and area where I may choose to work once my degree is complete.

If the experiences gained from the clinical placement left me feeling confident in knowing that working in a rural or remote area could satisfy both my professional and personal requirements.

Being treated kindly and with respect. I value that highly.

Being able to explore every single aspect of speech pathology and making sure I get the best and most useful experiences.

Intention to work in a rural area after graduation

Nearly two thirds (60%, n=37) of respondents who had been on a RCP said that their RCP positively altered their attitudes towards working in rural areas.

Undertaking a RCP was associated with an increase in students' intention to work in a RRR area in comparison with students who had not had a RCP (see Table 17 (Q55)). Students who had been on a RCP were 1.64 times more likely to intend to work in a rural or remote area than students who had not been on a RCP, although this result was not significant (comparing intention to work in a regional area with "no or not sure yet") (Odds ratio = 1.64 (95% CI 0.79 to 3.43, p = 0.19)).

Table 17: (Q55) Do you intend to work in a rural or remote area after graduation?

	No RRR experience		Prev RRR experience	
Intent to work in rural are after graduation	Response	%		%
Yes - on graduation	28	30%	24	38%
Yes - after a few years of experience in a metropolitan or larger regional area	18	20%	16	25%
Not sure yet	41	45%	20	31%
No	5	5%	4	6%
Total	92	100%	64	100%

I now understand that the rural health workforce is largely transient, and committing to rural work doesn't have to be a long term commitment, it is something you could do for a shorter stint to gain experience, or have a sea-change. There is much more variety in your case load, so you gain much broader experience than working in a tertiary hospital.

Perhaps because I was really lonely and didn't like the town I was in (even though my supervisor was the best!), I don't feel excited at all about working rurally, however, I am very keen to try my second rural placement later in the year, to see how I might feel about it in a different town.

How to increase the availability of RCPs

Clinical supervisors identified a number of factors required to increase the availability of rural clinical placements including more management support; accommodation; supervision support from the university; recognition and resourcing of the workload impact of supervising students; access to more clinical supervisors; and widening access to the placements (so more than one university can access them) (Table 18).

Expectations of staff in regards to each having more students per year. Student support i.e tutes, observation of sessions by someone at Universities/contracted by universities/funded by universities. Could be done by Skype, videoconferencing, chat but some face to face likely to be beneficial. Consistency between employer DHHS placements re training, expectation, support: time for networking.

Table 18: Q109 Which of the following areas requires more attention to increase the accessibility of rural clinical placements for students (select all that apply)?

Ranked only due to low response rates

1. Reducing allied health staff turnover in rural and remote areas	80%
2. The capacity of rural allied health professionals to be able to supervise students.	60%
3. Support from the Health Service setting	60%
4. Availability of backfill for the clinical supervisor	60%
5. Filling of staff vacancies in rural and remote areas	60%
6. Availability of accommodation	60%
7. Financial support for the placement	60%
8. The availability of training and resources to enable/enhance the skill levels of rural allied health professionals in supervising students	40%
9. Support from the university	40%
10. Commitment by management of health service settings to enable clinical placements to occur in the workplace	40%
11. Administrative burden	20%

How to increase the quality of RCPs

Supervisors were asked to rank the following 8 items in response to the question; “What support would make your rural clinical placements more successful?” resulting in a consensus based response. 79 participants completed this exercise. The results were ranked as follows;

1. The availability of training and resources to enable/enhance the skill levels of rural allied health professionals in supervising students
2. Recognition of the additional workload placed on the supervisor
3. Filling of staff vacancies
4. Availability of backfill for the clinical supervisor
5. The provision of physical space to host a student
6. Commitment by management to enable clinical placements to occur in the workplace
7. The reduction of the administrative burden
8. Support from the university

I feel we provide a good quality placement due to broad range of clinical settings we are able to give experience in. Generalist adult inpatient and outpatient clinics provide wide range of experience. Since we only take one student at a time they receive lots of individual input. They also have lots of face to face client hours! Ultimately we are here for our clients and their needs are a priority, not always just an opportunity for CBOS goals to be met.

If we are swamped with adult referrals, we are less able to provide a quality paediatric placement for students. If other team members are on leave during placement (as happened last placement) they get less exposure to the team experience.

Sometimes because of the lack of specialist modalities we have to arrange for students to gain experience in these areas at another location and ensure that they are able to obtain this on their next placement.

Current caseload and availability to see clients with other work commitments (such as meeting, etc)

Remoteness from sources of support for both the supervisor and the student. Limited availability of formal training in supervision skills.

Supervision models

Contact with supervisor. The majority of students (73%) had daily contact with their supervisor, 18% had contact 2 – 3 times a week; 3% had weekly contact. The majority of students (35/59) reported that they worked on a one to one basis with their supervisor; 17/59 students had two students per supervisor. Only 3 students reported that there were more than 4 students per supervisor. Almost all supervision (55/58) was undertaken onsite. Only 3/58 were remote supervision models. The majority (56/58) of the supervision was provided by someone from the same profession. Only 3 were provided by another profession (Table 19).

Table 19: Supervisor models

Detail	Supervisor perceptions	Student perceptions
Frequency of contact	Daily 82% 2-3 Times a Week 10% Once a Week 5% Other 3% (n=102)	Daily 75% 2-3 Times a Week 13% Once a Week 5% Other 7% (n=85)
Number of students per supervisor	One 48 Two 34 Three 5 Four 8 More than Four 6 (n=101)	One 46 Two 25 Three 5 Four 3 More than Four 4 (n=83)
Same / different profession to student	Same profession 98 Different profession 2 (n=100)	Same profession 76 Another AHP 3 Another health discipline 3 (n = 81)
Mechanism of supervision	On site 96 Remote 3 (n=99)	On-site 76 Remote 5 (n=81)
Part-time / shared supervision model	54%	
Part-time supervision	N = 25	N/A
Share supervision model	N= 45	N/A
Number of supervisors per student (supervisor works part-time or works within shared supervision model)	One 14 Two 43 Three 5 Four 4 More than four 4	

The majority of clinical supervisors shared supervision jointly with other students. Supervisors predominantly supervised one or two students at the same time. Only two supervisors reported having no support for their role as a clinical supervisor. The majority received support from the university and through peer support onsite. 25 supervisors also reported receiving off-site supervision support.

The mechanisms available to support clinical supervisors were predominantly through telephone and email contact with the universities; and some onsite support. Participant feedback suggested that the quality of support provided by universities to the supervisor varied widely.

Interstate Universities - 1 review in person, by email or phone. Have workshops that are too costly to attend regularly due to having to fly and get accommodation interstate. Professional peers - debrief with co-supervisor weekly, and at end of placement with OT team. As coordinator, having minimum education/experience/professional level requirements in order for staff to supervise students. These were set by senior staff in consultation with junior staff. Other HP - Tasmanian Clinical Educators Network and interested parties within employer DHHS providing CE, Other - Tas University post graduate course/subjects in teaching and learning. Subsidised by Comm govt, Tas Uni. and employer DHHS. Also use of online professional education program (PEP) developed by Canadian University

Regular education sessions in supervision provided by the health service in conjunction with one of the universities. Also internal support for identifying learning needs and finding appropriate courses to fulfil those requirements.

Occasional contact with the university either by email or phone call. Rarely get a visit from a lecturer or student supervisor from the university Have had the opportunity to attend 1 weekend seminar at CSU would be good to have more of these sort of days. It is very difficult to attend other sessions often held in Melbourne at times that do not really suit country people with a busy workload.

Contact with university via email and/or telephone as required (e.g. in the case of a challenging/ failing student) Discussion with my manager/ supervisor Informal discussion with colleague who is also experienced in student supervision Inviting colleague to also observe/ work with student (so as to provide another opinion/ perspective)

To be honest, there isn't often a lot of support provided by the universities. Contact usually consists of a phonecall/email from the uni prac supervisor prior to commencement of the prac placement (to advise of what students are attending, expected hours, reporting needs, insurances, etc), and an occasional site visit from a prac supervisor. Site visits are only really done by one university (UOW). At the end of the placement, there is often a thankyou email. There really isn't much support/contact with the universities throughout placements.

Support for supervisors

Supervisors were asked what additional support would help them. Three respondents said they were happy with the level of support they received. Supervisors provided several practical suggestions to support students directly, and to help them in their role to support the students. Specific suggestions included additional staff to backfill work that may not be covered when supervising students; the need to provide professional development for supervisors outside metropolitan regions; equitable reimbursement across the allied health disciplines; better information from the university about the level of preparedness of the students; provision of resources for the students; access to university online library and resources; paid time to deliver tutorials to students; more site visits from the universities; ongoing training in supervision; remuneration for the student hours supervised; workshops and training on specific topics (e.g., musculoskeletal topics).

Financial support to my place of business would be helpful. For years, workplaces have received some re-imburement from universities in exchange for the time/effort/labour put into training physiotherapy students - but the same has not been offered for EP students. 2. Site visits from uni clinical placement co-ordinators 3. more frequent contact from universities throughout clinical placements (to discuss student progress/issues etc) 4. more streamlined / structured practicum expectations and grading system.

Resources for the students eg; posters, anatomical models, USB/laptop internet access for them for out of hours research as they are usually away from home for placement, text books, DVD tutorials, Set criteria for student formal assessment and feedback sessions.

More upskilling/training Students coming to placement more prepared with more developed skills/knowledge (i.e. La Trobe have changed to inquire-based learning, and we've found since the model of teaching changed, the quality of students has reduced significantly and we're having to do a lot more teaching on placement instead of clinical reasoning / caseload development).

Videoconferencing facilities utilised at Unis for continuing education Standardised orientation/expectations for students across DHHS As coordinator, some way to increase placement numbers without increasing stress/time requirements/loss of clinical hours on staff.

Additional training needs identified by the clinical supervisors;

Plenty, but being a busy practice owner/clinician I'd struggle to make use of additional opportunities

At this stage all satisfactory as I make an extra \$100,000 per year with the student program from a wide variety of institutions especially international.

More gen y stuff would be handy

Training around: - How to manage the struggling/failing student - How to manage the student who is over-confident but actually has quite significant knowledge gaps and is consequently unsafe - Different learning styles - Different teaching methods - Reflective learning

COMPASS training Assertive skills and training in how to use professional language in situations of high emotion (e.g. how to fail a student who is crying and argumentative)

Given that the presence of students in the workplace genuinely adds a substantial additional workload, honestly, it would be appreciated if there was financial remuneration to recognise the additional work it takes. I work in a team of speechies, and I'm the only fulltime SP who takes on the students... it creates a larger workload, a longer day, added pressure and responsibility (lunchbreaks are spent debriefing with the student from time to time, often i need to stay back late to get MY work done, etc)... and yet for the duration of the placement, my colleagues are paid the same as me, without any extra workload. It does make me wonder whether I should bother actually- especially when a difficult student is here on placement.

Discussion

This primary aim of this survey was to identify the drivers, facilitators and barriers to allied health students undertaking regional, rural and remote clinical placements. The findings are summarised in the logic model below (Table 20). Despite the heterogeneity of backgrounds of the respondent, in terms of their role, professional background or host institution, there was a great deal of consistency in the responses.

The respondents to this survey were almost universally enthusiastic about the idea of RCPs. Students valued RCPs where they were adequately supported and resourced. The RCP increased their clinical and personal learning opportunities through access to a diverse clinical load and client group within a context of good quality supervision and mentorship. It appears that undertaking a RCP was positively associated with an increased intention to work in a regional, rural or remote area. Another important outcome of the RCPs was increased awareness by students of the needs of patients and issues faced by practitioners working in rural areas, even if they chose not to work in a RRR area.

The financial burden of a RCP was a dominant issue for students. Placements that take students away from their home and normal routine are costly financially, but also bring other costs, in terms of the inability to work, and being away from families and friends. This puts additional pressure on the RCP to offer a high quality clinical experience in terms of variety of patients, quality and support of supervision, and the level and quality of support from their supervisor.

Students were also poorly prepared and supported in terms of travel to RCPs, and then the need for transport once they arrived at the placement. This is highlighted in the differences in student and supervisor responses. Students which rated travel as one of the most important enablers of a RCP, yet the supervisors reported that travel was rarely provided to students. For students with family commitments, undertaking a RCP was challenging, and this was reflected in the difference in demographics between those students who had and had not undertaken a RCP.

While students appreciate the social aspects of the RCPs, practical considerations and learning opportunities take precedence over social considerations for students in terms of their motivation to undertake a RCP.

Well supported RCPs have the potential to build capacity for the rural / remote areas in that they bring in skills and expertise through the provision of supervision and clinical educator support. However, based on the responses to this survey, many of the RCPs were not well supported. In some cases, the RCPs put a large burden on several, already stretched services and reduced service capacity because of the opportunity cost required to supervise and support students. In no case did any respondent suggest that having students increased their service capacity. The irony is that an important goal of the RCPs is to increase the students' desire to go into rural / remote practice, however it appears that several of the services were understaffed. It was not clear from the survey whether this was due to under-resourcing of the services or an inability to recruit staff. When these services facilitate RCPs, the students are absorbing the capacity of services to deliver patient care, not enhance patient care, as is the ultimate goal.

Ideally, a RCP will be driven by local community needs and situated in a service where students can add value and enhance service capacity while meeting their own learning needs. High intensity supervision models that reduce service capacity and are under-supported are detrimental to health care provision and unsustainable.

An important finding of this study was the strong voice of the clinical education supervisors, who are largely ignored in the published literature. Clinical supervisors appear to deliver a high quality service, with varying levels of support from the universities. One practitioner was able to make an additional \$100,000 per annum through hosting student clinical placements, however this was an exception. The majority of practitioners compromise their own practice, patient workload and personal free time for the sake of providing students with clinical placement experiences. This ultimately affects the capacity of the service to deliver patient care. The reimbursement for supervision appears to vary across disciplines and settings as does access to any resources to support training. Supervisors identified a number of practical and relatively low cost ways in which their roles could be better supported. For instance, the provision of supervision training in metropolitan areas is at odds with the need to provide rural and remote support, and could presumably be delivered using technologies, or using locations that are more accessible to rural and remote supervisors.

The models of clinical placement were predominantly one to one apprenticeship style placements where the supervisor is co-located with a student from the same professional background. Several other models of clinical supervision have been documented that could potentially increase the capacity and the learning experiences of students (see Component 1). There was little evidence from the survey data provided of interdisciplinary supervision models.

Table 20: Logic model arising from survey findings: student and clinical supervisor perceptions

<i>Drivers</i>	<i>Facilitators</i>	<i>Barriers</i>	<i>Outcomes</i>
Compulsory part of course	Financial support	Safety	Increased intention to work in rural areas
Clinical learning	Accommodation provision	Perception of lack of 'quality' or valuing of RCP'	Better understanding of rural issues / needs
Experiencing rural life	Transport provision	Cost	Satisfaction
Personal growth	Social support	Lack of transport and accommodation provision or access	Clinical learning and exposure to different conditions / population groups
Desire for social experiences	Appropriate preparation of the student	Inequities in provision of support	Personal confidence
	Appropriate preparation of the supervisor	Loneliness / isolation / being away from home	Positive social experience
	Good quality supervision		
	Opportunities for varied clinical experiences		

Limitations of the study

The survey methodology created several limitations. The first was the potential for participant bias. Research was dependent on established networks to disseminate the survey, and had no recourse to send reminders, nor was survey denominator accurately known. Based on the diversity of responses, it appeared that the survey was circulated beyond initial networks. It is possible that those with a strong view were more likely to respond. Based on the numbers of potential recipients from the primary mail out, the response rate was quite low, particularly from the student population. As there is no national database of clinical education supervisors, therefore no way of knowing the potential numbers of respondents from this group, however the responses demonstrated a good diversity of professions and settings, as did the student responses. The project was on a very tight time frame due to funder constraints, so the survey had to be disseminated in a two week period at the start of May, 2013 which is a notoriously busy time of year for staff and students at many universities.

Component 4: Interviews with key stakeholders

Overview

Aims: To identify facilitators and barriers to the provision of sustainable, successful rural clinical placements for allied health students.

Method: Semi-structured interviews analysed using thematic analysis around a logic model framework. A purposive sample of clinical educators (n=2), university clinical placement coordinators (n=2), deans of work integrated learning (n=2) and a representative from a University Department of Rural Health (n=1).

Results: Student drivers for rural clinical placements included a desire for adventure, rural exposure/rural interest, varied caseload, peer feedback and availability of accommodation; supervisor drivers included opportunity to recruit students to rural employment following placement; academic/ university drivers included the need to supply placements for students to meet registration requirements; to provide unique learning opportunities; and to ensure students are work ready for rural employment or for supporting colleagues who work in rural areas. Mechanisms that facilitate students to go on a rural clinical placement include: financial support, subsidized accommodation close to placement site, information about the placement site, information about cost of placement and placement flexibility. Mechanisms that facilitate the supply and sustainability of rural clinical placements include: creativity and flexibility, supporting and resourcing supervisors, supporting students, supporting and resourcing intermediary roles/institutions (e.g. UDRHs) and supporting and resourcing university personnel.

Methods

A qualitative methodology was employed to explore student, supervisor and university personnel perspectives of: the drivers, mechanisms and outcomes relating to the undertaking and supply of regional, rural and remote clinical training placements for allied health students. As such the research questions for this study are;

1. What are the key drivers (or needs underpinning) regional, rural and remote clinical training placements for allied health students?
2. What are the barriers and facilitators to students undertaking regional, rural and remote clinical training placements?
3. What factors influence the sustainability of the programs?

Data collection involved semi-structured telephone interviews. The interview schedules (Table 21) were constructed by AM and SN, informed by results from a recent literature review REF and expert stakeholder input (SK, SL). Table 21 details the topic schedules for the interviews. A purposive sampling method was used to ensure representation within each of the following groups:

- Clinical educators/clinical supervisors (supervising students on RCP)
- University clinical education personnel
- University Department of Rural Health representative
- Deans of workplace learning (allied health)

Table 21: Interview schedule

Interview questions
<i>Can you please give me an overview of your role / involvement / experience in rural and remote clinical placements?</i>
<i>What do you perceive to be the main motivators for students undertaking rural / regional / remote clinical placements?</i>
<i>What do you perceive to be the main barriers for students undertaking rural / regional / remote clinical placements?</i>
<i>What do you perceive to be the main enablers and motivators for supervisors offering rural clinical placements?</i>
<i>What do you perceive to be the main barriers for supervisors offering rural clinical placements?</i>
<i>How should students be prepared for the placements (prompt and whose responsibility is this)?</i>
<i>How should students be supported within the placements (prompts, supervision, peer-support, social and other support networks)?</i>
<i>If you could identify one vital factor to ensuring the success of a rural and remote clinical placement, what would it be?</i>
<i>What do you perceive are the support requirements for supervisors and for of the host organization to ensure the success of a rural and remote clinical placement?</i>
<i>For university personnel: what are the support requirements for the university to ensure the success of a rural and remote clinical placement?</i>
<i>What models of rural clinical placements are you aware of and what do you think makes them successful or not successful?</i>
<i>Any other comments?</i>

Recruitment

Given the short time frame for the project, potential interviewees were identified pragmatically through networks of participants involved in the study, including the participating universities and SARRAH. Verbal consent was first obtained through discussion of the project with a member of the research team, followed by provision of a written information sheet and consent form obtained in person or via email.

Interviews were recorded (with consent), but not transcribed. Interviewers took notes contemporaneously on the interview schedule to address the interview questions. The recordings were utilised for verification where required.

Analysis

The interviews were recorded but not transcribed. Interviewers took notes contemporaneously on the interview schedule to address the interview questions. The recordings were utilised for verification where required. The Ritchie and Spencer qualitative *Framework* approach was used as the analytical framework [50]. This involves familiarisation with the data; identifying a thematic framework; indexing the themes; charting those themes into a hierarchical framework; then mapping and then interpretation of those themes [50]. A coding framework was established based on *a priori* issues which formed the basis of the research questions and interview schedule. An initial coding template was developed using a logic model framework (Table 22). The resulting coding framework was then hierarchically organised under the dominant themes identified from the combined focus group and interview data.

Table 22: Initial coding template

Motivators (drivers) for students to take rural placement
Barriers to students undertaking rural placements
Support (enablers) for students to undertake rural placements
Motivators (drivers) for supervisors/health services to offer rural placements
Barriers for supervisors/health services to offer rural placements
Support (enablers) for supervisors/health services to offer rural placements
Motivators (drivers) for universities to offer rural placements
Barriers for universities to offer (sustainable) rural placements
Support (enablers) for universities to offer rural placements
Vital elements for the success of a rural clinical placement
Preparing a student for a rural clinical placement

One researcher (AM) was responsible for the indexing of themes into a framework and initial mapping and interpreting of those themes. Independent verification of emergent themes was undertaken by a senior health services research academic (SN).

Ethics approval was obtained through the Southern Cross University Human Ethics Committee (. Due to the small number of participants, some verbatim quotes have not been labeled to protect participant identity.

Results

Participants

Six stakeholders were interviewed from regional and metropolitan universities and health services (Table 23)

Table 23: Participant details

Stakeholder	Details
Clinical educators/clinical supervisors	n=1 part time occupational therapist responsible supervising students in a regional area of NSW and n=1 academic and clinical supervisor of exercise physiology students at a university clinic in a regional area of NSW
University clinical education personnel	n=1 workplace learning coordinator for podiatry at a regional NSW university n=1 workplace learning coordinator for occupational therapy at a regional NSW university
University Department of Rural Health representative	n=1 UDRH representative from Northern NSW
Deans of workplace learning (allied health)	n=1 regional university, n=1 metropolitan university

Drivers

The drivers were examined from the perspective of motivation for the student to undertake an RCP and the motivation of supervisors and universities to provide RCPs.

What motivates students to undertake RCPs?

The motivators for students to undertake an RCP are outlined below, and included a desire to experience rural practice; the type of placement offered; 'adventure'; varied caseload; word-of-mouth; social drivers; from a rural background; availability of accommodation; and the placement is compulsory.

Rural practice experience/attraction to rural practice/rural lifestyle

*'probably the most common motivator is that they have an attraction to rural lifestyle or practice for some reason ... that is if they are able to act on this because of the **availability** of a rural placement'* [UDRH representative]

Type of placement offered

'Because our students undertake 60% of their placements at our [university] clinic, which is in a regional area, that is their regional experience. Other placements that are offered in rural areas are offered because of the type of practice they will experienced as opposed to the location' [University placement coordinator]

Adventure

'A rural placement can often be their [student] first time outside of a metro centre.' [Dean Workplace learning]

'They may be adventuresome and want to have a rural experience in the bush' [UDRH representative]

Range of clinical issues / varied caseload

'... they are often interested in the broad array of clinical conditions you can see, variation in case load...' [UDRH representative]

Word-of-mouth

'Word of mouth marketing is pretty strong!' [Dean of work place learning]

Social drivers

'Rural placements can be a fun place to be with a brilliant social programme' [UDRH representative].

From rural area; the placement is near home

'Often placements are near home so they [students] don't have to give up their part time jobs' [University placement coordinator]

Accommodation is available for the placement

'Preference is basically around where they [students] can source accommodation.' [University placement coordinator]

Why do clinical supervisors provide RCPs?

The participants perceived that clinical supervisors provide RCPs because solo practitioners like having the company of a student and to help the students to develop their skills.

'I enjoy showing the way Indigenous populations live and breaking down stigmas. I enjoy showing students an interesting culture that they wouldn't normally experience ... I enjoy seeing students implement programmes and change their perceptions' [Supervisor]

Additionally, they perceive that practitioners like to feel as though they are "giving back to the profession"; keep up to date, and it provides them with a challenge.

'I enjoy having the students, they challenge me, ask challenging questions, keep me up to date.' [Supervisor]

The respondents also felt that supervisors like to connect with a university and the resources of a university; that having students can help increase service capacity and reduce waiting lists; and finally; that clinical supervisors value the opportunity to recruit students to rural practice.

'I guess I hope that if they enjoy the placement they will come back to work in our service' [Supervisor]

'It's an opportunity for placement sites to make ties with a student and target them for employment' [University placement coordinator]

The interviewees also reported that for some supervisors, taking students is a requirement of their role as a Grade 2 or 3 therapist. There was a perception that financial incentives or government funding to take students motivated supervisors to take students. Although university personnel identified funding incentives as a potential reason for supervisors to offer a placement, it was not offered as a reason by supervisors.

Why do universities offer RCPs?

Participants suggested that universities are driven to offer RCPs so that students can meet registration requirements; To provide unique learning opportunities; and to ensure students are work ready for rural employment or for supporting colleagues who work in rural areas.

Mechanisms

Mechanisms that support the uptake of rural clinical placements

The availability of RCPs to be undertaken

All stakeholders identified that the uptake of RCPs is contingent primarily upon there being sufficient RCPs offered/available. Therefore a primary mechanism to support the uptake of RCPs is offering a sufficient number and type of placement.

Where RCPs are offered, mechanisms that support students to undertake RCPs include:

Accommodation

Provision of suitable, affordable and/or subsidized accommodation that is close to the placement site and/or close to local amenities. It is also preferable that other students are located at the same accommodation facility.

Flexibility

This includes having some capacity to choose the location of the placement and even how the accommodation is arranged.

'Unfortunately none of our placements offer accommodation. The only site that does offer accommodation does so on the proviso that students are on placement full time. Many of our placements require 1 or 2 days of study embedded within the placement, therefore they are not considered full time and are not eligible for the accommodation.'
[University placement coordinator]

Financial support

Scholarships were identified by all participants as essential to the uptake of RCPs. As one university placement coordinator detailed, this is particularly important for students from low socioeconomic backgrounds (who make up a large percentage of their cohort).

'A lot of our students are from low SES backgrounds – accommodation and getting somewhere is difficult. This [financial assistance] really determines if they can go.'
[University placement coordinator]

Scholarships are one mechanism to overcome the opportunity cost of not being able to work whilst on placement. This includes the timely provision of information about scholarships and how and where to apply for them.

Social / peer support

'Coming in pairs' was identified as important mechanism for attracting students to RCPs for social and educational reasons. Peer-learning was identified by two participants as a mechanism for improving learning outcomes.

Information and documentation

Students and supervisors require placement information that is timely, accessible and adequate in content (see below preparation of students for information that is considered important). Students require unambiguous advice prior to commencing their studies on the financial impact and opportunity costs incurred by clinical placements. One university provides information about placements in their orientation sessions with students. Another university clearly articulates the requirements for placements within a placement manual. This document provides clear instruction to students as to when a student may apply for release from a RCP due to 'extenuating circumstances'.

The 'right' qualities

There was a suggestion that students with certain may require certain attributes to undertake an RCP. These included being open minded, flexible, autonomous, and willing to try things. There was also a suggestion that some students may not be appropriate for RCPs, such as students who are very shy or those with limited English skills.

Mechanisms that facilitate the availability and supply of rural clinical placements

Support for supervisors and placement sites

Support needs to be provided to rural clinicians to provide and sustain RCPs. The support needs to include a broker/advocacy role that negotiates the type of placement that would

best suit the practitioner and health service and also that provides support directly to the supervisor in the form of mentoring/supervision/upskilling to undertake the placement.

'Supporting supervisors is the key to doing this. If they are more experienced and skilled they are going to be more confident supervising more students.' [University placement coordinator]

The following areas were identified where support is necessary:

Provision of options for students to be off-site so that supervisors can 'make up for lost time' whilst supervising. As one supervisor describes:

'I work part time so finding something for the students to do on the days that I am not there had discouraged me in the past from taking more students but now there are in-services on a Friday afternoon in [a regional centre] I can send them there.' [Supervisor]

Supervisor workshops that are able to be accessed

Educating supervisors and providing resources for group supervision models

'For OT different supervision models is one of the big ones for us. Having one supervisor to multiple students will help our numbers ... more OT programmes are starting up so it is going to be hard to get placements, so we have to look at different placement models.' [University placement coordinator]

Utilising facilitators to work with clinicians/clinical placements to move beyond traditional 1:1 supervision/apprenticeship models

Recognition of the extra workload for supervisors to take students, in particular for sole practitioners

'a huge issue for us finding placements is that the clinicians are too busy' [Dean workplace learning]

'a barrier for me offering more placements is the accumulation of work whilst I am supervising' [Supervisor]

Keeping the boundaries between supervision and social interaction clear

Provision of student feedback to supervisors (either by students themselves or university) so they can modify their strategies

Peer support from colleagues

Supporting more junior staff in developing supervision skills, in particular where new graduates are working in senior positions in rural areas and student supervision is a requirement of their job/role

- Having a dedicated academic for supervisors to contact to discuss student issues. For example one university placement coordinator identified part of her role as *'supporting supervisors to fail students'*

The interaction between the placement site/supervisor and the university

Described by one participant as 'social capital', the sourcing of placements requires creative thinking and often persuasion around how a placement may be offered and the supervision model that would best suit the placement model to offset barriers to placements in rural areas such as workforce shortages/lack of supervisors/lack of backfill/inability to plan for absence/lack of peer support.

Often this can be better brokered and advocated for by an intermediary e.g. UDRH or a clinical educator advocate who has no clinical supervision role per se but liaises with clinical placement supervisors and the university. One supervisor identified a key mechanism to her being able to take more students as the recent introduction of a dedicated clinical educator who oversaw all occupational therapy students in the region, made possible through UDRH funding.

The function of the UDRH is to '*support student placements by helping with some of the administrative aspects of organizing placements; supporting students (social support) and also supporting supervisors ...running tutorials for them (how to give feedback), delivering CPD around clinical skills, being a resource for them to ask questions and to help them think through how they might organize a placement e.g. across sectors and if they are part time*' [UDRH representative]

Unfortunately a number of participants identified that the centralized planning programme, ClinConnect, has undermined this process.

'The clarity about who is supporting clinicians is lost; they are not sure who to turn to. Our UDRH can't help clinicians as we don't have access to ClinConnect. Significant personal interaction is needed in order to make rural placements happen. ClinConnect is not encouraging this. Rural placements through our UDRH have dropped by around 40%' [UDRH representative]

'if we ring up and we have a rapport with a site and they are happy with us it is much harder for them to say no – but with ClinConnect, perhaps pushing a button to say no is easier than having to say no to a person' [University placement coordinator 2]

... 'since ClinConnect has come on board, we have lost a significant number of places... possibly sites are underestimating their capacity or data is incorrect but we have lost around about 30% of our placements when this was supposed to increase our placements because it provided us with more options' [University placement coordinator 1]

These issues are compounded for regional border town universities who are dealing with multiple placement systems that don't talk to each other. Furthermore, the importance of rapport between the placement site and university was seen to impact upon the potential quality of the placement. As described here by one university placement coordinator, the introduction of ClinConnect has led to issues around trust:

'I have no idea who these people are, of the specific people that our student is going to be supervised by ...'

Support for universities/placement coordinators

A key mechanism for increasing placement sites is to resource and support universities to source, supply and coordinate quality RCPs. One university placement coordinator stated

'this [coordinating clinical placements] is a juggling act the whole way through.'

It was perceived by participants that supporting university placement personnel in their role is vital to supplying good quality RCPs and sustaining them. This includes:

Finding ways to centrally coordinate supervisor training

'a central workshop place then you know everyone is hearing the same things, skilled in the same way. We try (!) [xx] universities combine efforts and have a timetable e.g., [university] will do [regional area 1] and [xy university] will do [regional area 2]. But knowing that there is a face to the uni and that we are on tap and provide regular workshops is important' [University placement coordinator]

Supporting / resourcing university placement personnel

'I am allocated 40 hours a year to work on workplace learning activities. The formula is 15 mins per student enrolled in the course. Which is a bit ridiculous given that I use up that 40 hours within the first 3 weeks of the year' [University placement coordinator]

Supporting and resourcing leadership in innovation

Collaboration

'Getting people to work collaboratively...working in a community of scholars who are all on the same page.' [Dean workplace learning]

Mechanisms that facilitate the success and sustainability of rural clinical placements

'Rural practice is defined by creative practice - doing more with less, thinking outside the box. This needs to be reflected at a number of levels and significantly impacts on whether or not rural placements are offered and also the success and sustainability of rural clinical placements. First - placements are not straight forward like a metropolitan placement, often supervision models need to be creative to make up for workforce shortages/sole practitioner/forward planning/lack of backfill for leave, sick leave etc. Negotiation of flexibility and creativity in supervision models and placement models needs to occur to enable more access to rural placements and sustainability of placements' [UDRH representative]

As well as flexibility and creativity, the success and sustainability of a rural clinical placement was identified by participants to be dependent upon the support provided to the placement site and supervisor; the support provided to the student whilst on placement; embedding the placement into the community; the preparation of the student and the relationship between the supervisor and student.

'This is highly dependent on the supervisor's experience and skill, ability and quality of support provided to the supervisor, the ability and personal qualities of student and the nature of the caseload'. [UDRH representative]

'Students need to be very aware that rural clinicians are generalists and will be very different to metro specialists. They will require a broader skill set and the demands of staying on top of a broad range of knowledge for the placement can be quite difficult.' [Dean workplace learning]

How to prepare the student for an RCP

Participants made a number of suggestions as to how students may be better prepared for clinical placements including:

- Prior contact with supervisor to establish learning goals, resource needs and expectations
- Cultural awareness
- Students to find out about the community they are going to
- Access to peer evaluations of rural placements
- Posting of 'placement profiles' on blackboard
- General orientation into the nature of rural practice including awareness of specific cultural groups
- Specific orientation about the actual RCP

'The supervisor should help prepare the student, to guide and orientate them as to what will be expected of them on that specific placement' [Supervisor 2]

- Some students may not be appropriate for RCPs (for example those who are very shy, have English as a Second Language, are not confident being away from home, those with mental health issues)

'If I had a student that has difficulty being away from family and friends and was having difficulty just being at the university, I would be unlikely to send them to an area where they will be more vulnerable' [University placement coordinator 1]

There was also a suggestion that the clinical placement supervisor could be better prepared by undertaking a reflective site visit by supervisor and university before students sent.

Discussion

The findings from the interviews are synthesized into the logic model below (Table 24). The interview respondents provided a unique and valuable perspective on the drivers, barriers and facilitators of rural clinical placements. The main contribution of the interviews is the perspectives on innovative models of clinical placement and how these can be used to drive capacity, learning opportunities, and supervision support in the delivery of rural clinical placements. However these innovative models require coordination within the regional area by someone external to the clinical supervisor.

Some regions have the benefit of UDRHs to help coordinate these, however several areas do not. The allied health workforce is predominantly female, has a high proportion of sole practitioners; a high proportion of part-time workers; and several provide services in the client's own home. All of these factors restrict the capacity and ability of individual services to provide clinical placements. Without adequate support for the supervisor, there is also the risk that the supervisor lacks back-up in unforeseen circumstances, such as illness. This will not only jeopardise the clinical placement, it acts as a deterrent to the clinician to offer further placements, hence reduced placement capacity.

A further point reinforced in the interviews is the altruism of the clinical supervisors. They take students, generally with no financial support, at the expense of their own service capacity. There is also evidence (from all of the studies) that a well-coordinated quality clinical placement can leave a positive legacy on the service, such as the development of resources and services.

The interviews provided important insights about the centrally coordinated clinical placement models (ClinConnect and VicPlaces). Respondents were unanimous in their suggestion that these models reduce clinical placement capacity (one suggested by 40%); create logistical and bureaucratic challenges for regional universities based in border towns that have to negotiate two separate systems of clinical placements. Clinical placements appear to require a carefully negotiated, supported and coordinated relationship with a university, or a UDRH. The placement intermediaries (ClinConnect and VicPlaces) remove the human aspects of this. The mechanism that seems to fail with these systems is that they remove the personal interaction between the university and the clinical placement site. This reduces the flexibility and responsiveness of the placement. Other concerns were that the clinicians have to plan well in advance (6 months) to offer the placements, which reduces their flexibility, hence their likelihood of offering places). There were reports of some clinicians offering clinical placement which were not taken up, reducing morale and enthusiasm for the program.

Clinicians are motivated, in part, by their own opportunities for learning. However, the support offered by universities to support supervisors appears to vary widely. There was also a suggestion in the interviews that clinicians need to be good educators. There appear to be some good practice models for the support of clinical educators, however these are not uniformly carried out.

The other new insight from the interview data is the suggestion that not all students are appropriate for placements. Several of the supervisors in the SARRAH survey identified that some students were shy, concerned, unresponsive at first, but largely reported that this improved over the duration of the placement. This issue requires further investigation.

Table 24: Logic model from interviews

<i>Preparation of students</i>	<i>Drivers / motivators</i>	<i>Mechanisms</i>	
		<i>Barriers (for students / supervisors)</i>	<i>Facilitators (for students / supervisors)</i>
	Student motivation		
General orientation into nature of rural practice	Rural practice experience	Lack of availability of placements	Social support for students; coming in pairs; co-located accom; coming in pairs
Specific orientation about the actual RCP	Adventure	Cost	Scholarship, financial support
Some students shouldn't be sent to RCPs (very shy, ESL, very nervous about being away from home)	Range of clinical issues / varied caseload	Personal factors – leaving home, unfamiliar environment, family, friends	Alternative support if supervisor not available
Contact with supervisor; establish learning goals, resource needs etc	Word-of-mouth	Accommodation and transport	Travel time
Cultural awareness	Social drivers	Opportunity cost of not being at work	Relationship between student and supervisor
Students to find out about the community they are going to	From rural area	Administrative burden for supervisors	Negotiation of type of placement offered
	Clinician motivation	Lack of supervisor confidence; not up to date with current teaching methods	Preparation of student
Reflective site visit by supervisor and university before students sent	Solo practitioners like company of student	Staffing issues (for supervisors); lack of capacity to support and supervise	Appropriate student qualities (open minded, flexible, autonomous, willing to try things)
Access to peer evaluations of rural placements	Clin supervisors "giving back to the profession"	ClinConnect – difficulty making longer term commitments to availability of placements; discouraging if not taken up; uncertainty about where support comes from	Creating IPL opportunities for students (bringing together multiple students – resource, learning and social benefits)
Posting of 'placement profiles' on blackboard	Clin supervisors like keeping up to date; challenge	Coordinator bias against rural in arranging student placements	Providing appropriate support for supervisors, including university

			support; backfill in crisis; realistic expectations about productivity
	To increase the chance of recruiting students to a rural area	Trade-off between needing to secure volume of placements over quality of placements	Supervisor infrastructure; eg UDRH
		Burden on sole practitioners; lack of support; backfill	Innovative supervision models (eg shared supervision; more than one student; service development; multiple students
		Keeping the boundaries between supervision / social clear.	Links between supervisors and cli educators
		Risk of supervisor burn-out	Supervisors who can educate; good learning program
		Despite ClinConnect relationship needed with sites to access placements; doesn't work with placement blocks; has reduced, not increased the system capacity	Providing students with work they can do alone
		Home visiting services have restricted (1:1) capacity	Student feedback to supervisors so they can modify their strategies; peer support from colleagues
		VicPlace / ClinConnect – led to a 30% reduction in placement capacity; reduces rapport between university and placement site	Supervisor support; uni workshops in regions; emails with tips on clin ed
		Unsustainable for universities to pay for clinical placements	Providing info about scholarships to students so they can apply
		Issues for regional border town universities (SCU and CSU) dealing with multiple placement systems	Supporting university placement personnel e.g. work load, leadership in innovation, collaboration

Discussion

This report has presented new findings from a total of 1045 survey and interview participants, including 550 students and approximately 500 clinical placement supervisors or university placement officers.

The results of the four data sources were synthesised into a “meta-logic model” highlighting the drivers, contexts, mechanisms and outcomes of rural clinical placements (RCPs) which are described in detail below and illustrated in the table at the end of this chapter (Table 25).

Drivers for RCPs

The key stakeholders in the development and delivery of RCPs are policy makers (on behalf of the health workforce); universities; clinician supervisors; and students. Each of the stakeholders are motivated to develop, deliver and undertake RCPs by slightly different factors highlighted below.

The over-arching policy driver underpinning RCPs is to attract students to work in underserved regional, rural and remote areas. Research evidence suggests that exposure to rural and remote clinical practice during training is associated with increased rural practice on graduation [51]. There is also a perception that the provision of RCPs by students could increase service capacity in rural and remote areas, however this study’s findings suggest that the current, pre-eminent model of RCP has the opposite effect, and actually reduces service capacity.

In Australia, universities provide the training required to develop the allied health workforce. This brings the potentially competing demands of meeting the curriculum requirements of a variety of health courses, while providing opportunities to experience RCP. Few, if any, Australian university allied health courses require students to have competencies to practice in rural and remote areas. However, most allied health training courses have a requirement to provide a specified duration or quality of clinical placement experience so that students can meet the professional requirements of their course. Shortages of clinical placements for students is a concern of many health training programs, so one driver for increasing RCPs is to increase the accessibility of clinical placements overall. Other university based drivers include using the RCP as a setting to learn a specific skill set, such as interdisciplinary team working.

Clinical supervisors who work in rural and remote areas are also motivated by the opportunities to recruit students to their area after graduation. Other drivers for supervisors offering RCPs included keeping their own skills and knowledge up to date; for the company; and to “give back” to their own profession.

Students are motivated to undertake RCPs by a different set of drivers. These findings were consistent and strong across the datasets. The strongest driver of a student to undertake a RCP is for the opportunities for new clinical learning or exposure to a varied clinical caseload. In some universities, the RCP was a compulsory part of the course. Other motivators included a desire to experience rural practice and rural life; students who were already from a rural area wanting to return to their roots; or a desire for adventure or specific extra-curricular activities, such as surfing. Less important was the opportunity for a new

social experience. A small number of students perceived that there is strong competition for jobs in their field in the city, so were exploring the options of future employment in country areas. Positive feedback from other students via word-of-mouth was a motivator for some students to undertake an RCP.

Models (contexts) of placements

The placement models refer to the ways the placements were structured and organised. There is no overarching taxonomy to describe the variety of allied health RCPs, which makes comparison and classification of the approaches difficult. The only taxonomy available focussed on the ratio of students to supervisors in physiotherapy placements [1].

The components of the placement models include;

- Duration (short-term, medium term, block)
- Single or multiple students (or multiple disciplines)
- Practice setting (eg community, hospital, public, private)
- Joint / individual supervision (single or multiple supervisors)
- Externally supported / facilitated placement (eg UDRH)
- Learning purpose
- Drivers (eg driven by local needs or demands of placement site)
- Learning approach (eg Vertical integration, peer supported learning)
- Compulsory or voluntary RCP
- Year of study in which placement is undertaken
- Mode of supervision (remote or on-site)

The typical placement model experienced by participants in this survey was a one-student-to-one-educator; of medium term duration (approximately 6 weeks); provided in a hospital or community setting; and supervised by a single supervisor from the same profession as the student; supervision provided in the same location as the student.

Placement duration

Although one study has demonstrated an RCP of four weeks or less is positively associated with allied health and nursing students future rural employment [10], there is growing evidence that a longitudinal rural placement (3 months or more) may be more sustainable than shorter duration RCPs and can simultaneously meet student, supervisor, academic and community needs [51] [52] [4].

A small number of survey participants (predominantly supervisors) perceived that the placement duration of their students was too short to allow the student to become integrated within the team.

The Flinders University Parallel Rural Community Curriculum (PRCC) is a one year longitudinal rural placement for medical students that has been shown to increase the recruitment of graduates to rural medical practice, be more sustainable and rewarding for clinical supervisors working in areas of workforce shortage [51], and can have a positive effect on General Practitioner productivity in rural areas[52]. One longitudinal placement for allied health students was identified in this study 'the IMMERSE' programme, which is still in its infancy [4]. The IMMERSE pilot evaluation focuses on interprofessional learning

outcomes however the program has in place similar features to its sister programme for medical students (PRCC) so may with time exhibit similar outcomes.

Single or multiple students

Approximately half of all survey respondents were involved in single student clinical placements. A systematic review of clinical placement models [1] suggested that a one-educator-to-one-student clinical supervision model either increased or did not change clinical placement capacity. This finding was not reflected in this study.

The limitation of the 1:1 model is that it provides limited placement capacity and is very fragile. The placement success is highly dependent on a single supervisor, which can create problems in rural and remote areas where a supervisor may have no back-up in unforeseen circumstances. The advantage of the single student model is that the student receives individual attention.

Approximately 30% of the survey respondents participated in an RCP with two students; and between 10 - 15% participated in an RCP with 3 or more students. These placements are also known as group or multiple-placement models. Advantages of the multi-student model [1] include increased placement capacity; increased service productivity; greater social support for students; preferred by students; facilitates team work, cooperative practice, shared learning experiences; and encourages clinical independence. However models involving multiple students require a great deal of facilitation and support; access to accommodation; the ability to ensure a patient caseload and appropriate variety.

Joint or individual supervision

Within the E-survey, 45% of participants reported involvement in a shared supervision model. Previous research [1] found that students and educators are satisfied with this model, however one study found that the supervisor's productivity declined. A shared supervision model shares the responsibility of supervision across more than one individual, reducing the risks associated with the sole supervisor arrangement, and increasing the exposure to different clinical approaches. The risks of shared supervision are potential for fragmentation and / or loss of continuity between the student and supervisor. Additionally, shared supervision models require more organisation, planning and collaboration between supervisors.

Practice setting

The majority of RCPs received by the survey participants were in hospital and community based services. There were several examples of novel and innovative practice settings. These included the establishment of new services in schools; remote Indigenous services; a Sim-truck (a semi-trailer with opportunities for real and simulated learning experiences and portable student accommodation); and fly-in-fly-out services. A number of universities provide in-house clinics for students to undertake placements. There is little to comment on qualitatively about the benefits of specific settings with one exception. Services provided by practitioners in the home tend to be limited to a one-to-one model because of the physical restrictions of space in the patient's home. Students valued access to a varied caseload. Technological advances mean that increasingly, some rural services can be outsourced using telehealth. For instance, pathology, radiography, psychiatry all have the potential

for remote, telehealth options in the delivery and support of services to rural and remote areas [53]. There was no evidence of telehealth interventions to provide or supervise RCPs in the survey data. There is evidence to suggest that tele-supervision is another possible mechanism to increase clinical supervision capacity.

Externally supported placements (eg UDRH)

As RCPs become increasingly complex in terms of the numbers of students and supervisors, more centralised coordination is required. There were several examples of positive support and innovative RCP models that were developed and supported by the UDRH clinical education facilitators (see Component 1). However, there are only 3 UDRHs in NSW, which limits equity of access to this type of coordination. These organisations provide structures for support and facilitation of placements that increase placement capacity. Most complex RCPs require the support of an external agency such as a UDRH.

Compulsory RCP

One study [10] found that undertaking a non-compulsory RCP was positively associated with rural employment. Within this research, 37 % of the e-survey respondents reported that the RCP was a compulsory part of their course.

Learning purpose

The majority of RCP supervisors reported that their placement primarily provided opportunities for students to learn generic skills, such as communication skills, working as part of an MDT and consultation techniques. Fewer than 50% of supervisors reported that their students focussed on rural specific issues. Students perceived this slightly differently, with slightly more than half (55%) perceiving that they learned specific aspects of rural practice. A number of placement opportunities have been established specifically for the purpose of developing specific skills, particularly interdisciplinary team opportunities (eg Gum et al 2013). Interdisciplinary placement opportunities tend to be limited to students nearing the end of their placement, and require a great deal of coordination to organise and supervise. It is important that the learning purpose is congruent with the purpose and need of the service, not just the learning goals of the student.

Drivers for the RCP

The drivers for the RCP tend to shape the way the placement is structured, and are likely to influence sustainability. There is an growing trend towards community – academic partnerships as stated by Jones et al. (2011) [5], “the Community First approach has resulted in the development of sustainable community partnerships that support the provision of education for health students on rural and remote public health needs whilst addressing priority health issues at a community and regional level. The community-academic partnerships that have evolved through this model have been critical in program progression” P3. Another innovative model describes the involvement of allied health students in an assignment in which they engage with regionally based community organisations [54]

Eight factors have been identified that facilitate the development of effective and sustainable community- academic partnerships. These include: (1) creation and nurturing of trust, (2)

respect for a community's knowledge, (3) community defined and prioritized needs and goals, (4) mutual division of roles and responsibilities, (5) continuous flexibility, compromise and feedback, (6) strengthening of community capacity, (7) joint and equitable allocation of resources, and (8) sustainability and community ownership [6].

Year of study

The survey data suggests that the majority of RCPs (54%) take place in the final year of allied health clinical training. Survey responses suggested that students who are later in their course of study are more valued by supervisors because of the contribution they can make to practice. Similarly one first year student reported feeling very underprepared for the RCP because the supervisor had unrealistic expectations of their abilities. It is proposed students be appropriately matched to a placement that reflects their level of ability. Given the resource impost of a RCP, it makes sense to optimise the experience for the clinician and the student.

Learning approach

There are several examples of innovative approaches to learning in clinical placements, such as peer supported learning and vertical integration [55]. Peer supported learning involves students mentoring or teaching other students. Vertical integration is increasingly common in medical clinical training, but less common in allied health training, and involves integrating learning and teaching opportunities between learners at different stages of their medical education[56]. Advantages of peer supported systems are the benefits of learning new skills; peer support; encouragement of lifelong learning; opportunities for team based learning [57]. One innovative example of a peer learning opportunity with interdisciplinary team learning is the Health Care Team Challenge [57] which has been successfully implemented with rural and remote teams using technology to case manage patients remotely. The IMMERSE system draws on peer supported learning. Another model involved students in hospital grand rounds, providing interdisciplinary, peer and vertically integrated learning opportunities.

Mode of supervision

There is increasing evidence of the role of technology in supervision for RCPs [53, 58]. For instance, there is potential for telehealth to increase supervision capacity.

These components are summarised in the table below with the 'ideal' features of each component summarised in the second column. However, there are obviously multiple variations possible for each of these components, which could result in an effective RCP.

Summary: The “good” RCP model

Components of an RCP	The ‘ideal’ RCP
Duration (short-term, medium term, block)	Longer term (3 months or more)
Single or multiple students (or multiple disciplines)	Multiple students increase supervision capacity
Practice setting (eg community, hospital, public, private)	No evidence to support this, as long as there is a variety of clinical experience
Joint / individual supervision (single or multiple supervisors)	Shared supervision models increase supervision capacity
Externally supported / facilitated placement (eg UDRH)	Externally supported / facilitated placements are more likely to be innovative and have greater support
Learning purpose	Learning purpose congruent with patient need and purpose of the service
Drivers (eg driven by local needs or demands of placement site)	Locally driven: close to practice, and community engagement
Learning approach (eg Vertical integration, peer supported learning)	Peer supported learning if multiple students are provided
Compulsory or voluntary RCP	No evidence to support this
Year of study in which placement is undertaken	Later, possibly final year of study
Mode of supervision	Telehealth supervision has the potential to increase supervision capacity

This report summarises the more innovative placement models identified in the literature and from the surveys (see p39, Component 1). These included RCPs that utilised collaborative supervision (n=1 example), coordination of multiple students at multiple placement sites (n=2 examples), RCPs driven by specific learning goals (such as acquisition of interprofessional practice skills) (n=5 examples), RCPs created around community and student needs (n=8 examples) and RCPs that combined a number of drivers (n=1). These models tended to be brokered or supported by external agencies, such as University Departments of Rural Health. They require significant resourcing and the development and maintenance of collaborative partnerships with multiple stakeholders.

Mechanisms that support RCPs

There are two levels at which mechanisms need to be considered; (1) the *mechanisms that support students* in their uptake of RCPs, and (2) those that support the *development and sustainability of RCPs*.

Mechanisms that support students to undertake RCPs

There was strong evidence from all of the data sources that *the most important mechanism to support students to increase the uptake of RCPs was meeting the practical and material needs of the placements, such as the provision of financial support to cover living expenses and access to accommodation and transport to support the placement*. Students undertaking RCPs are often required to pay double rent, while giving up their regular employment and covering the additional living expenses of living away from home. The provision of scholarships was a substantial (and in many cases essential) enabler of RCPs. However, scholarships are not uniformly available; not equitable in the payments provided; and were not always timed to coincide with the placement. The universities that make RCPs compulsory advise students of this cost before they commence the course, and are uncompromising in terms of extenuating circumstances (including having young children). In

the absence of financial support for RCPs, such models are at risk of being seen as discriminatory against low income earners and parents of young children. Component 2 of the study suggested that students who had been on RCPs were less likely to be married and have dependent children than students who had not yet been on RCPs, despite being slightly older.

Around half of all students surveyed in component 2 had received a scholarship, and several had received support with accommodation and transport. However, the largest unmet need identified by students was the provision of transport.

Other important mechanisms were the provision of a good quality clinical experience, which includes good quality supervision and ensuring opportunities for clinical or caseload variety and appropriate preparation of the student and the supervisor for the placement.

While students valued the social experiences they had on the placements, social issues were not a key motivator or deterrent to the student experience. Some supervisors felt uncomfortable about the blurring of social and professional boundaries with students on their placements. Social support was identified as an important reason to involve more than one student on the placement, and co-locating students in share accommodation was one mechanism to support this.

Safety was identified by a number of students and supervisors as a concern in RCPs. For example, in some cases, students may be required to travel long distances in areas where there is no mobile phone coverage or be staying in isolated accommodation.

There was a suggestion from the interview data that some students may not be appropriate to send on RCPs because they are shy or have language difficulties (eg English as a second language). However, this idea was refuted by the survey data (particularly the SARRAH survey data) which identified several students who were initially reticent, but underwent substantial personal growth as a result of their RCP.

Mechanisms that support the development and sustainability of RCPs

A key finding from this study was the generosity of a large number of clinicians who work in RCP who provide student placements. They receive little or no financial reward, and in many cases the provision of clinical supervision actually detracts from their clinical service capacity and delivery. The support they receive from the universities varies, and in some cases is not appropriate or accessible to rural and remote practitioners because of the modes or locations of delivery. Many are sole practitioners working in difficult circumstances with no back-up.

The demand on these placements is likely to increase, yet the results suggested that several of the supervisors were close to burn-out. The provision of funding via the NAHSSS was valued by those who received it, but many were unaware of these schemes.

Suggestions for the sustainability of the placements included access to sustained funding of placements and regional coordination, infrastructure and support to support clinical placements regionally (eg UDRH). More innovative models of clinical placements, which support multiple students and disciplines have the potential to increase placement quality and capacity, but need to be supported and resourced.

The provision of university and academic support for clinical supervisors was inconsistent. In some cases, training was only provided in metropolitan areas, making accessibility difficult for rural and remote practitioners. Several supervisors reported that they have poor access internet speeds, so on-line supervision resources were difficult or impossible to access. In some cases, phone access was limited. Supervisors were also inconsistently prepared for specific student placements; receiving little or no information about the student before the placement; or insufficient information about the capabilities and expectations of the student. Supervisors also reported that it would be useful to receive information about the course to help their understanding and support of the student requirements.

One important point raised by university placement officers was the challenges raised by the introduction of the clinical placement brokerage schemes (ClinConnect and VicPlaces). Respondents were unanimous in their suggestion that these models reduce clinical placement capacity (one suggested by 30%) and they create logistical and bureaucratic challenges for regional universities based near state borders that have to negotiate two separate systems of clinical placements. Clinical placements appear to require a carefully negotiated, supported and coordinated between the placement site and the university, or a UDRH. The placement intermediaries (ClinConnect and VicPlaces) remove the personal interaction between the university and the clinical placement site. This reduces the flexibility and responsiveness of the placement. Other concerns were that the clinicians have to plan well in advance (6 months) to offer the placements, which reduces their flexibility (hence likelihood of offering places). There were reports of some clinicians offering clinical placement which were not taken up, reducing their morale and enthusiasm for the program.

Outcomes

The research also explored the outcomes and benefits of undertaking RCPs from the perspective of the student and the services.

Student outcomes

Both of the surveys and the literature support the relationship between student exposure to RCPs and their intention to work in a rural area. The majority of the responses point to a positive relationship. In the survey (Component 3), students who had been on an RCP were more likely to report an intention to work in a rural area than those students who had not yet had their RCP. Similarly, in the SARRAH data (Component 2) 58% of student said that going on the RCP had positively impacted on their intention to work in a rural area. A small number (8%) reported that their RCP experience had the opposite effect, and now do not want to work in a rural area.

Other benefits of undertaking an RCP that were consistently reported were

- Increased skills and clinical confidence
- Increased awareness of rural issues
- Enhance interdisciplinary team working (in specific types of placements)
- Personal confidence
- Positive social experience

Despite the benefits of undertaking a RCP, RCPs are financially costly for allied health students. Where financial support is not available to the student, the cost of undertaking a

RCP for allied health students can have a detrimental impact on the placement's intended learning outcomes and student well-being.

Service outcomes

There is a perception that student clinical placements increase service capacity. The results of this study suggest strongly that RCPs have the opposite effect; they detract from service capacity and are a resource burden on supervisors. However there were some exceptions, with examples of well-developed placements which created increased service capacity, and added services where there had previously not been any (eg OT services in Ocean Shores Primary School). In some cases, students had developed resources on their placement that continue to be used by the service; and in one innovative placement, the students designed the service where one did not previously exist.

The supervisors found that having links to universities provide beneficial opportunities for learning for supervisors, however this was inconsistent across universities. Supervisors also perceived that by providing better quality, 'real life' clinical experiences, they were producing better prepared students.

The output of the findings above is a logic model of sustainable clinical placements. The logic model has been further reduced to a series of principles;

- 1 Sustainable RCPs need to be close to practice: In other words, they should be driven by, and address a real local need of the health care system.
- 2 RCPs which detract from service capacity are unsustainable and should be completely reconsidered.
- 3 RCPs need to be delivered as part of a coordinated effort which needs to be flexible to build in the needs of the community, the service provider, the university and the student.
- 4 Good RCP partnerships depend on good management which need to be resourced appropriately at all levels.
- 5 The professions should support the implementation of RCP competencies.

The ability of students to access quality student RCPs depends on two key activities; (1) mechanisms to support clinical placements and (2) mechanisms to support students to access those placements

- 1 Mechanisms to support clinical placements
 - the supply of appropriately resourced and supported rural clinical placement opportunities
 - the supply of clinical placement opportunities which provide a variety of appropriate clinical or caseload experiences for students
 - access to training facilities and resources to support the placement and the supervisor
 - preparation of the supervisor regarding the student's course, level and expectations (perhaps some sort of formal documentation that changes hands
 - innovative supervision mechanisms
- 2 Mechanisms to support students to access and undertake clinical placements

- financial support to cover the costs of the placement
- access to accommodation, ideally with other students (when appropriate)
- the provision of appropriate transport
- consideration of safety mechanisms (and maybe need to develop some policies around remote or isolated RCPs)
- Preparation of the student prior to going on placement, including adequate promotion of RCP opportunities to students

Conclusions

The RCP model provides students with good learning opportunities, but these come at a high cost to the student, the supervisor and sometimes, the service. It is proposed that as technology improves, particularly with increasing infiltration of broadband into rural areas, instead of a centralised model of university training supported by a decentralised rural clinical placement model, that allied health training models could become increasingly focussed in clinical practices within rural areas, with the provision of decentralised higher education model to support it.

Where RCPs are not adequately supported, they are a burden on the service, and negatively impact on the ability of the service to meet patient needs and demands. RCPs and supervisors need to be appropriately supported through adequate and accessible supervision training; access to resources (such as library and online resources); and support.

Students are happy to go on RCPs if they are adequately supported with accommodation, transport, and ideally some funding to cover the costs of living, and they perceive that the placement will offer them new or additional clinical experiences or a better understanding of specific population groups.

Table 25: Meta-logic model

Drivers	Contexts (Models) of placements	Mechanisms	Outcomes
Policy and university drivers for developing RCPs	Duration – short-term or block	Mechanisms for students to increase uptake of RCPs	Student outcomes
Attracting students to RRR workforce	Single or multiple students	Support for students (accommodation)	Intention to work in a rural area (student) (increased / decreased)
Increasing the No of clinical placements available for AHP students	Practice setting (eg community, hospital, public private)	Support and recognition for supervisors	Increased skills and clinical confidence
Exposing students to and providing skills in rural practice	Supervision model (group, 1:1)	Financial support and information about scholarships	Increased awareness of rural issues
To attract more students to undertake rural placements	Externally supported / facilitated placement (e.g. UDRH)	Accommodation provision	Enhance interdisciplinary team working (in specific types of placements)
Increase service provision in underserved areas	Learning purpose	Transport provision	Personal confidence
Drivers for students undertaking RCPs	Externally supported / facilitated placement (eg UDRH)	Social support	Social experience
Compulsory part of course	Drivers (eg driven by local needs or demands of placement site)	Appropriate preparation of the student	Service outcomes
Clinical learning / varied clinical caseload	Learning approach (eg Vertical integration, peer supported learning)	Appropriate preparation of the supervisor	Service impacts: reduced waiting lists; increased service capacity
Experiencing rural life	Compulsory or voluntary RCP	Good quality supervision	Links to universities provide beneficial learning for supervisors
Personal growth	Year of study in which placement is undertake	Opportunities for varied clinical / caseload experiences	Better quality, 'real life' clinical experiences
Desire for social experiences	Mode of supervision (remote or on-site)	Safety	Service development
Experiencing rural practice		Mechanisms for provision and sustainability of placements	Better prepared students
Adventure		Sustained funding of placements	Better recruitment of staff
From rural area		Regional coordination / infrastructure and support (eg UDRH)	

Peer motivation (word of mouth)		Coordination / facilitation roles that mediate / broker relationships between feeder universities and placement sites	
Drivers for supervisors providing RCPs		Engagement, consultation and partnership with key stakeholders and organisations	
Solo practitioners like student company		Needs / demand analysis prior to establishing the placement	
Giving back to the profession		Academic support for clinical placement staff / clinical educators on site	
Keeping up to date / challenge		Selection criteria / student traits and adequate resourcing	
Increase chances of recruiting students after graduation		Provision of infrastructure	
		Availability of placements	
		Academic support for running university clinics	
		Being in a regional university	
		Back-up supervision opportunities	
		Confidence and support of supervisor	
		Preparation of student	
		Preparation of supervisor (about course, student)	
		Innovative supervision models	

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Appendices

Overview of appendices

Appendix 1: Literature review

Table 1A: Drivers, mechanisms and outcomes of placements offering rural exposure

Table 1B: Drivers, mechanisms and outcomes relating to placements that aim to address community needs

Table 1C: Drivers, mechanisms and outcomes relating to placements that provide students with a specific skill set

Table 1D: Drivers, mechanisms and outcomes relating to models that aim to increase the number of rural clinical placements through coordination

Table 1E:11 Studies that examine factors, including rural placements, relating to recruitment of AHPs to the rural workforce

Table 1F Studies that examine any other factors relating to the undertaking of clinical placements

Appendix 2: E-survey structure

Literature review appendices

Table 1A: Drivers, mechanisms and outcomes of placements offering rural exposure

	Abuzar [1]	Bazen [2]	Capstick [3]	Johnson [4-6]	Paterson [7]	Watermeyer[8]
Drivers/goals for placement	Exposure to rural practice and cultural groups; rural work readiness; recruitment to rural practice	Exposure to rural practice; recruitment to rural practice	Exposure to rural practice; recruitment to rural practice; servicing rural communities	Exposure to rural practice; recruitment to rural practice	Exposure to rural practice; recruitment to rural practice	Exposure to rural issues; rural work readiness; recruitment to rural area
Mechanisms	<i>A funding source and sponsor (UDRH); A broker/support mechanism between placement site and university (UDRH); Engagement- support, partnership and coordination with key stakeholders and organisations - Department of Human Services, Dental Health Services Victoria, Goulburn Valley Health, Rumbalara Aboriginal Cooperative and the School of Rural Health; Supervisor support - supervisors jointly appointed by university and local health service; a dedicated student supervisor for</i>	<i>A funding source and sponsor - the Western Australian Centre for Rural and Remote Oral Health; Engagement- support, partnership and coordination between key stakeholders & organisations - e.g rural dental practitioners, Aboriginal medical services representatives and Indigenous community representatives; Recognition for supervisors - dental practitioners in each setting were recruited as supervisors and became honorary clinical consultants for The University of Western Australia.</i>	<i>None specifically mentioned.</i>	<i>Student support - accurate communication about what clinical experience in rural practice could offer to students; liaison officer designated to students; pre- placement briefing meetings were provided; information booklets and maps provided; travel and accommodation costs were paid for and a daily student allowance provided; duration - one month deemed appropriate; post placement debrief opportunity for students; Supervisor support - communication to supervisors regarding</i>	<i>Student support - prior to placement - a 5-day workshop structured around three problem based learning modules, supported by videotapes and workbooks provided; during placement - ongoing support via weekly teleconferencing; the provision of financial assistance for travel and accommodation.</i>	<i>Student support - student reflection/acknowledgement of personal strengths/weaknesses prior to placement.</i>

	<p>indigenous patients; <i>Student support</i> - information and induction provided to students; orientation session and tutorials including discussion of learning objectives and discussion of key concepts of rural health practice; 1:1 supervision at the end of every clinical session; group supervision at the conclusion of the rotation; Integrated/interprofessional opportunities (clinical training in an integrated rural dental health service, opportunity to work with dental assistants, opportunity for visits to private practices, oral health promotion).</p>	<p><i>Student support</i> - financial assistance with transport; variety of opportunities provided within region e.g. private practice, remote opportunities, Aboriginal medical services; duration of placement 4 weeks.</p>		<p>the clinical ability of the students prior to placement; teaching guidelines provided; designated Faculty member to help with discussions on student performance.</p>		
Outcomes measured	<p>Educational outcomes; student outcomes (satisfaction, enjoyment); intention to work in rural area; interest in rural affairs.</p>	<p>Programme evaluation (accommodation, support etc.); students' perceptions of different issues that relate to rural practice; intention to work in rural area; employment in rural</p>	<p>Programme evaluation; enthusiasm for rural work; intention to work in rural area.</p>	<p>Student pre and post perceptions and expectations; supervisor post perceptions.</p>	<p>Pre-post placement questionnaires measuring student attitudes to living and working in smaller communities.</p>	<p>Student perceptions via reflective journal</p>

		area.				
Impact	High satisfaction with accommodation and information support provided; high satisfaction with organisation of placement; majority of students perceived they met learning objectives; 79% expressed definite affirmation of wanting to practice in rural areas.	Duration adequate. High satisfaction with accommodation and support; most students (83%) indicated they would consider rural practice; 26% of the students who participated in the program in 2002 were employed in a rural area within the first 12 months of graduating. 38% from 2003; 60% from 2004; and 48% from 2005.	Significantly more students overall indicated post-externship that they would consider rural work than those did pre-externship ($P = 0.0001$) - especially for women; lower incidence of interest in rural work by urban/rural origin is largely removed through participation in the placement [proportion of students of urban origin indicating they would consider rural work increased significantly from 38% to 67% ($n = 53$ of 79; 95% CI, 0.57–0.77) ($P = 0.0003$)].	<i>Supervisors</i> - being linked to the University was considered extremely important; perceived as a positive learning opportunity; students had helped to reduce the patient waiting lists at two of the clinics. <i>Students</i> - increased clinical confidence and time management skills; all the participants would recommend the rural placement to future students.	Students ($n=10$) had a more positive attitude towards the possibility of practicing in a smaller community; students reported that the weekly teleconference helped to alleviate their sense of isolation and need for support. Financial assistance for the student's travel and living expenses made a considerable difference in terms of enabling students to experience opportunities that would not normally be available to them.	Awareness and appreciation of the constraints for rural communities.

Table 1B: Drivers, mechanisms and outcomes relating to placements that aim to address community needs

	Allan et al. (2011) [11] [12]	Boucaut (1998) [14]	Jones et al. (2011) [15][9]	Moosa & Schurr (2011) [16]	Averett et al. (2012)	Capricornia Allied Health Partnership (Frakes et al. 2011)
Drivers/goals for placement	Increasing student placement opportunities; Improving access to health services in underserved regions	Improving access to health services in underserved regions; Learning outcomes/learning experience	Improving access to health services in underserved regions; Increasing student placement opportunities	Increasing student placement opportunities; Improving access to health services in underserved regions	Attracting students to rural placements	Increasing student placement opportunities; Improving access to health services in underserved regions; Improve collaboration / IP skills
Mechanisms	Strategically placing the clinic in high demand areas; supporting the clinic to run the service year round; a 'demand' analysis - 'recognizing unmet demand' and being able to address this unmet demand (e.g. the population density or dispersion) e.g. mapping the workforce available to supply health services in the public and private sectors, and the types of services that are demanded by policy or lobby groups and not yet supplied; adequately supporting academic workload to run the clinic; <i>Engagement & collaboration</i> with key stakeholders (including local services and	<i>Pre-planning</i> must be timely and involve the right <i>stakeholder engagement</i> and <i>needs analysis</i> undertaken by stakeholders, facilitated by university and then interpreted by students; <i>interventions developed by students</i> and trialed prior to field trip; venues booked; day promoted to community – especially with local media.	<i>Stakeholder engagement</i> – authors outline a model of <u>shared governance</u> across governments, educational entities, communities, private and public health service providers; <i>Recognising and exploring areas of unmet demand</i> ; <i>Student support</i> - orientation programme. <i>Community-academic partnerships</i> : Authors have identified eight factors that facilitate the development of effective and sustainable community-academic partnerships. These include: (1) creation and nurturing of trust, (2) respect for a community's knowledge, (3)	Participant selection process; engagement and collaboration with key stakeholders; <i>Student support</i> - subsidized transport to and from; accommodation organized; extensive education prior to placement re: communities they would service; <i>Interventions developed by students</i> - students developed the services and resources requested by the communities, and the programming materials to be shared with school and hospital staff. <i>Barriers</i> - costs: all other expenses were borne by the students who provided \$300.00-\$500.00 of personal	<i>Creativity</i> – the authors stated that 'There also is a need to consider and creatively approach barriers to rural macro-oriented placements to encourage students to consider the setting' <i>Student traits</i> - students need to be open (open-minded, respectful, mindful of the agency culture, flexible, and self-directed), flexible, self-directed, and maverick in personality (determined, inner strength); <i>Student Support</i> – information re: what a rural placement may provide; access to good transportation & financial support.	<i>Stakeholder identification and engagement</i> (in this case Central QLD health district, Division of General Practice, local GPs, educational providers (universities); <i>change management processes</i> e.g. employing a project manager/change agent, empowering stakeholders, leadership; environmental scan (use of chronic disease statistics for local area to create/justify an opportunity for an IP clinic); explicit learning outcomes; defined competencies; supervisor and student preparation; recruitment of experienced clinical educators; central

	community representatives).		community defined and prioritized needs and goals, (4) mutual division of roles and responsibilities, (5) continuous flexibility, compromise and feedback, (6) strengthening of community capacity, (7) joint and equitable allocation of resources, and (8) sustainability and community ownership	funds to support this venture. <i>Support</i> - very underdeveloped/poorly resourced communities therefore interventions were not realistic or achievable.		coordination of placement timetabling and student orientation;
Outcomes measured	Perceptions of learning opportunities; increase in placement opportunities and meeting community needs	Impact on student learning and impact on the community (measured using Ottawa charter for health promotion)	Impact on community	Awareness of rural issues; impact on community.	Student perceptions on personality traits that best suited the placement	Number of placements offered; clinic activity e.g. number of client contacts;, new referrals etc.,
Impact	On-campus clinic - students can undertake 'graduated exposure' to practice; opportunity for additional education is recognised and provided to students who require additional assistance; poor diversity of experience; poor exposure to 'real' demands of practice. Partnership model - learning opportunities more realistic; supply of patients consistent; increased service capacity/ meeting community needs	<i>Students:</i> Students have commented that the field trip has given them an insight into the services (and lack of services) available to rural communities, the opportunity to work in a small rural community and to speak with the local physiotherapist. Some have commented that they would now consider working in a rural setting. <i>Community:</i> The field trips provide	For Speech Pathology: A total of 231 primary school aged were assessed in 2010 (SP). Fifty-eight per cent of kindergarten children had a speech pathology intervention. The number of new referrals on the speech pathology service waiting list decreased from 250 clients in September 2009 to eight in September 2010. For occupational therapy: 25 children	Increased awareness of rural issues for these communities; increased services to these areas; thinking outside the box; strengthen collaborations with these communities however was not entirely successful as interventions were fraught with difficulties and in the most part were not implemented fully.	Matching student types/characteristics to an unstructured rural placement is perceived as essential to get the best outcome from the placement. Students felt that they had been prepared for generalist social work practice, developed their social work knowledge and their use of self, and had become more client centered and better team players as a result of their field placements in a macro	Delivered approximately 3231 occasions of service – including 80 group education sessions; Supported 73 student placements from six discipline groups. Capacity to: Deliver 148 group education sessions to clients (annually) Provide 120 clinic placement opportunities to pre-entry allied health students

	through introduction of clinics; increased clinical placement opportunities.	physiotherapy input in communities where physiotherapy resources are limited (or non-existent), which supports the work of the local physiotherapist and local health workers.	screened and for physiotherapy 33 children were screened. A total of 113 student placements have been created in primary schools and aged care services in the Broken Hill region.		rural setting	(annually) Deliver services 52 weeks per year
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Table 1C: Drivers, mechanisms and outcomes relating to placements that provide students with a specific skill set

	Cragg et al. (2010) [10]	Drolet et al. (2011)	Guion et al. (2006)	Gum et al. (2013)	Jacob et al. (2012)	McNair et al. (2005)	Mu et al. (2005)
Drivers/goals for placement	Improve collaboration / IP skills; Recruitment to rural practice and rural placement	Increasing student placement opportunities; Improve collaboration / IP skills; servicing rural communities	Recruitment to rural placements; Recruitment to rural practice; servicing rural communities	Improve collaboration / IP skills; Exposure to rural practice/rural issues	Increase student placement opportunities; Improve sustainability; Recruitment to rural practice; Rural preparedness	Improve collaboration / IP skills; Exposure to rural practice/rural issues; servicing rural communities	Improve collaboration / IP skills; Exposure to rural practice/rural issues
Mechanisms		<i>Engagement</i> - Establishing collaborative partnerships with all key stakeholders to identify all needs (community representatives, students,	<i>Funding</i> from an 'interdisciplinary grant' to set up model; <i>Engagement & collaboration</i> with community-based partners; Student <i>support</i> - stipends	<i>Engagement, networking & collaboration</i> - successfully networking across a wide range of stakeholder group, building meaningful partnerships, and	<i>Coordination / supervisor support</i> - IP needs to be effectively planned and coordinated and factored into supervisor workload. Coordination	<i>Funding</i> by Victorian state government; a project manager; stakeholder <i>engagement and collaboration</i> 'interprofessional steering group	<i>Funding</i> - Significant government funding for rural IP training (USA); <i>Student support</i> - voluntary participation; pre-placement information;

		<p>supervisors, academics);</p> <p><i>Barriers</i> - Practitioners identified that professional and personal boundaries were hard to balance in a smaller community; Participants shared a concern about the lack of supports for student travel and accommodation in the region;</p> <p><i>Planning time is time consuming/detract from seeing clients</i> – time was a factor in trying to plan a pilot rural IP experience e.g. coordinate the timetables of students; gaining the support and commitment of decision-makers and stakeholders in the academic departments and health authority; people were either too busy or unable</p>	<p>were provided to defray costs associated with participating in the project; student orientation session prior to beginning rural rotation (discussed project purpose, goals, rural health care IP approach and rural needs specific to community); Contractual agreement signed by students re: terms of their responsibilities.</p>	<p>monitoring that all roles and visions are clear and understood; <i>A broker/support mechanism/geographic point of coordination</i> - The IMMERSe program operates from the <i>Flinders University Rural Clinical School</i> in Mount Gambier; the university provided a <i>dedicated interprofessional clinical educator</i> [CN] to mentor the student cohort; students undertaking a research activity as part of the project; longitudinal placement.</p>	<p>should include keeping track of all student placements within the health service and organizing structured IP educational opportunities. This is often difficult in regional areas where administration and clinical staffing are already stretched. The coordinator would also need to be responsible for the development and preparation of learning sessions. <i>Registration body support</i> - need for IP to be part of placement requirement/university requirement – “clinical training requirements are set by the universities who set requirements for placements—they don’t require cross discipline work, so</p>	<p>representing eight Victorian universities (comprising 14 different departments), health care providers and students; <i>Supervisor support</i> - voluntary placement - the preceptors involved in this study reported that the experience of taking highly enthusiastic students increased their inclination to take students again in the future.</p> <p><i>Student support</i> - year of study – best suited to final year students as students needed some understanding of their professional identity prior to placement; clusters of students placed together; orientation tutorial</p>	<p>debriefing session post placement.</p>
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		to coordinate a common meeting			the hospital won't provide it"; <i>Student/Supervisor support</i> - common orientation programme; integrated clinical debrief session; group sessions; case studies; online IP activities; journal clubs. Perception that supervision should remain 1:1 and that IP would be additional to a supervisor's workload.	at beg and end of placement (identification of goals); work in small IP teams; online discussion forum moderated by a project manager; 1:1 supervision model	
Outcomes measured	Student, supervisor and facilitator perceptions; IPE scale (interprofessional attitudes)	Community, university and student needs identified for establishing an IP placement	Student participant, program administrator, and clinical site supervisor perceptions; Student intention to practice in rural area	IP learning outcomes; Perceptions of rural practice.	Health professionals from three rural/regional health services in were sampled to ascertain their views on the role of IP in clinical education	Attitude to rural practice; IP Evaluation based on Barr's adaptation of Kirkpatrick's educational outcomes framework	Pre and post Interprofessional Education Perception Scale; pre placement self-assessment tool (expectations, values/beliefs on health); observation field notes; reflection journal
Impact	<i>Learning outcomes</i> – improved appreciation for IP practice in rural settings; improved	As per mechanisms.	Improved knowledge about local health care issues; skill development;	<i>IP learning</i> – the key element of IPE is that students from different disciplines must be	As per mechanisms.	While many students specified an interest to work in a rural team and rural setting, less	Rural outcomes: awareness that collaboration is a necessary ingredient in rural

	<p>understanding of others' roles; influenced attitude towards IP practice for students and supervisors.</p> <p><i>Student satisfaction</i> – positive reports from participants.</p>		<p>knowledge of rural resources; appreciation of cultural diversity; preparedness for the practice environment; 76% of respondents stated they would accept employment at their practice site if offered.</p>	<p>given the opportunity to interact with those who they are learning with, from and about. <i>With respect to rural placement</i> – primary outcome from this exercise was a better understanding of health care in a rural community.</p>		<p>were inclined to identify more permanent rural work as a long-term goal.</p> <p>Positive IP educational outcomes; context was important – the intensity of the “immersion” experience, with students having to negotiate an unfamiliar environment, to work and live together, was unique and influential.</p>	<p>practice. IPL outcomes: a significant increase in participants' positive perceptions regarding interprofessional practice after they participated in the project ($p < 0.05$).</p>
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Table 1D: Drivers, mechanisms and outcomes relating to models that aim to increase the number of rural clinical placements through coordination

	Bartholomai & Fitzgerald (2007) [11]	Barney et al. (1998) [12]	Barnett et al. (2012) [13]	O'Brien et al. (2010)	Smith et al. (2009)	Lyle et al. (2006)
Drivers/ goals for placement	Increasing student placement opportunities; improving access to health services in underserved regions; improving sustainability of student placement	Increase number of rural clinical placements; exposure to rural practice	Increase number of rural clinical placements; recruiting to rural practice	Increase number of rural clinical placements/ placement capacity; exposure to rural practice; work readiness for rural areas	Increase number of rural clinical placements/ placement capacity	Increase number of rural clinical placements/ placement capacity

	opportunities					
Mechanisms	<p><i>Planning</i>-infrastructure and resources to be developed prior to using any of the alternate models of fieldwork education. <i>Piloting the placement.</i> <i>Resourcing</i> - a university champion/project lead developed and appropriate resourcing for a clinical educator. <i>Information & Preparation</i> - multiple student orientation folders to ensure all students had access to relevant information. <i>Student supervision session outlines developed;</i> <i>Involvement/liaison with placement staff</i> - meetings were held with occupational therapy staff to discuss their anticipated role during the placements, such as providing feedback on student performance to the clinical educator, answering students'</p>	<p><i>Funding</i> - Rural Health Support Education Training programme; <i>Engagement, support, partnership and coordination with key stakeholders</i> e.g. two universities, local health service and students; <i>a central broker/advocate/go-between</i> - the unit coordinator met regularly with students or telephoned those in remote locations, coordinated the placement with the university and field work site, provided support and training to supervisors, organised accommodation and transport; <i>student support</i> - an orientation program (including a tour of the region on the first day and provision of information about social events and activities); unit coordinator met regularly with students; accommodation and</p>	<p>Facilitators of clinical placements: <i>support, partnership and coordination with/between key stakeholders/organisations</i> e.g. mechanisms that encourage student placement data (needs/requirements/a availability of supervisors) to be collated centrally; <i>IP Placement models</i> that facilitate ways in which students from different disciplines could be encouraged to learn together</p> <p><i>Barriers</i> -</p> <p>The ability of clinical agencies to accommodate students is constrained</p> <p>by the <i>availability and preparedness of clinicians</i></p> <p><i>to teach and mentor students</i>; this in turn is</p>	<p><i>Partnership</i> (funding support) between Dept of Health (VIC), a university and health service - resources for two academic staff to project manage; orientation, induction; mechanisms to streamline processes across disciplines including centralised planning spreadsheet, centralised orientation manual and induction developed; consistent approach to accommodation. Clinical education course conducted by university consortium was provided. Barriers - Lack of centralised planning and coordination between allied health departments in the health service (and feeder universities); part time workers; Poor support for supervisors from university personnel (particularly with students who are</p>	<p>UDRH funded by federal government; UDRH allied health clinical-academic faculty are employed by university but work across both health service and tertiary sector - perform three core roles: teaching in programmes in faculty of health, organising and coordinating student placements => including creating IP learning opportunities and developing Clinical Education activities for clinicians; support local clinicians offer more clinical placements => move away from apprenticeship models; conduct and supervise research and perform clinical practice in their field => important to engage with local clinicians/university.</p> <p><i>Barriers</i> - notes the funding disparity between medical and AH and therefore fewer</p>	<p><i>Federal funding for UDRH; Regional coordination:</i> a single coordination point for the whole region and all the health organisations – a one-stop shop for student placements. Streamlining administrative procedures and maintaining important links with service partners, the clinical supervisors and the feeder universities (faculties). Central information provision through website. <i>Collaboration with existing and new partners; composite placement schedules</i> rotating students through more than one clinical site during their placement; <i>collaboration with feeder universities; provision of infrastructure and student support</i> - The Broken Hill UDRH</p>

	<p>questions and presenting in-services. <i>Student resources developed e.g. administrative tools. Self-directed activities identified. Student room allocated.</i></p>	<p>transport</p> <p>Reimbursement (free accommodation in the hospital's on-site residential home); social opportunities available for student; <i>Regional focus/diversity of placement - undertaking placements in different departments in the region; University support - tutorial program run by university.</i></p>	<p>influenced and exacerbated by the cumulative <i>pressure on clinical facilities to accept more students</i> => supervisory impost on</p> <p>Clinical staff and their potential for burnout; <i>devolved & decentralised systems to organise student placements.</i></p>	<p>not meeting competency); lack of infrastructure (physical space, internet access).</p>	<p>academic and administrative staff to support innovative education and practice models. UDRH academic staff are not employees of the area health service. Needed to negotiate release for clinical duties.</p>	<p>(BHUDRH) operates student accommodation, maintains educational facilities. Students have 24-hour access to computers and the internet in Broken Hill and some of the remote communities as well. Student support also includes orientation program on arrival, and a special briefing is arranged for students going to remote communities, advice about bush survival skills. <i>Supervisor support:</i> The BHUDRH runs preceptor courses for local clinicians and support during clinical placements.</p>
Outcomes measured	<p>Perceptions of productivity - occasions of service; clinical educator perceptions; educational/learning opportunities identified</p>	<p>Impact on supervisors and students</p>	<p>Mapped factors influencing the capacity of placement sites</p>		<p>Number of AH rural placements</p>	<p>Increase in number of placements, programme efficiency</p>
Impact	<p>Reports increase in departmental productivity, increase in</p>	<p>Reduced burden on supervisors to a) organise placement</p>	<p>The number of students on placement with each hospital was</p>	<p>Centralised planning => the ability to monitor which students were at</p>	<p>Significant increase in AH students participating in UDRH</p>	<p>Not assessed against mechanisms identified – however paper</p>

	patient occasions of service, decrease the outpatient waiting list, and providing less-experienced staff with opportunities to supervise and observe students. For the clinical educator, the experience of supervising multiple students accentuated the importance of teamwork and the value of working towards a common goal.	(unit coordinator) b) provide other educational opportunities (e.g. tutorials run by unit)	a function of a number of factors including: the size of the organisation, the range of services offered and staff profile. At each site, most disciplines had developed their own repository for student placement data though each hospital had initiated mechanisms that encouraged this information to be collated centrally.	the health service at any one time, enabling the commencement of a lunch-time meeting for all allied health students from both the acute and sub-acute sites at the health service; increased student satisfaction with placement supervision, caseload, quality and learning experience.	placements. MD research seminars and workshops conducted by the UDRH attended by over 300 participants.	reports greater efficiency in program delivery, increased support for students during their placement, and enhanced educational opportunities that draw on regional issues. The Broken Hill program accepts students from 22 Australian universities and places more students in the region, for longer periods than previously (271 students in 2005 compared with 140 students in 1998).
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Table 1E:9 Studies that examine factors, including rural placements, relating to recruitment of AHPs to the rural workforce

	Brockwell et al. (2009)	Dalton et al. (2008)	McAllister et al. (1998)	McAuliffe & Barnett (2010)
Research aim	To identify the work destinations of graduates from a rural university and ascertain their perceived preparedness for practice.	To examine the influence rural placement and rural background have on students' intentions to live and work in a rural or remote location after graduation.	To examine what impact attachments have on student knowledge, skills and attitudes towards rural careers.	To examine factors influencing perceptions/decisions to work rurally.
Drivers	Recruitment to rural practice; work readiness for rural practice	Recruitment to rural practice	Recruitment to rural practice; exposure to rural practice	Recruitment to rural practice
Professional group	Occupational Therapy	Medical, nursing, allied health (audiology, nutrition and dietetics,	Social work, physiotherapy, speech pathology, medicine, nursing,	Occupational therapy

		occupational therapy, podiatry, physiotherapy, speech therapy, prosthetic and social work) and pharmacy	Aboriginal health, occupational therapy, health information management, medical radiation technology, rehabilitation counselling, dentistry, pharmacy, orthoptics	
Methods	Self-report questionnaires (n=15) and semi-structured in-depth telephone interviews (n=10)	Self-report questionnaires (n=239) from students who undertook a rural placement programme (n=336)	Rural placement reports completed by n=156 AH Students from a metropolitan university were analysed using content analysis	Self-report questionnaires were administered to 58 final year occupational therapy students from a regional university
Measures	Descriptive and thematic analysis	Students' intentions to work rurally prior to (retrospective) and after rural placement according to RRMA classification were analysed using a paired t-test	To ascertain what impact voluntary rural attachments have on student knowledge, skills and attitudes towards rural careers	Descriptive and inferential statistics utilised to examine the relationships between variables. Logistic regression analysis to examine factors that could predict a student's intention to consider rural employment
Results	Large proportion of graduates worked in rural area within 4 years of gradation; those working in rural areas were younger than those working in metro areas and were more likely to have had more positions (poorer retention); all metro based graduates reported being deterred from rural practice by their rural placement experience; rural curriculum less influential than rural fieldwork in preparedness for rural practice.	Intention to practice in rural area: rural placements have a predominantly positive influence on students' intention to work in a rural community post-graduation for the disciplines of nursing ($P < 0.001$), medicine ($P = 0.008$) and allied health ($p < 0.001$) but not for pharmacy students ($p = 0.152$). Students' intentions to practise rurally significantly increased after the placement for students from RRMA classifications 1 ($P < 0.001$) and 3-5 ($p < 0.001$).	Students most frequently mentioned that, overall, their rural attachment had been a positive experience in terms of: insight into rural practice and rural lifestyle and advantages of rural practice/lifestyle e.g. relaxed lifestyle and the friendly welcoming community. Challenges in rural practice were also identified and included: isolation, limited professional education & career advancement opportunities.	More than a half of the students (60.3%) considered seeking employment in rural and remote areas at the commencement of their course. This figure increased to 79.3% by the time of data collection (final year, second semester). The students who had family or close friends in rural and remote areas were 7.12 times more likely to consider working in those areas ($P < 0.05$). In this study, a student's previous living experience was found to be a factor predicting future rural employment at the commencement of their university

				study; however, it could not predict their intention to consider rural employment in their final year of university.
Quality	Level III (QL)	Level IV	Level III (QL)	Level IV
Key findings	Negative rural placement influences decision NOT to work in rural area; Despite a large proportion of graduates from this regional university working in rural areas, many did not stay in these positions.	Exposure to rural practice is an important positive influence on AH students' intentions to work rurally.	Rural placements are generally viewed as positive and effective in increasing awareness and exposure to the advantages and challenges of rural practice and rural lifestyle	The factor of having family or close friends in rural and remote areas was found to influence a student's career intentions at the time of data collection. Rural background was found to not be a predictor of intention to consider rural employment in the final year of study nor was participation in rural and remote fieldwork placements.

Table 1E Continued...

	Orphin & Gabriel (2005)	Playford et al. (2006)	Schofield et al. (2009)	Schoo et al. (2008)	Taylor et al. (2009)
Research aim	To examine factors that influence student intention to work in a rural area.	To examine the relationship between the rate and predictors of students joining the rural workforce following rural placement.	Examines the factors that most encourage students who have undertaken a rural placement to work in rural areas.	Examines the influence rural placement has on intention to practice in rural area and factors that contribute to this decision making.	To compare pharmacy students' intention to practise in a rural setting expressed in their first year of university with that expressed during their final year.
Drivers	Recruitment to rural practice	Recruitment to rural practice	Recruitment to rural practice	Recruitment to rural practice	Recruitment to rural practice
Professional group	Medical, nursing, pharmacy	Nursing, allied health (physiotherapy, occupational	Medical, nursing, allied health (pharmacy,	Medicine, dentistry, nursing and allied health (not	Pharmacy

		therapy, human communication science)	occupational therapy, physiotherapy, dietetics, speech therapy, social work, podiatry)	specified)	
Methods	Self-report questionnaire completed by 148 first year and 87 final year students	Longitudinal follow up: Self-report questionnaire completed by 690 graduated students who had undertaken a 2 week placement in a rural area whilst at university	121 students completed the Careers in Rural Health Tracking Survey while on rural placement	Pre-graduation but post clinical placement questionnaires were compared with post-graduation questionnaire for same cohort (n=28)	Longitudinal survey of students in their first and final years (n=125)
Measures	Descriptive statistics - Preference for rural life and practice; intention to practice in rural area; rural origin.	Independent variables captured characteristics of the student and the placement experience. Dependent variables included post-graduation employment location. Logistic regression was used to predict the relative importance of individual and placement factors.	Descriptive and inferential statistics describing factors that most influence students' preference for practice locations and the locations preferred	Descriptive & qualitative (thematic) analyses	Descriptive statistics & regression analyses
Results	40% of respondents felt a clinical placement in a rural area negatively influenced their decision to seek rural employment (effect consistent across all disciplines). Despite most participants having undertaken a rural placement, there was strong support for more rural	Greater rural employment was found to be related to: Students who completed a voluntary_rural placement (OR 0.294, p=0.015); placements of four weeks or less OR 1.995, p=0.040); reporting that the placement was 'excellent' for professional development	CIRHTS indicates that the decision of health professionals to work in a rural location is not determined simply by background or rural placement but varies between individuals and indeed locations as a result of the complex interaction of many factors.	There was a net gain in graduates commencing a career in a rural area. Some evidence to show that providing a rural clinical placement opportunity does influence some to take up rural practice. Factors influencing rural employment included: social	Two factors had a significant influence on willingness to consider rural practice: rural background (Coefficient 1.852 CI1.552-26.185, p=0.015), and undertaking a rural placement (Coefficient 1.192, CI 0.872-12.448, p=0.079). Students' intention to

	<p>placement opportunities. The factors rated most important in relation to career choice were those related directly to the realities of day-to-day professional practice: professional and peer support, work conditions and variety of work. Many of the other factors frequently identified as major issues in the rural practice literature: locality, flexibility, opportunities for further study, and spouse/partner and children's needs - while recognised by some, do not appear to loom large with undergraduates either in terms of career choice or perceptions of rural practice.</p>	<p>(OR1.812, p=0.027); and previous experience living in a rural area (OR 2.878, p=0.001).</p>	<p>Student intentions about practice location over the life course and in the short term may differ from their longer-term plans.</p>	<p>& organizational aspects (welcoming community, outdoor lifestyle). Factors detracting from rural employment included: lack of professional development, isolation.</p>	<p>practise in a rural setting significantly increased from 11.2% at the start of their pharmacy degree to 21.6% in the final year (p=0.012).</p>
Quality	Level IV	Level IV	Level IV	Level III (QL)	Level IV
Key findings	<p>Statistically significant relationship between rural intention and rural background in first year grew weaker in final years. Final year students were less settled in commitment to a career trajectory and practice environment. Rural placement had a negative impact on intention to work</p>	<p>Rural background almost tripled the odds of choosing rural employment. Shorter placements were associated with rural practice (=> cost implications for students).</p>	<p>Factors within two categories were consistently nominated as those most likely to influence student location decisions: "career factors" (e.g. type of work, career opportunities and challenges) and "financial factors" (e.g. cost of accommodation and cost of living). As these two</p>	<p>Providing a rural clinical placement opportunity does influence some to take up rural practice.</p>	<p>Rural background and rural placement significant predictors of intention to work in rural area.</p>

	in rural area. Rural coursework does not seem to influence rural career choice.		categories appear to be the most important to students when deciding where to work, emphasizing them when designing initiatives to encourage rural practice should result in greater effectiveness.		
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Table 1F Studies that examine any other factors relating to the undertaking of clinical placements

	Helmes & Pachana (2011)	Humphreys & White (2010)	MacRae et al. (2007)	Schofield et al. (2009)
Research aim	To examine the relationship between university location (metro/regional) and desire for rural placement.	To examine expectations of regional and metro university students towards rural clinical placements.	To explore the impact of offering various incentives to students on their willingness to participate in clinical placements in underserved areas.	To quantify the financial impact of rural clinical placements on medical, nursing and allied health students in rural Australia.
Drivers	Recruitment to rural placement	Learning outcomes; exposure to rural practice and rural skills	Increase number of clinical placements; exposure to rural practice	Student wellbeing; Exposure to rural practice
Professional group	Psychology	Physiotherapy	Medical, nursing, occupational therapy, physical therapy and X-ray technology	Medical, nursing, allied health (pharmacy, occupational therapy, physiotherapy, dietetics, speech therapy, social work, podiatry)
Methods	Self-report questionnaires of clinical students (n=190) and training directors (n=35) at regional universities across Australia	Qualitative - focus groups and interviews with students from regional and metro universities that offer physiotherapy (n=?)	Self-report questionnaires of students (n=468)	121 students completed the Careers in Rural Health Tracking Survey while on rural placement
Measures	Regional Vs. metro university: perceived quality of training; attitudes towards rural placement. Analysed using descriptive and inferential statistics (t-tests)	Discourse analysis	The influence of currently established incentives on student willingness to complete a clinical placement in designated underserved communities in Southeastern Ontario	Descriptive and inferential statistics
Results	The urban and regional universities did not differ on the perceived	Students preferentially choose the clinical placement based on	Students are more willing to complete a clinical placement in an	Of the health disciplines, allied health students were most likely to

	quality of training; the students at regional universities were significantly more open to undertake a placement in a rural setting than their urban colleagues (t = 4.75, 167 d.f., p < .001, 95% CI for the difference = .60 to 1.43).	accommodation, rather than the clinical experience offered. Perception that there were less employment opportunities in rural areas; perception that job opportunities arise in 3rd and 4th years; perception that rural physios were not paid as much and have less ability to earn i.e. smaller ladder to climb in rural area.	underserved community if provided travel stipends (75%), rent-free housing (92%) and IP opportunities (65%). Students also identified 15 additional factors influencing willingness.	be working while studying as were students from a rural background. Nursing students worked the longest hours by far and were significantly more financially disadvantaged than both medical and allied health students (P < 0.01). Nursing students on average lost \$340 (95% CI, 145–535) per week more than medical students and \$216 (95% CI, 19–413) per week more than allied health students while on placement. Although not statistically significant, allied health students also experienced more loss of income than medical students. Scholarship support was unevenly distributed, with nursing and allied health students being relatively under-supported in relation to lost earnings.
Quality	Level IV	Level III (QL)	Level IV	Level IV
Key findings	Students studying at urban universities are significantly less disposed to undertake a placement in a rural setting than those studying at regional universities.	Accommodation is a key element for choosing to undertake a rural placement (over clinical experience).	Travel and accommodation incentives positively influence AH, medical and nursing students to choose to undertake rural placements.	In this survey, nursing and allied health students were the most financially disadvantaged in terms of lost income and scholarship support. This disadvantage is more acute for students from rural backgrounds. The risk to rural students is particularly important as rural placements are designed to increase the rural health workforce but, if financial pressure is an unintended consequence of these placements, it might reduce the effectiveness of this approach.

Table 1F Continued...

	Turner & Lane (2006)	Wiley & Durey (2007)	Wray & McCall (2007)	McLeod & Barbara (2005)
Research aim	To examine factors that deters students from undertaking rural clinical placements.	To demonstrate what aspects of rural clinical placements are effective in engaging students in the learning process.	To explore medical, nursing and allied health students' perceptions of the costs associated with placements.	To evaluate the impact of online chat facilities to support students on rural placement.
Drivers	Recruitment to rural practice; exposure to rural practice	Learning outcomes; exposure to rural practice	Student wellbeing; learning outcomes	Quality of rural placement
Professional group	Medicine, nursing, pharmacy and allied health	Medicine, nursing and allied health	Medicine, nursing and allied health	Speech pathology, occupational therapy
Methods	The National Rural Health Network distributed a survey to all members (n=379 returned)		Qualitative - focus group discussions (n = 17), individual interviews (n = 48) and written responses with undergraduate students (n = 103) and graduates (n =27)	Self-report questionnaire administered to 97 students who undertook a rural placement and utilized (compulsory) on-line chat facilities
Measures	Descriptive statistics		Thematic analysis	Perceptions of the usefulness of online chat as a support mechanism while on fieldwork
Results	92% of medical students had their accommodation costs covered, in contrast approximately 61%, 60%, 56% of pharmacy, nursing and allied health students respectively. Approximately 75% of medical and pharmacy students receiving travel reimbursement while only 28% of nursing and allied health students enjoyed the same privilege. Students who did not take a rural placement indicated this was because: there was none offered; financial cost; lack of awareness / information about rural placement opportunities; inability to maintain employment whilst on placement. Medical students received a larger degree of support in comparison with other disciplines.	Students who feel adequately prepared for their rural placement are often better placed to engage with the learning process. Such students have often researched information about the community and their placement site; learning about the town in which they are working informed students of available community activities and services. Good relationships with supervisors and other health professionals working in a rural setting effectively engaged students in the learning process. 30%of students found meeting the "financial expense going on a rural placement" challenging and 18% wanted more financial support.	Non-metropolitan placements, including regional, remote, interstate and overseas placements, acutely impacted on students' ability to generate income. For those students who held part-time or casual jobs, a non-metropolitan placement required them to forgo their paid employment and often incur additional expenses such as accommodation, while continuing to meet financial commitments at home. This was further exacerbated for those students who did not receive financial assistance from their department. Students were aware of the funding discrepancies among the departments. Students from medicine and surgery, and nutrition and dietetics received subsidised accommodation, transport and meals when on a	Overall, online chat was beneficial in encouraging peer support while on fieldwork. Online support from the fieldwork educator was identified as also beneficial. Some issues identified around internet access, computer access and topic maintenance.

			specialised rural placement. This was not available to students in other disciplines.	
Quality	Level IV	Level III (QL)	Level III (QL)	Level III (QL)
Key findings	Primary reason for not undertaking a rural placement is that they were not offered one, followed by the financial cost, which is particularly high for nursing and AH.	Preparation prior to placement, support for costs and supervisory relationships influence the learning outcomes of rural placements.	Students identified that income generation and the costs associated with transport and placement location contributed to the financial burden of placements. Students also spoke of the implications of high financial strain impacting on their accumulation of debt as well as on their health and wellbeing.	Online chat can support students while on rural clinical placement.

E-Survey Appendices

Appendix 2: E-survey structure

	Questionnaire Recipient			
Theme / domain / proposition	Student - Pre-placement	Student - Post-placement	Supervisors/clinical educators	University placement officer
Demographics and background information	Demographics, rural background, AH profession, year of study, university (rural or metropolitan)	Demographics, dependents, rural background, AH profession, year of study, number of previous rural placements, university type	Demographics: AH profession, area of work (regional, rural, remote), supervisory experience (years), role description	Demographics: university type (metro, regional), number of students coordinating, type of AH students coordinating, role description
Specifics of clinical placement options (context)		Placement: duration, type, region (rural, remote, regional), supervision model, accommodation on-site, transport.	Placement duration, supervision model, student types supervised, type of experience / placement offered / no students per placement	Placement information: number, type, how they are offered, how they are organised, how they are promoted
Motivators	<p>What would attract you to choose and undertake a rural clinical placement?</p> <p>Is placement compulsory?</p> <p>Year of study placement occurs?</p> <p>Who seeks placement (student or university?)</p>	What attracted you to choose and undertake a rural clinical placement?	What do you think attracts or motivates students to undertake a rural placement?	What factors do you think attracts students to undertake a rural placement?
Barriers	What would deter you from choosing to undertake a rural clinical placement?	What made it difficult to undertake a rural clinical placement?	What do you think deters or hinders students from undertaking a rural placement?	What do you think deters or hinders students from undertaking a rural placement?
Proposition 1 – choice; placement			What factors enhance or hinder the <i>availability</i> , <i>accessibility</i> and	What factors enhance or hinder the availability and accessibility of rural

type/location/duration			<i>type</i> of rural clinical placements?	clinical placements?
Enablers	What systems are in place to support your rural clinical placement?	What systems were in place to support you to undertake a rural clinical placement?	What systems are in place to support students during their rural clinical placement?	Description of rural clinical placement models offered – type, location, unique aspects
Preparatory information Proposition 1 – expectations of placement	What kind of information would you find helpful to assist you to make a decision about a rural placement? How would you find out more about rural clinical placements? From whom?	How would you rate the quality of the information you received prior to going on your rural clinical placement?	What information should be provided to a student <i>before</i> they undertake a rural clinical placement?	How well informed are students about their clinical placements on arrival?
Support systems and structures		Engagement with community Formal (e.g. school project) or informal through sporting/social clubs/church groups. Facilitated or up to the student?	What systems are in place to support you to supervise students during their clinical placement?	What systems are in place to support students with their rural placement (multi-choice) e.g. information about the placement, assistance with travel, accommodation
Attitudes towards RRR placements/RRR areas	What would make the rural clinical placement worthwhile for you?	What were your expectations of the rural placement?	What factors enhance or hinder the <i>quality</i> of rural clinical placements?	
Impacts and outcomes		Were your expectations met? Why/why not?	How do you measure the success of a rural clinical placement?	How do you measure the success of a rural clinical placement?
		What were the positive and negative aspects of your placement?	What factors enhance or hinder the <i>sustainability</i> of rural clinical placements?	What factors enhance or hinder the <i>quality</i> of rural clinical placements?
		Would you choose to undertake another rural clinical placement?		
		What advice would you give to a student considering a rural		

		clinical placement?		
Intent to work in a rural area	Do you intend to work in a rural / remote area on graduation?	Intention to work in rural / remote area on graduation		
Attitudes		Did your clinical placement experience alter your attitudes / perceptions towards rural health/working in rural areas?		

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