



**Australian Government**  
**National Rural Health Commissioner**

## **Request for Feedback**

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**Discussion Paper for Consultation: Rural Allied Health  
Quality, Access and Distribution**

**Options for Commonwealth Government Policy Reform and  
Investment**

**Office of the National Rural Health Commissioner**

**Consultation Period: 5 July 2019 – 7 August 2019**

## Disclaimer

The National Rural Health Commissioner is an independent statutory officer. The views expressed in this document do not represent an official position of the Commonwealth Department of Health or the Australian Government. Publication of this document by the Commissioner does not necessarily reflect the views of the Department of Health or indicate a commitment to a particular course of action.

## Acknowledgement

The Office of the National Rural Health Commissioner acknowledges the traditional owners of country throughout Australia and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to Elders past, present and future.

## A message from the National Rural Health Commissioner

This discussion paper of policy options is the culmination of a detailed review of 20 years of published rural allied health literature along with findings from a broad-scale consultation with the rural allied health sector at a national, jurisdictional and local level. It represents the contributions of a diverse range of allied health practitioners, researchers, teachers and health service leaders in rural and remote communities around Australia.

In my many visits across Australia, I have witnessed the incredibly valuable service that our current rural allied health workers provide to rural and remote Australian people. I have heard a range of issues along with options to improve access, distribution and the quality of rural allied health services for the communities they serve.

I would like to take this opportunity to thank the participants in this process for their contribution to the development of this discussion paper and to acknowledge the value of their ongoing feedback and involvement in policy development and implementation.

## Invitation to provide feedback

I invite you to review this discussion paper and provide your feedback and responses to the questions posed throughout the document by **7 August 2019**.

Please send your responses to: [NRHC@health.gov.au](mailto:NRHC@health.gov.au)

Or by post:

Attention: National Rural Health Commissioner  
Department of Health  
GPO Box 9848  
CANBERRA ACT 2601

**For further information contact:** [NRHC@health.gov.au](mailto:NRHC@health.gov.au)

**Statement of Anonymity:** Responses received by the Commissioner will be received in confidence and any public reproduction or representation of views will remain anonymous unless specific consent is given by the contributing party.

# Table of contents

- Background ..... 4
- Introduction ..... 5
- Sector Consultations ..... 6
- Rural Allied Health Literature Review ..... 6
- Policy Option Areas ..... 8
  - Policy Area 1: Rural Allied Health Policy, Leadership and Quality and Safety ..... 9
  - Policy Area 2: Opportunities for Rural Origin and Indigenous Students ..... 14
  - Policy Area 3: Structured Rural Training and Career Pathways (MMM2 – 7) ..... 18
  - Policy Area 4: Sustainable Jobs and Viable Rural Markets ..... 22
  - Policy Area 5: Telehealth allied health services ..... 29
- Concluding Remarks ..... 34
- Attachment A: Literature Review ..... 35
- Attachment B: Consultations ..... 62

# Background

In December 2018, the former Minister responsible for Rural Health, Senator the Hon Bridget McKenzie requested the National Rural Health Commissioner to develop Advice about the current priorities for improving the access, distribution and quality of rural and remote allied health services across Australia. The Commissioner was asked to prepare a literature review and to consult with the allied health sector to prepare a formal report with recommendations for consideration by the current Minister responsible for Rural Health, the Hon Mark Coulton, by October 2019.

## Structure and Purpose of this Paper

This paper is written to facilitate feedback on proposed Commonwealth options that will address quality, access and distribution challenges related to the delivery of regional, rural and remote allied health services in Australia. Whilst the Commissioner acknowledges that there are considerable differences between regional, rural and remote areas, for ease of communication, this paper will refer to all non-urban areas as rural.

The introduction of this paper broadly outlines the current context of allied health services in Australia with a particular focus on the rural setting, followed by a brief summary of the Commissioner's consultations to date and the findings of the abovementioned literature review which supports the proposed options. The full literature review can be found at Attachment A and a full list of consultations at Attachment B.

There are five policy option areas, each with a dedicated section in this document. For each policy area, the context affecting allied health service delivery in rural areas is described. The Commissioner conducted extensive consultations with the sector, which identified many significant considerations and opportunities that require ongoing focus and effort. Where these considerations and opportunities are under the stewardship of state and territory jurisdictions or relate to work currently underway, they have been acknowledged under the relevant policy area under the heading 'findings from consultations'. All of the information and advice from the sector has been carefully considered in the development of the options directly within the remit of the Commissioner, which is to inform advice for Commonwealth policies.

For each policy area, the reader will find options within the Commonwealth remit. The Commissioner seeks your feedback about these in order to develop them into advice for submission to and consideration of Minister Coulton by October 2019. There are questions for each policy option which are intended as a guide to developing your responses. However, the Commissioner welcomes all feedback that assists in addressing the aims of the sector.

# Introduction

The people of rural Australia make a profound contribution to the economic and social fabric of the nation. There is, however, long standing evidence of a significant maldistribution of many health professionals in Australia, including allied health providers, which results in much poorer access to services for rural people, negatively impacting their health, wellbeing and economic participation.

In developing options to address these issues, the Commissioner has applied the same broad principles that framed the 2018 Advice to the Minister regarding the National Rural Generalist Pathway for medicine. These options are guided by learnings from Aboriginal and Torres Strait Islander people's understandings of health and wellbeing. In principle, they recognise the importance of community control and connection to country, as well as respect and consideration for the wisdom of Elders and local decision-making. They acknowledge the strengths of rural communities and the need to seek, through enhanced local education and employment opportunities, to create an environment where all rural people have better health, more jobs, and the opportunity to flourish and create their own future. These principles aim to add further value to a national rural health training and workforce framework for rural allied health that includes:

1. A regional, rural and remote holistic 'grow your own' health training system which is continuous, integrated and overcomes the disadvantage rural and remote communities face in accessing training and appropriate healthcare.
2. Regional Teaching and Training Networks focused on providing opportunities for pursuing rural health careers with structured and supported training and career pathways. Such networks integrate high quality clinical care, teaching and research, drive a culture of excellence, quality and safety, and are underpinned by a sustainable, flexible and skilled workforce.
3. Improved access to a wider range of integrated local health services delivered by a skilled and better distributed workforce. Services leading to improved health, greater wellbeing, and social and economic development for rural and remote communities, particularly Aboriginal and Torres Strait Islander peoples, and the nation as a whole.

The Commissioner recognises the complexity of the allied health sector, including the diversity of professions and their regulation, different models of service, a multi-sectorial environment that includes health, disability, education, justice and aged care sectors, as well as the wide range of funding streams and employment arrangements through public (both state/territory and Commonwealth) and private sources. The Commissioner also recognises the retention challenges associated with the large proportion of early career allied health professionals working in rural areas who, often without access to sufficient supervision and support, seek early opportunities to return to the cities.

The Commissioner has prioritised policy options achievable for the Commonwealth health sector, acknowledging that the perspectives and experiences of other sectors and jurisdictions also matter and are legitimate considerations for forming strong and effective

policies. Where possible the options build on the existing Commonwealth policies and investments in infrastructure in rural Australia, including but not limited to over 20 years of University Departments of Rural Health (UDRH) and Divisions of General Practice/Medicare Local/Primary Health Network funding.

## Sector Consultations

The sector consultations were underpinned by the principles of integration, inclusion and collaboration. The Commissioner consulted allied health peak bodies, health representatives in government, industry, health professional associations and communities, all of whom have provided a strong collective voice and insights into key issues and potential solutions. These insights, along with the detailed literature review, summarised below, have informed the evidence and proposed policy options in this discussion paper. For a detailed list of consultations please see Attachment B.

## Rural Allied Health Literature Review

The literature review has provided comprehensive evidence of the longstanding challenges associated with access, distribution and quality of allied health provision in rural Australia. The literature review identified 119 articles (peer reviewed, published 1999-2019) with the main themes relating to workforce and scope of practice, rural pathways to train and support, recruitment and retention incentives, and models of service.

The main findings suggest that there is a significant maldistribution in the current allied health workforce despite increasing graduate numbers, and there is strong unmet need for more allied health services in rural and remote Australia. Of those allied health professionals working rurally, most work in the public sector but several disciplines are more privately based including optometrists, podiatrists, pharmacists, physiotherapists and psychologists. Policies need to accommodate growth of both rural public and private service capacity.

Rural allied health providers work across a broad scope of practice, large geographic catchments, visiting multiple communities, with fewer resources and higher patient to therapist ratios and less infrastructure than their counterparts in urban areas. They require a broad range of skills including paediatrics, culturally appropriate practice, chronic diseases, health promotion and prevention, primary health, and health service management knowledge in delivering appropriate services to diverse population groups across the age spectrum. There are not enough practitioners to service population need. Service prioritisation and rationalisation therefore occurs based on the providers available, their skills, population need and infrastructure.

The published evidence supports the premise that critical mass can be achieved by selecting rural background students, providing more rural-based training, rural curriculum, strengthening job satisfaction, career paths and ongoing professional training. The literature also shows that supporting the adoption of allied health assistants through clear governance frameworks could assist to buffer rural allied health workload. For smaller communities, the evidence shows that outreach and virtual consultations are critical for enabling early intervention and continuity of care, but viable business models, an adequate staff base,

along with local community engagement and staff training are essential to drive such service distribution. Monitoring and evaluation of any action is critical for continuous improvements for tailored, cost-effective policy and programs.

The evidence emphasises the importance of access, quality and distribution for effective rural healthcare.

### **Access**

As a concept, access to healthcare is not just the availability of a health service and its associated infrastructure, but also relates to its affordability and relevance. Patients must be able (and willing) to pay any costs associated with care. This is influenced by relative income. Before access can be achieved, upstream factors, such as the number and range of allied health providers based in rural and remote locations, need to be addressed.

The relevance of an allied health service is rooted in a patient's perception and, often, in the referrer's expectation of benefit. A patient's perception is heavily influenced by cultural safety and service relevance to patient need. If a patient does not know about or perceive sufficient benefit from an allied health service, or, a referring medical practitioner perceive some other detriment to referring patients (e.g. potential threat to the practitioner-patient relationship), then the patient is less likely to access that service.

### **Distribution**

Convenience is a factor in choice. For rural patients, it is a significant decision to present at a distant allied health service which is likely to cost financially and in time to travel. By contrast, a readily available service (in or around a patient's home or work) has a greater chance of being accessed. Similarly, decisions of where allied health professionals work depend on cost of delivery (including travel), time, and access to compensation commensurate with alternative income sources.

### **Quality**

Quality of an allied health service relates to process and expected outcomes. Ideally, quality means that patients receive integrated care, which is culturally-safe, timely and effective relative to every episode of need. A high quality service is reliant on the background, skills/qualifications and ongoing professional development of the workforce supplying it, and the availability of necessary resources. In turn, those factors are influenced by allied health leadership, regional service planning, barriers (such as the limited scope of service networks and/or agreements between hospitals and community providers), and coordination of various care pathways including telehealth.

It is important to address each of the elements above, particularly in rural priority areas, using a critical mass of complementary and appropriately skilled health professionals specific to the need of geographic catchments, working in coordinated networks for patient-centred pathways. These elements, individually and combined, have been carefully considered in the development of the following Policy Option Areas.

## Policy Option Areas

The following option areas focus on meeting the allied health needs of rural communities by building and supporting a sustainable rural allied health system that:

- provides a solid foundation of dedicated national leadership (Policy Area 1),
- builds a sustainable rural allied health workforce, applying the internationally recognised ‘three legged stool’, by creating opportunities for rural origin students (Policy Area 2); enhancing structured rural training and career pathways (Policy Area 3) and creating sustainable jobs (Policy Area 4), and
- utilises service models such as telehealth in supported and structured ways to broaden the horizons for impact (Policy Area 5).

The conceptual framework for building a sustainable rural allied health system is displayed in Figure 1 below.

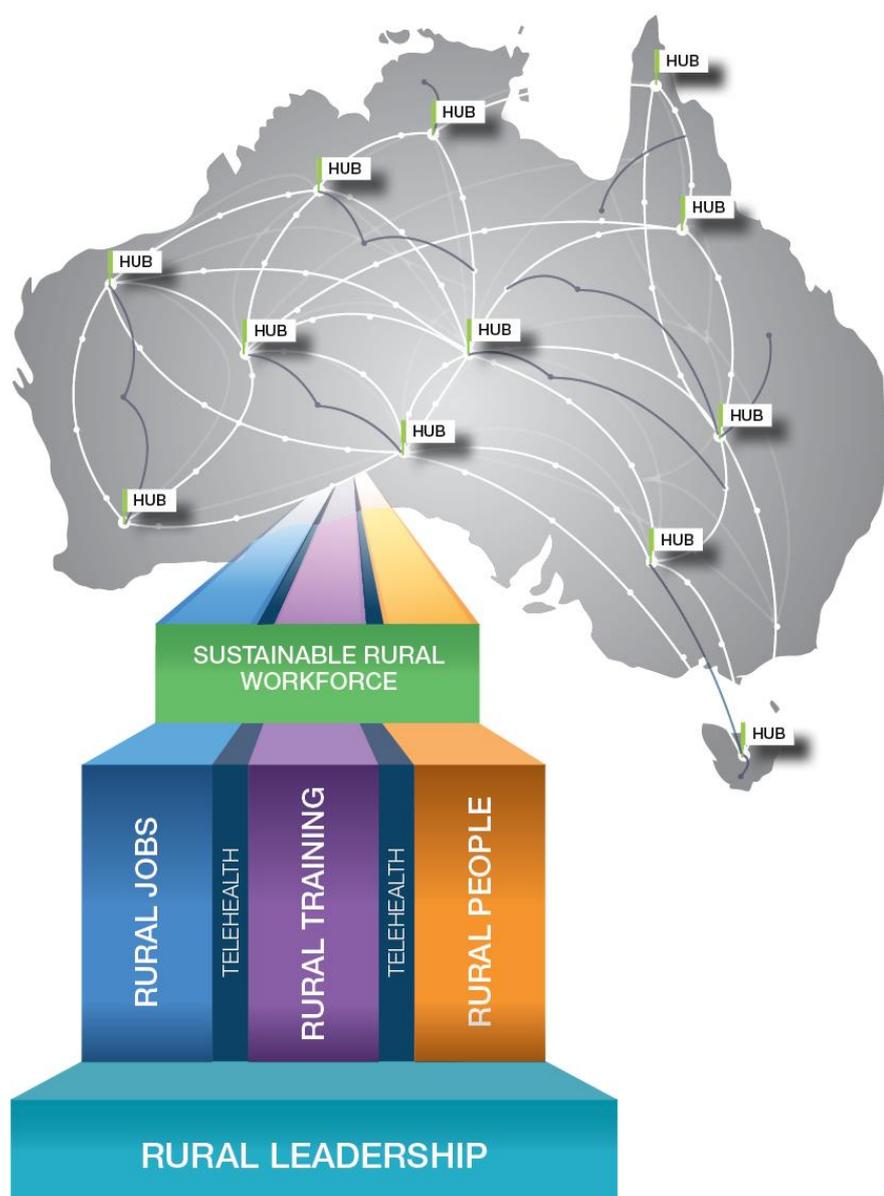


Figure 1.

## Policy Area 1: Rural Allied Health Policy, Leadership and Quality and Safety

Policy Area 1 explores options to establish strong foundations for dedicated allied health sector representation at the Commonwealth policy level. It focuses on opportunities to establish structures to support the provision of high quality rural training, as well as opportunities to improve completeness and quality of rural allied health workforce data and evidence.

### Context

While allied health comprises approximately 25% of the registered health workforce, the sector has experienced challenges affecting the ability to influence change and garner support. As a result, the bulk of health policy and funding attention remains focused on medicine. Historically, the Commonwealth has had a limited role in the employment and funding of the allied health workforce and the acute care sector. However, over the last decade the Commonwealth has increasingly recognised the importance of the allied health workforce across multiple sectors for strong primary, preventative and cost-effective care, particularly needed in rural communities.<sup>1</sup>

### Findings from the Literature Review

With multiple professions and multiple sectors incorporated in health policy, the area is complex to navigate. Allied health involvement in decision-making is important for understanding the complex issues related to rural allied health policy, planning and service delivery. There is a definite need to scale up rural allied health services research, including supporting the people and infrastructure required. The evidence also identifies that a new training and workforce framework is warranted for producing an effective and supported rural allied health workforce that safely meets the needs of rural and remote communities. This will likely require national leadership to bring multiple stakeholders together around a common goal, rather than single institution or discipline interest.

### Options for Consideration

The options described below have been developed following consideration of the evidence and sector consultations. These options are considered to be within the Commonwealth Department of Health remit, and are proposed for further stakeholder feedback.

#### 1.1 Appointment of a Commonwealth Chief Allied Health Officer

Explore options to appoint an allied health professional to a dedicated position of Chief Allied Health Officer/Advisor (CAHO) within the Commonwealth Department of Health. The Chief Allied Health Officer would be responsible for providing high-level advice across the multiple Government Departments, Divisions and Branches that are impacted by allied health issues and would determine and influence relevant health policy and strategic direction. Working with existing Chief Allied Health Officers/Advisors in the jurisdictions, the

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<sup>1</sup> Mason, J Review of Australian Government Health Workforce Programs; Department of Health and Ageing: Canberra, ACT Australia 2013. [Accessed April 2019]. Retrieved from: [http://www.health.gov.au/internet/main/publishing.nsf/content/D26858F4B68834EACA257BF0001A8DDC/\\$File/Review%20of%20Health%20Workforce%20programs.pdf](http://www.health.gov.au/internet/main/publishing.nsf/content/D26858F4B68834EACA257BF0001A8DDC/$File/Review%20of%20Health%20Workforce%20programs.pdf)<http://www.health.gov.au/internet/publications/publishing.nsf/Content/work-review-australian-government-health-workforce-programs-toc~chapter-4-addressing-health-workforce-shortages-regional-rural-remote-australia~chapter-4-health-education-strategies-rural-distribution>

Commonwealth CAHO could enable greater inter-sector collaboration between Health, Aboriginal and Torres Strait Islander Health, Disability, Ageing, Social Services and Education at key levels of government.

**Question 1.1.a:** If the Commonwealth were to appoint a Chief Allied Health Officer/Advisor, what would be their top priorities for improving rural allied health distribution, access and quality in the next five years?

**The case for national leadership for allied health policy and workforce planning is strong. In our consultations with stakeholders there was unanimous support for the appointment of a Commonwealth Chief Allied Health Officer. Top priorities for the role should include coordination across allied health sectors, appropriate promotion of allied health and initiatives targeting the Aboriginal and Torres Strait Islander allied health workforce. To avoid the position being ‘swamped’ with the needs of urban allied health, a KPI with a rural and remote focus should be assigned to the role.**

**Question 1.1.b:** How could a Chief Allied Health Officer/Advisor position be structured to improve inter-sectoral collaboration?

**Some jurisdictions already have advisory positions that seek to improve allied health inter-sectoral collaboration, for example, the Chief Allied Health Advisor in the NT. These officers would provide invaluable insight regarding the enablers and barriers to inter-sectoral collaboration. It would seem reasonable to prioritize their experiences and wisdom when structuring a Chief Allied Health Officer /Advisor position.**

## 1.2 Rural Allied Health College

Explore options to establish an entity that works with the existing national allied health bodies to facilitate a national rural generalist allied health training and workforce framework.

Allied Health rural generalist support is referred to in more detail in Option 3.2. It is important to note that the allied health rural generalist is not a ‘generic’ allied health professional. In the context of Allied Health, SARRAH<sup>2</sup> defines the rural generalist as ‘... a position or practitioner delivering the service, that responds to the broad range of healthcare needs of a rural or remote community. This includes delivering services to people with a wide range of clinical presentations, from across the age spectrum, and in a variety of clinical settings (inpatient, ambulatory care and community).’

SARRAH has proposed several primary strategies that support the concept of rural generalism in allied health:

- Extended scope of practice including skill sharing (trans-professional practice).
- Delegation to support workers (e.g. allied health assistants).
- Telehealth.

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<sup>2</sup> [https://sarrah.org.au/sites/default/files/docs/resource\\_2\\_-\\_rural\\_generalists\\_in\\_allied\\_health\\_professions.pdf](https://sarrah.org.au/sites/default/files/docs/resource_2_-_rural_generalists_in_allied_health_professions.pdf) (accessed 17/6/2019 at 16:18)

- Partnerships across agencies and sectors etc. that use shared care or collaborative practice models for complex or low frequency clinical presentations.

A key option for promoting clarity and supporting national policy directions for allied health rural generalists is to develop a Rural Allied Health College. Such a College could support rural allied health professionals to undertake training to gain accredited rural generalist qualifications, whilst at all times continuing to practice under the regulatory instruments of their specific allied health discipline.

Further, it could act as an accreditation body, maintaining and accrediting post-graduate rural generalist courses against defined standards, building on the work of the Australian Healthcare and Hospitals Association, the Allied Health Professions' Office of Queensland, Queensland Health and the National Allied Health Rural Generalist Pathway Project Governance Group in the preparation of the 2018 report *An accreditation system for rural generalist education and training for the allied health professions*.

Allied health professionals interested in rural practice could be provided guidance by the College in accessing structured training pathways, similar to the Allied Health Professions' Office of Queensland, Queensland Health who support public sector allied health professionals in attaining the Graduate Diploma of Rural Generalist Practice at James Cook University.

A College could also provide leadership on safety and quality standards common to allied health professionals with rural generalist qualifications and be a mechanism to roll out national rural workforce training and professional development programs. In addition, it could assist jurisdictions to develop safety and quality indicators relevant to a variety of rural allied health services and programs.

Additionally, a College could be an option to establish a central repository for rural allied health workforce data not currently collected as well as central point to share innovative rural allied health service models for application in other rural areas.

Potential models for the establishment of a Rural Allied Health College could include:

- A controlled entity or affiliated entity established by an existing allied health organisation or consortium of organisations.
- An evolution of an existing organisation or association.
- An independent entity, supported by:
  - existing allied health peak bodies
  - existing individual members.

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**Question 1.2.a:** What would be the advantages and disadvantages of the abovementioned models for establishing a College?

**From the perspective of an 'outside' organization, a college such as that described here affords a promising solution to overcoming inter-sectoral barriers between the allied health professions. Our consultations with stakeholders suggest, however, that depending on the model selected there is**

**a risk that such a college may duplicate existing areas of activity. It seems there is a need for further dialogue between key stakeholders before a consensus will be achieved on this matter.**

**Question 1.2.b:** Which model or approach do you support for adopting a College? Please provide the details of the model and the reasons why.

**CRANaplus does not have a position on this.**

**Question 1.2.c:** What performance indicators would determine the effectiveness of a College?

**Development of a well-articulated and supportive pipeline into rural and remote allied health practice.**

**Improved collection and analysis of rural allied health workforce data.**

**Targets to increase the Aboriginal and Torres Strait Islander allied health workforce.**

### 1.3 Allied Health Workforce Dataset

Explore options to invest in the development of a comprehensive national allied health workforce dataset, which includes geographical data. This could be used to appropriately capture, store and disseminate data and evidence required to inform allied health workforce planning and policy development.

Allied health workforce data and evidence limitations have been reported for many years, and while there have been improvements made in the capture of quality allied health workforce data for example through the National Registration and Accreditation Scheme, which captures the eleven registered allied health professions, the capture of comprehensive allied health workforce data requires further investment.

Such a comprehensive dataset would combine national and state/ territory jurisdictional workforce data for multiple allied health professions and include workforce data from the justice, education, aged care, disability and health sectors in hospital and community employment. It would allow metropolitan and rural comparisons to inform rural sensitive policies. As well as managing comprehensive workforce data, the dataset could collect and store multidisciplinary allied health research and evaluation closely tied to translation, practice and impact. This collection could utilise existing data from Commonwealth National Health Workforce Data Set (NHWDS) (though it is also important to also collect evidence about self-regulated allied health professions) and jurisdictional data such as the Victorian Allied Health Workforce Research Program.

The dataset could be managed under the stewardship of the Commonwealth, for example the Australian Institute of Health and Welfare (AIHW). Existing rural research groups linked to the University Departments of Rural Health, the PHNs and the RWAs could be involved in this collection. This option could complement the parallel recommendation to provide a comprehensive workforce dataset for rural generalists in medicine.

**Question 1.3.a:** What are the benefits and challenges of investing in a unique national rural allied health workforce dataset?

**This paper has comprehensively outlined the benefits of investing in a unique national rural allied health workforce dataset. Allied health workforce planning and policy development would be significantly undermined in the absence of such a data asset.**

**Question 1.3.b:** What existing rural allied health workforce datasets/structures could be used already as the basis for this national dataset?

**CRANaplus does not have a position on this.**

## Policy Intentions

To ensure that the rural allied health workforce is effectively represented and has access to structured training so rural communities receive high quality treatment, this policy area aims to:

1. Strengthen allied health leadership, inter-sector collaboration and representation at the Commonwealth level.
2. To establish a rural allied health entity to:
  - facilitate the implementation of national rural allied health programs
  - provide accreditation of post graduate rural training courses to meet quality and safety standards
  - promote high quality rural context training and career pathways to the current and future rural allied health workforce
  - provide a central repository to collect, manage and share rural allied health data, research and innovation.
3. Accessible and comprehensive data to inform and evaluate allied health workforce policy.

**Please provide any additional comments and feedback related to this Policy Area.**

**CRANaplus does not have any additional comments related to this policy area.**

## Policy Area 2: Opportunities for Rural Origin and Indigenous Students

Policy Area 2 focuses on developing a sustainable, skilled and distributed rural allied health workforce, which is connected to community and supported in practice to deliver quality services.

### Context

Attracting a greater number of people from rural communities to train as health professionals is an important strategy in building a sustainable rural health workforce. While this strategy has seen successes in medicine, implementing this strategy in allied health training is more challenging because undergraduate allied health training in Australia is delivered primarily through city-based university programs to city-origin students. Where courses are delivered by regionally based universities, the rural career outcomes are excellent. City-based training presents a number of downstream and upstream barriers for rural communities and economies. Downstream, the cost and logistical barriers related to accessing allied health tertiary education often result in fewer educational opportunities for rural students and communities. Further, city based training on the whole, produces practitioners prepared for city-based practice, resulting in upstream barriers related to attracting and retaining appropriately skilled and prepared rural allied health professionals for primary care, rural service models, more complex patients, Indigenous clientele and preventative work.

### Findings from the Literature Review

Evidence indicates that nearly half to two-thirds of rural allied health professionals have a rural origin and one study identified that half have had some rural training experience. Accessing tertiary allied health training may be challenging due to cultural and structural barriers including: a limited frame of reference to the professions, lack of access to the required subject choices for course eligibility, greater costs to participate, and cultural dimensions of people and places.

### Findings from Consultations

The opportunities described below were raised during consultations. These opportunities are considered either outside of the stewardship of, or already addressed by the Commonwealth Government.

#### a. Scholarship Opportunities for Rural Students

Providing scholarships for rural students to attend undergraduate allied health was raised as an option to address the financial costs of tertiary education, which is a significant barrier for rural students and families. The Commissioner has explored this opportunity further and concluded that the existing scholarship fund administered by the Commonwealth Education Department, the Rural Scholarships Program, sufficiently addresses this area of need. The Rural Scholarships Program provides up to 3155 rural, regional and remote students with scholarships to study from Certificate to PhD in selected professional fields, one of which is health.

## b. Structured Pathways to Undergraduate Allied Health Courses

The promotion and development of seamless and structured pathways between rural secondary schools, technical schools, TAFEs and universities, potentially facilitated by UDRHs was proposed in order to improve participation rates for rural students.

Additionally, the provision of bridging opportunities was seen to be important for rural students interested in allied health but whose high school studies may not include prerequisite subjects for entry into tertiary allied health training.

Developing structured pathways and bridging courses from the VET sector such as enabling Certificate IV allied health assistant (AHA) articulation to allied health qualifications would enable rural students the chance to undertake allied health related studies closer to home in structured and less costly ways. Specific options and enablers raised for consideration included the development of Diploma level Allied Health Assistant training and Diploma level Allied Health Assistant Rural Generalism training. These initiatives are seen to be more the responsibility of the education sector and the Department of Education.

## Options for Consideration

The options described below have been developed following consideration of the evidence and sector consultations. These options are considered to be within the Commonwealth Department of Health remit, and are proposed for further stakeholder feedback.

### 2.1 Introduction of Rural Origin Selection Quotas

The option to introduce rural origin enrolment quotas for selected undergraduate allied health programs is proposed. Rural origin quotas encourage universities to develop appropriate allied health course admission processes, factoring in the additional barriers that rural students experience. Whilst 30% of Australians live in rural areas, rural quotas are new systems for many allied health courses to implement. The Department of Health's Rural Health Multidisciplinary Training (RHMT) Program was consolidated in 2016. Since that time, universities participating in the program are required to:

- set and meet an annual multidisciplinary rural clinical placement target for its rural training sites (expressed in terms of total placement weeks), for the dental, nursing and allied health disciplines;
- increase the duration of its rural training placements wherever possible; and
- develop and introduce rural origin enrolment targets for its nursing, dental and allied health courses.

With a national evaluation of the RHMT Program underway, it may be useful to consider whether these targets could be extended to specifying individual undergraduate allied health programs, rather than a multidisciplinary target. In addition, the RHMT Program could support universities to grow these targets for rural population parity over time. Progress in rural student access could be a requirement for Universities to access the RHMT Program.

**Question 2.1.a:** What are appropriate target quotas for universities to select more rural origin students into allied health courses?

**CRANaplus does not have a position on this.**

**Question 2.1.b:** If quotas were to be set at different rates for different courses and university contexts, what should be considered in determining these quotas?

**Quotas would need to be driven by current workforce data, which again reinforces the importance of the matter considered in Question 1.3a.**

**Question 2.1.c:** Please describe other policy options within the Commonwealth's remit, which could achieve the same result in rural origin student admission rates. ?

**Commonwealth supported rural placements in all tertiary allied health training programs, including metropolitan universities. Based on applications for the CRANaplus rural and remote nursing clinical placement scholarships, it is evident that many urban-based students have a keen desire to experience longer-term rural placements during their training.**

## 2.2 Opportunities for rural origin Aboriginal and Torres Strait Islander people

Explore the potential of implementing a modified Commonwealth scholarship scheme to encourage rural origin Aboriginal and Torres Strait Islander people to undertake studies in an allied health profession. One method might be to increase the budget of the Puggy Hunter Memorial Scholarship Scheme, allocating a certain proportion of scholarships to rural origin Aboriginal and Torres Strait Islander applicants.

Another option could be to increase funding for the National Aboriginal and Torres Strait Islander Health Academy Model which provides community-led learning environments, wrap around support and mentoring for Aboriginal and Torres Strait Islander students (beginning in high school) to undertake training and education for careers in the health sector. While the Commonwealth has agreed to expand funding in NT, NSW and QLD, further investment in the Academy Model could enable further expansion into new regions and continue the development of partnerships with the VET, university and health sectors, embedding academies within training and employment pathways for rural communities.

**Question 2.2.a:** Please describe alternate policy options within the Commonwealth's remit, which could achieve the same results in providing opportunities for rural and Aboriginal and Torres Strait Islander students to train as rural allied health professionals.

**For this question refer to the response made by Indigenous Allied Health Australia (IAHA), which CRANaplus endorses.**

**Question 2.2.b:** Please describe any regional, culturally safe and appropriate training and employment models, that could be scaled up and/or adapted to increase the Aboriginal and Torres Strait Islander allied health workforce.

**For this question refer to the response made by Indigenous Allied Health Australia (IAHA), which CRANaplus endorses.**

## Policy Intentions

These training strategies will provide opportunities for rural origin students to attend allied health tertiary education in supported ways, where:

1. Prospective rural students are supported to train in undergraduate allied health programs.
2. Prospective rural students no longer have to move to cities to study.

**Please provide any additional comments and feedback related to this Policy Area.**

**For additional comments and feedback refer to the response made by Indigenous Allied Health Australia (IAHA), which CRANaplus endorses.**

### Policy Area 3: Structured Rural Training and Career Pathways (MMM2 – 7)

Policy Area 3 continues to focus on building a sustainable rural allied health workforce by delivering tertiary allied health programs in rural areas and promoting rural careers through immersive rural training opportunities. It focusses on options to support allied health workers to progress rural careers in structured ways including access to accredited post graduate training for developing additional skills for delivering services needed by rural communities.

#### Context

Attracting and retaining a greater proportion of allied health professionals to the rural workforce depends, in part, upon the delivery of rural based courses and longer-term rural placements to enable students with a rural origin or strong rural interest to train accordingly. Training rurally increases the likelihood that students and early career clinicians will form friendships in rural areas and meet a partner who shares a commitment and connection to rural communities. A key factor in a health professional's decision to work rurally is the interests and employment opportunities available to their spouse or partner.

The following options focus on building a sustainable home grown rural allied health training environment that supports allied health professionals to progress rural careers in structured ways, including appropriate access to postgraduate training to acquire the skills necessary to deliver services appropriate to meet the needs of rural communities.

#### Findings from the Literature Review

The rural allied health workforce requires specific skills to meet the demands of rural practice. Rural training opportunities have increased over time through University Departments of Rural Health (UDRH), many through expanding placement-week exposures. Some training for allied health disciplines is up to 12 months' duration but this is not available in all disciplines. There are few outcome studies of the impact of rural training. One univariate study showed that up to 12 months training related to 50% working rurally compared with 24% average rural work outcome across the disciplines. Rural settings are unique learning environments and UDRHs serve a dual purpose of building training and research pathways for tertiary students, along with providing career opportunities for mid-career allied health workers. Tertiary scholarships with rural return of service requirements could increase the uptake of rural work if coupled with the right support.

#### Findings from Consultations

The opportunities described below were raised during consultations. These opportunities are considered either outside of the stewardship of, or already addressed by the Commonwealth Government.

#### a. Recognition: Allied Health Rural Generalism

Delivering allied health services in rural settings requires a broad skill set including working in multidisciplinary teams, working to full (or expanded) scope of practice, traversing multi-sector environments, managing clients in service environments that are distributed across large geographic areas, negotiating fluctuating workforces and changing availability of services. Working rurally, practitioners are often required to work closely with diverse populations delivering culturally appropriate and effective care.

Formally recognising these skills as Rural Generalist skills within relevant Allied Health professions, could be an important step in promoting rural careers in the allied health sector. Recognition of the Allied Health Rural Generalist in state enterprise agreements with remuneration that reflects the additional skills required to effectively practice in a rural environment, may add further incentives and structure to the rural allied health career pathway.

#### b. Opportunities for Rural Context Training in City Based Undergraduate Allied Health Courses

Research indicates that as well as rural origin, another key determinant that a practitioner will work in a rural setting, is positive exposure to rural practice early in training. City based courses, coupled with minimal rural context training, limit opportunities for students who may be curious about a rural health career to pursue it in any structured or formal manner. Promoting and delivering a curriculum with opportunities to study rural health subjects and to undertake longer durations of rural training enable those students who are interested in a rural career to train accordingly.

Allied health rural immersion opportunities such as service based learning programs, are delivered by UDRHs in a number of locations such as Broken Hill. These programs demonstrate that with the right model of service AH students can provide valuable skills to rural communities while undertaking rural training.

### Options for Consideration

The options described below have been developed following consideration of the evidence and sector consultations. These options are considered to be within the Commonwealth Department of Health remit, and are proposed for further stakeholder feedback.

#### 3.1 Increasing Opportunities for Home Grown Training (End to end and Immersion Training Opportunities)

Further explore options to enable University Departments of Rural Health (UDRHs) to deliver full year or full course, flexible allied health options in rural areas. This may include emphasis on 'service learning' educational approaches to meet existing gaps in delivery. This may also include enabling students to stay living and working 'on country' and in rural communities by expanding intensive block release study format options and inter-sectoral partnerships between education providers and service providers for immersive placement training, the latter being further described in Policy Area 4. These options could be implemented through the RHMT Program which is currently under review.

Explore options to expand the John Flynn Placement Program to include allied health students. Medical students have access to the John Flynn Placement Program: a competitive scholarship which funds a two-week rural placement per year with the same practitioner in the same rural location. Multiple placements to the same site could increase the chance that the student will return to that rural location to practice.

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**Question 3.1.a:** What are the key strategies, considerations and feasible timeframes for provision of comprehensive allied health training in rural areas for:

- i) full year training?
- ii) full course training?

**CRANaplus does not have a position on this.**

**Question 3.1.b:** What are the factors that would need to be considered to ensure the successful expansion of the John Flynn Program to include placement scholarships for rural allied health students?

**CRANaplus does not have a position on this.**

**Question 3.1.c:** Please describe other strategies within the remit of the Commonwealth that could be implemented to:

- i) increase the number of allied health courses and training available in rural locations?
- ii) increase the number of allied health student rural placement opportunities?

**CRANaplus does not have a position on this.**

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### 3.2 Career pathways in rural allied health (MMM4 – 7)

Explore options for implementation of structured national postgraduate career pathways for early career rural generalist allied health professionals. It is once again important to note that a rural generalist is not a 'generic allied health professional' and these career pathways would support allied health professionals still practicing under the regulatory instruments of their specific allied health discipline to access further training to gain rural generalist qualifications; for example, an early career audiologist could attain rural generalist qualifications in addition to their existing clinical professional skills. Building on current jurisdictional hospital based pathways, a national pathway could link with Policy Area 4 by promoting student training in a broader range of geographically distributed community-based service settings.

It is recognised that issues for remote health services are different to those in rural and regional areas. It appears reasonable to also explore options for a specific pathway to include delivery of remote training through partnerships with services operating in MMM7, such as the Royal Flying Doctor Service of Australia (RFDS). Remote allied health training pathways would provide additional career pathways and appeal to allied health professionals. Specialised remote training places could equip allied health professionals with

skills in specialised remote health service delivery and enable seamless transition to the remote clinical workforce. These training opportunities could be coupled with core Rural Generalist training completed in regional training hubs.

Explore options for expanding eligibility and improving promotion of the Health Workforce Scholarship Program in order to increase uptake by rural allied health professionals in rural generalist positions to attain a formal rural generalist qualifications. For allied health rural generalist public sector positions, the scholarship could pay for the training /university fees for rural generalist education. For allied health rural generalist positions in the private sector including remote positions, the scholarship could include payment for training /university fees as above, as well as .2 FTE for training and supervision expenses.

**Question 3.2.a:** What are the factors that would need to be considered to ensure the successful expansion and promotion of the Health Workforce Scholarship Program?

**Ensuring readily available placements and supervision for all scholarship recipients.**

**Question 3.2.b:** Please describe other policy options, within the Commonwealth's remit, which could achieve the same result in clearly articulating and promoting structured career opportunities.

**CRANaplus does not have a position on this.**

**Question 3.2.c:** What is an appropriate governance model for rural generalist training which also supports skills extension for existing qualified rural allied health workers?

**CRANaplus does not have a position on this.**

## Policy Intentions

These training strategies seek to deliver an allied health training system where:

1. Rural career opportunities are clearly articulated, promoted and structured.
2. The rural allied health workforce is representative of the populations and communities it serves.
3. Rural training creates rural jobs.
4. Early career professionals are supported to stay in the rural workforce.
5. Rural students are able to stay in their local communities and obtain an allied health qualification

**Please provide any additional comments and feedback related to this Policy Area.**

**CRANaplus does not have any additional comments related to this policy area.**

## Policy Area 4: Sustainable Jobs and Viable Rural Markets

Providing the right balance of health services, including allied health, to meet the needs of community, is an important factor in optimising the health of rural Australians. Among the flow on effects of better rural allied health service provision are improved wellbeing, increased workforce and school participation, decreased length of stay in hospitals and reduced potentially preventable hospitalisations.

### Context

Allied health professionals deliver a broad range of services in a number of sectors spanning private, public and not for profit sectors and across education, employment, health, ageing, justice and disability systems. In metropolitan settings, allied health professionals deliver services predominantly inside their fields of training within viable markets. In rural areas, there is competing demand for limited providers across sectors and limited funding pools. The viability of business models and sustainability of providers can be improved by enabling delivery of services across sectors.

Current funding models make it difficult for private providers to engage in training rural allied health professionals, and also for providers to work in multiple sectors. The brunt is borne by rural communities in the form of poorer health outcomes. Regions tend to know their need for services, but the current view is that the level of need is underestimated and poorly serviced due to split remuneration models.

By contrast, the downstream impacts of improved allied health offset the upfront costs in a number of ways. Among these are a reduction in costs associated with chronic disease and lower rates of hospitalisations and amputation. But better health also results in lower demand for income support, better workforce participation, and the economic flow on to community such as enhanced businesses and higher revenues.

In rural and more remote communities, markets become thinner and tend towards failure. There is inadequate supply to meet demand. The costs involved in delivering health services to rural communities are greater than similar services provided in urban locations. Each practitioner needs to cover a greater area both in geography and span of services than their urban counterparts. For the individual allied health professional, solo practice becomes more common, professional/collegial support can be less, and workload gets higher, often with an insufficient level of supervision and leave relief.

Australians have the right to access state funded and Commonwealth funded health services. Rural access to both types of service is hindered, in part, by the unintended consequence of section 19(2) of the *Health Insurance Act 1973* which manifests in the inability to aggregate state and federal work into a single-employer job. This, in turn, makes it more difficult to attract the allied health workforce necessary to meet the needs of rural communities.

The benefits of integrated approaches to care can be immeasurable for someone trying to navigate the health system at a time when they may be more physically or psychological vulnerable than usual. For example, with effective integrated models of care for mental health treatment in rural areas, a client requiring mental health services would be able to

access and receive treatment from one provider/clinician irrespective of the door they have used to enter the system. This would mean that a person could at one time seek psychological services through a GP referral (Better Access MBS), another time through a state funded hospital service, and another time through a NGO funded through a PHN and the client would in every case have access the same service from the same provider team without being required to navigate multiple pathways with different services and clinicians.

There are many examples of successful innovative and collaborative service models across the country. These include foundational work carried out in New South Wales and Queensland exploring integrated, cross agency rural allied health service approaches. To continue this good work, professional support, structured career pathways, appropriate workloads, and attractive remuneration are critical to promote recruitment and retention in building a critical mass of allied health services in rural areas.

### Findings from the Literature Review

The evidence found that the number and mix of professionals, their skills, and the local community need, determine the available regional service base. Patient-centred planning and partnerships between public hospitals and with private providers, along with shared care, maximise the utility of available workforce for comprehensive services. Leadership/coordination, information for patients, clear referral processes and staff training are inherent to effective rural allied health pathways.

Factors related to retention have substantial overlap across the literature. These are broadly having a local career path, access to relevant professional development (topic, time and cost), working in a supportive practice environment (clearly documented role, orientation to workplace, culturally safe work environment, having professional colleagues including senior allied health support, and allied health involved in decision-making) and the nature of work (independence in role, variety of work, community focused and a feasible workload). Social and personal determinants are also at play.

A Victorian study identified allied health assistants could substitute around 17% of allied health work (in rural and metropolitan areas). The highest levels of substitution were possible in podiatry, speech and exercise physiology for duties like supervising exercise, fitting slings, providing functional therapies and taking excursions. However, a Queensland study identified that professional trust and governance could impact successful implementation. In small communities, training existing health workers to undertake allied health tasks was considered important for improving early intervention, prevention, service coordination and enabling culturally-safe care in areas like eye and oral health and access to medicines.

Shared rural care (public and private) optimises the available workforce, enabling better access and quality and more comprehensive health services across a region.

An examination of funding sources found that Medicare Chronic Disease Management was the main source of income for 50% of occupational therapists working in outer regional and remote communities.

## Findings from Consultations

The opportunities described below were raised during consultations. These opportunities are considered either outside of the stewardship of, or already addressed by the Commonwealth Government.

### a. Allied Health Assistants

Allied Health Assistants are seen as an enabler of viable businesses and increased access to Allied Health services in rural areas. Standards of training and certification issues were raised during consultations. However, the training and support of Allied Health Assistants varies by state and jurisdiction and is primarily in Vocational Education Training sector. Furthermore, Allied Health Assistants must have a job at the end of their training, which is not always the case. Integrated Allied Health Hubs proposed in option 4.1 below, along with opportunities for increasing telehealth services (Policy Area 5), may increase pathways for allied health assistants that connect to rural jobs.

## Options for Consideration

The options described below have been developed following consideration of the evidence and sector consultations. These options are considered to be within the Commonwealth Department of Health remit, and are proposed for further stakeholder feedback.

### 4.1 Integrated Allied Health Hubs

Integrated Allied Health Hubs (IAHs) could improve availability of more essential, culturally responsive, allied health services across designated regional catchment areas, to meet the allied health needs of the local community. In principle, they could function as multidisciplinary allied health 'one stop shops' where patients could receive a full range of allied health services either through direct face to face appointments or combined with advanced structured telehealth services connecting to general practitioners, specialists and broader hospital networks and expertise.

IAHs could operate across both hospital, community, education, disability and aged care to improve early intervention. For the more remote communities where outreach services are often used, IAHs could provide wrap around outreach services with regular visits from multidisciplinary allied health teams (mobile and virtual clinics) and by utilising structured telehealth networks.

IAHs could draw from multiple funding sources (pooled funding from NDIS, health, education, disability, aged care or primary/acute care), potentially increasing coordinated patient pathways. IAHs could be underwritten through place-based, blended funding agreements, inclusive of support for governance and coordination, addressing thin sector specific market challenges. Practice Managers / Hub Coordinators could 'free up' allied health professionals by managing administration and brokering service contracts with funding bodies. Allied health assistants could be employed to provide allied health professionals, particularly early career professionals, with further administrative and clinical support. Underwritten IAH agreements could describe the models of service, such as

matched funding for positions, overhead and infrastructure arrangements between the parties.

A range of organisations could partner to form IAHHs including (but not exclusive to) Rural Workforce Agencies, Primary Health Networks, Local Health Networks / Local Hospital Districts, existing NGOs, general practices, Aboriginal Community Controlled Health Organisations, Universities, Multi-Purpose Services, allied health practices, local government, Aboriginal Medical Services, schools, disability services and aged care providers.

The economies of scale achieved through pooled funding agreements could provide further meaningful support for the allied health workforce and attract professionals with the right skills for the region.

IAHHs would encourage multidisciplinary team care, interdisciplinary supervision and training, improved professional support and strengthened communities of practice. IAHHs could also ensure that early career professionals 'land' in supported team environments where there is opportunity for career progression and training. UDRHs and IAHHs could work together providing placement, service based learning and immersion training opportunities for students as described in Policy Areas 2 and 3.

Medium to long term employment contracts with leave conditions and training and career development opportunities would be attractive to potential staff and could be an effective strategy to increase workforce stability. Non salaried (and bundled) incentives allowing for tailored use for relocation allowances, vehicles and accommodation and opportunities for spouses and families, could also be important in some regions.

In MMM4-7 areas, where there is market failure, the Commonwealth could underwrite models of service which are flexible: implemented in a number of ways depending on the constellation of existing services, known service gaps and the needs of communities.

There are a number of government programs and funding mechanisms that could be considered as options to implement Integrated Allied Health Hubs into regions including one or a combination of all of the following:

1. Funding of a Rural Allied Health Service Hub Program commissioned through either the PHN, RWA or UDRH Programs

The Commonwealth could consider the allocation of funding for an Integrated Allied Health Hubs Program to be commissioned by country PHNs/RWAs/UDRHs to deliver IAHHs within their regions. PHNs may choose to integrate the program with other PHN funding streams such as Mental Health, Telehealth, Training and Aged Care.

2. Expand the Multi-Purpose Services (MPS) Program beyond the provision of aged care services to include allied health care services

Multi-Purpose Services receive Australian Government funding to deliver aged care services and state or territory governments provide funding for the delivery of health services and the necessary capital infrastructure. There are opportunities to explore the expansion of the scope of delivery of the MPS Program to include an Allied Health funding stream, matching with funding partners to fund IAHHs and utilising the existing infrastructure of the MPSs.

### 3. Provide direct funding from the Commonwealth

Provide direct funding from the Commonwealth to selected organisations and consortiums to implement IAHH in some regions. Applying a similar model used to fund Aboriginal Medical Services through the Indigenous Health Division and the Royal Flying Doctor Service of Australia Program.

**Question 4.1.a:** What are the factors that would need to be considered to support the development of IAHHs which service regional catchments of Australia?

**CRANaplus does not have a position on this.**

**Question 4.1.b:** Please describe any examples of integrated and collaborative service models that could be scaled up and or adapted under the proposed IAHHs principles in this options paper.

**CRANaplus does not have a position on this.**

**Question 4.1.c:** How could Government structure funding arrangements to allow the flexibility necessary for regions to manage funding in the way that suits the specific needs of their communities?

**CRANaplus does not have a position on this.**

**Question 4.1.d:** What kinds of Commonwealth support for allied health assistants could raise the capacity and effectiveness of rural allied health workforce?

**CRANaplus does not have a position on this.**

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## 4.2 Viable Rural Markets

To develop viable rural markets and create rural jobs, providers need to access funding commensurate with elevated expenses using structures that do not impede allied health professionals who are in high demand from working across sectors.

Medicare subsidy is available for a limited number of allied health services under group M3 of the Medicare Benefits Schedule (MBS). These Medicare subsidised services require referral by a medical practitioner and have a cap on the number of services a patient can access in any given calendar year.

The skills and capability required for allied health professionals to work across sectors could be built through solutions proposed in policy options 1.2, 3.1 and 3.2 and in conjunction with mechanisms to overcome the unintended consequences of section 19(2).

GPs may hesitate to refer vulnerable patients (ie patients with complex and chronic conditions, inadequate self-management and limited financial resources) to allied health services, as they may doubt their patient's ability and willingness to pay for the service, or doubt the patient's capacity to benefit from only five allied health interventions when the patient has more complex problems that require more sustained services. Yet being able to

buffer rural GPs with more affordable and sustained allied health care for their patients may in turn support their workload and reduce isolation.

Explore options to improve access to Commonwealth funding for allied health professionals and patients in MMM 4-7 areas.

1. The Commonwealth could work with states and territories to determine efficient, transparent and fair mechanisms to overcome the unintended consequences of section 19(2) of the HIA in rural areas, thereby allowing the aggregation of state and federally funded work into single-employer rural jobs.
2. Commonwealth to fund supervisors of allied health students in private practice in MMM4-7 areas for the time they spend teaching and demonstrating in practice settings (e.g. through a Commonwealth incentive program). Such funding would not prevent the supervisor from accessing other eligible service-related income (e.g. Medicare payments for services personally rendered).
3. To acknowledge and compensate for the complexity that increases with rurality of practice, provide incentives for rural practice allied health services, for example, in MMM4-7, the Commonwealth could offer:
  - a. rural loading on fees for allied health services (e.g. on Medicare payments)
  - b. a bulk billing incentive
  - c. a GPRIP-like incentive
4. Remove caps on the number of allied health services any one patient within MMM4-7 can receive for items under Better Access, Chronic Disease Management, and Medicare Follow-up Allied Health Services for People of Aboriginal and Torres Strait Islander Descent.
5. Fund HECS-HELP loan repayments for early career professionals working in a permanent or fixed duration contract in a rural location. These payments could be structured to include a loading to encourage professionals to work in areas of higher need.

**Question 4.2.a:** Are there other funding channels that could be leveraged or influenced by the Commonwealth to achieve stable, integrated and coordinated allied health services?

**CRANApplus does not have a position on this.**

**Question 4.2.b:** Of the options described above which would be most effective in creating viable rural markets? Please describe the reasons why.

**Ensuring viable rural markets for allied health is a complex problem requiring a complex solution. It is likely that all of the options described above will be required in some measure. It could be expected that some options will be more effective in some contexts and allied health professions than others, therefore flexibility is required to ensure incentives and enablers can be tailored as required.**

## Policy Intentions

1. Addressing thin rural markets and competition for allied health workforce
2. Improving access to allied health services for rural and remote communities
3. Stable integrated and coordinated regional allied health services
4. Increasing rural jobs and economic participation

**Please provide any additional comments and feedback related to this Policy Area.**

**CRANApplus does not have any additional comments related to this policy area.**

## Policy Area 5: Telehealth Allied Health Services

Evidence shows that some allied health services could be provided effectively using telehealth technology to improve access across distributed catchments. Integrated Allied Health Hubs in MMM4-7 (towns less than 15,000 residents) could have a role in facilitating access to allied health services via telehealth to populations in those regions.

### Context

While telehealth cannot replace all allied health services, it could assist to alleviate the burden of unfunded travel, prevent delays in treatment and follow-up, and achieve greater continuity of care by facilitating treatments that supplement face-to-face services.

The decision about whether to use telehealth is one involving many factors that differ between individual patients and individual professionals. Ultimately the potential benefit of using telehealth will also differ for various allied health services in different contexts. For that reason, the decision is and should remain one that is shared between the treating allied health professional and the patient, relative to the care intended in a context. If the decision is to use of telehealth as an alternative to face to face treatment, that decision could be supported through funding mechanisms. Where possible, outreach and telehealth solutions need to be supported within regional staff and infrastructure rather than metropolitan providers, so as to promote integrated care through proximal referral pathways.

Successful telehealth models are currently in operation in Australia. One that has shown particular promise is called *healthdirect Video Call* which operates like a virtual outpatient clinic. The patient simply checks in to the virtual clinic via the internet using a personal device like a camera-equipped smartphone or tablet and waits their turn for a consultation. Meanwhile, the practitioner sees patients either in person in the clinic or online in the virtual clinic based on what the system feeds them through the queue.

Telehealth requires staff training. The Allied Health Rural Generalist program includes in its curriculum telehealth as a service delivery modality and the Cunningham Centre, the educational provider, has also developed telehealth training resources.

In the early stages, implementing telehealth requires investment in setting up and maintaining infrastructure like rooms and equipment, for proximal providers.

At the patient end, the ubiquity of phone technology and internet access could facilitate the delivery of some services without great cost in a patient's home using available infrastructure (phone, network, TV). This would still require a minimum standard of function (e.g. internet speed, phone lines, working devices) and patient proficiency before services could take place.

Telehealth technology has the potential to enable the development of interdisciplinary networks between Integrated Allied Health Hubs and with teaching hospitals. In addition, Rural Allied Health Career pathways could be enhanced through access to telehealth systems for education. With sufficient underlying infrastructure and ICT networks, these policy options could democratise knowledge and facilitate support and supervision thereby complementing policy areas 2, 3 and 4 of this Advice.

## Findings from the Literature Review

The evidence supports both telehealth and outreach for effective delivery of rural health services. With sufficient staff base and viable business models, distribution of services is improved by both means. The quality of these models is improved with local coordination and community engagement.

Oral therapy was implemented for Indigenous children in Canada using trained community workers who identified and engaged people for treatment by visiting dental therapists and hygienists.

The literature on telehealth identified successes with individual home-based cardiac rehabilitation (internet and phone-based) which were considered as effective as hospital-based models. Online consultations were found to provide services of equivalent quality to face-to-face consultations in the areas of diabetic foot healing, rehabilitation and speech pathology. Despite the effectiveness of telehealth consultations, providers and clients may prefer face-to-face services while other types of consultation need to be delivered in person.

## Findings from Consultations

The opportunities described below were raised during consultations. These opportunities are considered either outside of the stewardship of, or already addressed by the Commonwealth Government.

### **a. Management, clinical support and education**

The potential uses of telehealth technology expand well beyond the provision of remote health services. For example, the same systems, if properly managed and coordinated, could be effective in facilitating multidisciplinary planning and consultation, in-home patient monitoring (hospital at home), and many more applications including remote training and education (undergraduate, post-graduate and professional development) reducing the need for rural students/practitioners to travel to urban facilities to undertake professional development, thereby enhancing rural retention.

Management systems will be required centrally and at a local level to facilitate effective delivery of the broad range of potential applications and to capture the benefits associated with future advances in technology.

### **b. Infrastructure**

Effective telehealth clinics require reliable transmission of voice, data, and images, and for more advanced treatments, the control of remote equipment. Facilities are required to capture images, sound and instructions (e.g. cameras, microphones, control devices), sound and data transmission (network infrastructure), and delivery (displays, speakers, other equipment). Buildings/rooms may be required at both ends of the consultation in which to deliver and receive the services. This infrastructure needs to be maintained.

Providing grants for local construction of facilities and for acquisition of equipment has the potential to facilitate 'virtual' allied health service delivery to rural patients by rural professionals.

## Options for Consideration

The options described below have been developed following consideration of the evidence and sector consultations. These options are considered to be within the Commonwealth Department of Health remit, and are proposed for further stakeholder feedback. The Commonwealth could:

### 5.1 Fund eHealth software and systems

Subsidy of software for allied health providers could facilitate uptake of telehealth as an option for delivering rural allied services by making it easily accessible and affordable to install. The Commonwealth could leverage the current availability and working proficiency of systems such as *healthdirect Video Call* to enable broad implementation of telehealth allied health service in MMM 4-7.

### 5.2 Fund training in telehealth and promote awareness

Users of telehealth resources require training or suitable guidance materials to establish the connection with the service and maximise utility of telehealth systems. Rural allied health professionals, allied health assistants without prior experience, and rural patients using telehealth modalities could receive basic training to maximise the effectiveness of services. Furthermore, the quality of consultations could be improved by ensuring that allied health professionals develop and maintain competence in the delivery of clinically-effective and culturally-appropriate services via telehealth by making it a prerequisite for funding. The training package could be obtained either through negotiation with the software providers or through direct funding.

Uptake of telehealth services requires more than available systems. Patients need to be aware of services of relevance and their effectiveness. Suitable promotion and engagement mechanisms may be required to create awareness of the available telehealth services as an alternative to face-to-face consultations for some services.

### 5.3 Fund virtual training

Telehealth/virtual systems could facilitate undergraduate and postgraduate training for students and professionals based in rural areas. Instead of travelling to cities, students could readily attend virtual lectures and tutorials from their rural homes. Students on placement at an Integrated Allied Health Hub could access support from university teaching staff outside of consultation times using telehealth systems within the hub itself. Similarly, working professionals could use those facilities after hours for professional development, which may include studies towards the attainment of rural generalist qualifications. Additional funding would be required to establish and maintain videoconferencing equipment in universities. This option links strongly with policy options 1.2, 2.1. and 3.1.

### 5.4 Fund allied health services delivered by telehealth

Allied health services delivered by rural allied health professionals to rural and remote patients via telehealth could be supported, including first and subsequent appointments,

without caps. Inclusion of these provisions within relevant Medicare items, exclusively for professionals and patients based in MMM4-7, could promote take up of rural telehealth. For complex investigations such as those that require special equipment (see 5.6), the Commonwealth could provide funding for an Allied Health Assistant, Aboriginal Health Workers or other trained health worker to be co-located with the patient in order to assist the telehealth consultation with the allied health professional.

### 5.5 Fund allied health intra-disciplinary case conferences

Where an allied health professional based in MMM4-7 requires clinical support and input from an allied health sub-specialist who is located either in another rural location or in an urban area, the Commonwealth could fund a case conference where all participating professionals are paid. This is similar to a Medicare funded case conference conducted by telecommunication where payment is available for multiple providers who are involved in the conference and in direct care of the patient. For example, a rural physiotherapist located in MMM4-7 could seek advice from a neuro physiotherapist located either within or outside of MMM4-7 regarding a patient's vestibular rehabilitation. If both were private practitioners each could seek payment for their service. If the neuro physiotherapist was publically salaried for example by the state, they would not be able to seek payment.

Explore options for the addition of Medicare items that fund telehealth case conferences initiated by allied health professionals located in MMM4-7 to allow clinical decisions to be supported with intra-disciplinary advice from sub-specialist allied health professionals in other locations. Medicare items could provide funds to eligible parties involved in the conference.

### 5.6 Invest in point-of-care equipment

To expand the utility of telehealth to a greater range of allied services, the Commonwealth could provide funds for point of care equipment that interfaces with telehealth system. Equipment such as video otoscopes, retinal scanners, blood pressure monitors, pulse oximetry, blood glucose monitors, optimised for use with telehealth systems are options for investment.

## Policy Intentions

1. Improve access to allied health assessment and treatment options which can be effectively provided using telehealth technologies
2. Promote allied health service distribution for improving early intervention, reducing transfers and patient travel, avoidable hospitalisations and length of stay.
3. Complement the range of allied health services available and provide professional support for allied health workers.

**Question 5a:** Please describe any existing telehealth models that could be adopted in rural areas to improve the access to and delivery of allied health services.

**The aforementioned healthdirect Video Call provides an excellent model for improving access and delivery of allied health services into rural and remote**

areas.

Remote and rural area nurses have readily adopted online learning opportunities for maintaining their CPD. With improved connectivity in the bush, the roll-out of the NBN and advancements in Telehealth, all regional, rural and remote health professionals (and ultimately their patients) will benefit from improved access to upskilling and CPD.

**Question 5b:** The difficulties in making changes to the MBS are recognised. In relation to Policy Area 5, are there alternative arrangements not involving MBS that could achieve the same outcomes?

CRANaplus does not have a position on this.

**Please provide any additional comments and feedback related to this Policy Area.**

It is surprising that the role of the remote or rural area nurse has not been considered in Policy Area 5. Given their locales and distribution, this workforce seems the obvious link between the off-site allied health clinician and the patient. This workforce is already on the ground and utilizing telehealth facilities in their daily work. The investments described under 5.6 are unnecessary when considering those tasks, and more, exist within the scope of practice for the remote/rural area nurse.

General Question

Please describe any other options or considerations for the Commonwealth which could affect distribution, quality and access for rural allied health services.

CRANaplus does not have any additional comments related to this policy area.

## Concluding Remarks

The development of this Discussion Paper has been heavily influenced by the Aboriginal and Torres Strait Islander principles of community wellbeing and the importance of place, as well as the work of the National Rural Generalist Taskforce in 2018. The policy options provide a structured approach towards improved health in regional and remote areas by strengthening what I see as the three pillars of a sustainable high quality rural allied health service:

- Increased rural origin participation in the allied health workforce
- Increased high quality training in rural communities
- Increased sustainability and viability of allied health jobs in rural Australia.

Together, these initiatives can improve the health and wellbeing of rural communities and create more and better jobs in the regions. Healthy rural communities are productive rural communities. Productive rural communities are critical to our nation's prosperity.

## Attachment A: Literature Review

# **Review of rural allied health evidence to inform policy development for addressing access, distribution and quality:**

## **A Report of the Rural Health Commissioner**

June 2019

<b>Executive summary</b> .....	<b>37</b>
<b>Snapshot of findings</b> .....	<b>37</b>
Workforce and scope of practice .....	37
Rural pathways to train and support.....	37
Recruitment and retention .....	37
Models of service .....	37
Summary .....	38
<b>Introduction</b> .....	<b>39</b>
<b>Section 1: Defining the scope of the review</b> .....	<b>39</b>
1.1 Defining allied health.....	39
1.2 Rural allied health and rural community need.....	40
1.3 The Commissioner’s focus.....	42
<b>Section 2: Collecting the published evidence</b> .....	<b>42</b>
2.1 Review question and search strategy .....	42
2.2 Study selection.....	43
<b>Section 3: Results</b> .....	<b>43</b>
3.1 The range of evidence .....	43
3.2 Findings .....	44
3.2.1 Characteristics of the workforce and their scope of work .....	44
3.2.2 Assistants and training local staff to provide allied health services .....	46
3.2.3 Rural pathways to train and support.....	46
3.2.4 Recruitment and retention .....	50
3.2.5 Models of service .....	52
<b>Section 4: Discussion</b> .....	<b>55</b>
4.1 What are the policy implications of these data? .....	56
<b>Conclusion</b> .....	<b>57</b>
<b>References</b> .....	<b>59</b>

## Executive summary

In December 2018, the Rural Health Minister Hon Bridget McKenzie requested the National Rural Health Commissioner to work with the allied health sector to develop Advice about improving the access, distribution and quality of rural and remote allied health services. The Commissioner's Office has prepared a literature review and a policy options paper to inform policy advice.

This document summarises the results of a scoping review of the published peer review literature (1999-2019). Included were 119 studies, 19 of which were other reviews and 100 empirical studies. Broad themes identified were: rural allied health workforce and scope of practice; rural pathways to train and support; recruitment and retention and; models of service.

## Snapshot of findings

### *Workforce and scope of practice*

More than half of rural allied health professionals work publicly; although those more privately based include optometrists, podiatrists, pharmacists, physiotherapists and psychologists.

Rural allied health workers commonly service large catchments, visiting multiple communities. They work across an extended scope using generalist and specialist skills to meet diverse community needs with limited infrastructure.

Particular skills used are in paediatrics, Indigenous health, chronic diseases, health promotion and prevention, primary health and health service management. In rural and remote communities, training local workers including Indigenous Health Workers and allied health assistants is important for increasing early intervention, prevention, service coordination and enabling culturally-safe care.

### *Rural pathways to train and support*

Based on a range of surveys, around half to two-thirds of rural allied health workers have a rural origin and half have some rural training experience.

Accessing tertiary allied health training is challenging for rural youth. Rural training opportunities have increased over time through University Departments of Rural Health (UDRH) (some disciplines of 12 months' duration), with signs that quality rural training impacts early career supply, after controlling for rural background.

Tertiary scholarships with rural return of service requirements and professional support could improve uptake of rural work. Intention to stay and turnover have the potential to vary between public and private sectors warranting tailored approaches.

### *Recruitment and retention*

Reduced turnover is predicted by commencing employment at a higher grade (2/3 compared with 1) or being aged >35 years (compared with <35).

Factors considered important for retention are having strong rural career pathways, access to relevant professional development and local colleagues, working in a supportive practice environment and the nature of work (independence in role, variety of work, its community focus and a feasible workload).

### *Models of service*

Available professionals (public and private), skills, infrastructure and the community need determine the allied health service platform for a regional catchment.

Patient-centred planning and partnerships between public hospitals and private providers (shared care) in regions can optimise use of the available workforce and promote access and quality.

Coordinated patient care depends on health service networks having strong leadership/coordination, patient information, clear referral processes and staff training.

Outreach and telehealth, along with viable business models, are important for increasing service distribution. They require an adequate staff base, strong community engagement and training for local staff who manage ongoing care between allied health service points.

## **Summary**

Australia is leading the evidence base with respect to rural allied health workforce and services. Findings suggest that allied health providers are working as generalists and need particular skills.

Access and quality depend on a critical mass of skilled providers, working in complementary teams to address needs of regional catchments. This can be aided by selecting rural background students, providing more rural-based training, rural curriculum, supported rural jobs and rural career pathways including addressing job satisfaction.

At the regional level, patient-centred service planning and coordination of public and private providers underpins access to more comprehensive and high quality services.

For smaller communities, outreach and virtual consultations are critical for early intervention and continuity of care, but viable business models and an adequate staff base are essential to improve service distribution.

## Introduction

There are around 195,000 allied health professionals and allied health workers make up 25% of Australia's registered health workforce, however, they remain poorly distributed in rural and remote areas (1, 2). In December 2018, the Rural Health Minister Hon Bridget McKenzie requested that the National Rural Health Commissioner (the Commissioner) consult with the allied health sector to develop advice about the current priorities for rural and remote allied health services by October 2019. To support this, the Commissioner's Office has prepared a literature review and policy options paper. This document describes the literature review. Section 1 outlines the scope of the review. Section 2 describes the collection of evidence. Section 3 describes the results and Section 4 discusses the policy implications.

## Section 1: Defining the scope of the review

### 1.1 Defining allied health

"Allied Health" describes a range of health professional groups involved in health service provision who are important for achieving comprehensive health and well-being outcomes outside of the boundaries of emergency, medical, dental and nursing care.(2, 3) In Australia, allied health professionals are trained in universities (faculties of health science, medicine, education, social sciences and University Departments of Rural Health (UDRH). Allied health assistants are trained by vocational training providers.

There are a range of allied health professions registered through the National Registration and Accreditation Scheme including psychologists, pharmacists, physiotherapists, occupational therapists, medical radiation practitioners, chiropractors, optometrists, podiatrists and osteopaths(Table 1).(1) In addition to the registered allied health professions, a large number of allied health professions operate under self-regulation. These include speech pathologists, dietitians, social workers, audiologists, exercise scientists/physiologists, orthoptists, orthotists, prosthetists and sonographers. Allied health assistants work under supervision of allied health professionals in single or multi-disciplinary roles.

A number of stakeholders are involved in allied health policy development. In February 2018, AHMAC formally recognised the Australian Allied Health Leadership Forum (AAHLF) as the appropriate allied health forum for AHMAC and Health Service Principle Committee (HSPC) to seek allied health workforce specific advice. The Forum includes members of Allied Health Professions Australia (AHPA), Deans of Universities that have allied health courses, Chief Allied Health Advisers, Indigenous Allied Health Australia and rural and remote representation via Services for Rural and Remote Allied Health (SARRAH).(4) The Forum describes allied health professionals as university qualified with "skills to retain, restore or gain optimal physical, sensory, psychological, cognitive, social and cultural function of clients, groups and populations", being "client focused, using inter-professional and collaborative approaches related to client needs, the community, and each other". The AAHLF does not delineate the specific disciplines included.

Allied Health Professions Australia (AHPA) is a peak body representing 20 national allied health association members and 6 organisational friends. AHPA also defines allied health professionals as university qualified practitioners with specialised expertise in preventing, diagnosing and treating a range of conditions and illnesses, qualified at the Australian Qualifications Framework (AQF) (Level 7 or higher), who work in multidisciplinary teams to address patient priorities (included disciplines listed in Table 1).(2) Various states and territories (jurisdictions) also manage a range of allied health disciplines and other health workers under the banner of "allied health" (Table 1). The Department of Health and Human Services (DHHS) in Victoria noted that a multiplicity of professions, technical expertise, training pathways, sectors of practice and professional governance frameworks needs to be embraced within allied health policies. (3)

**Table 1** – Different groupings of disciplines registered, included or managed by jurisdictions for “allied health”

National Registration and Accreditation Scheme (AHPRA)	Allied Health Professions Australia (AHPA)	Victoria #	New South Wales #	Queensland #
Chiropractic *	Audiology	Art therapy	Art therapy	Audiology
Medical radiation practitioners	Chiropractic *	Audiology	Audiology	Clinical Measurements *
Occupational therapy	Creative arts therapy *	Biomedical science *	Child Life Therapy *	Exercise Physiology
Optometry	Dietetics	Chiropractic *	Counselling	Leisure Therapy *
Osteopathy	Exercise & sports science	Diagnostic imaging medical physics	Diversional Therapy *	Music Therapy
Pharmacy	Genetic Counselling *	Dietetics	Exercise Physiology	Neurophysiology
Physiotherapy	Medical imaging and radiation therapy	Exercise physiology	Genetic Counselling *	Nuclear Medicine Technology
Podiatry	Music therapy	Medical laboratory science *	Music Therapy	Nutrition & Dietetics
Psychology	Occupational therapy	Music therapy	Nuclear Medicine Technology	Occupational Therapy
<i>Additional registered health workers that may be part of rural allied health teams</i>	Optometry	Nuclear medicine	Nutrition & Dietetics	Optometry
Dental hygienist *	Orthoptics	Occupational therapy	Occupational Therapy	Orthoptics
Dental prosthetist *	Orthotics & Prosthetics	Optometry	Orthoptics	Orthotics & Prosthetics
Dental therapy	Osteopathy *	Oral health (not dentistry) *	Orthotics & Prosthetics	Pharmacy
Oral health therapy *	Perfusionists *	Orthoptics	Pharmacy	Physiotherapy
Aboriginal and Torres Strait Islander Health Practitioners *	Physiotherapy	Orthotics & Prosthetics	Physiotherapy	Podiatry
	Podiatry	Osteopathy *	Podiatry	Psychology
	Psychology	Pharmacy	Psychology	Radiation Therapy
	Rehabilitation counselling *	Physiotherapy	Radiography	Radiography
	Social work	Podiatry	Radiation Therapy	Rehabilitation Engineering *
	Speech pathology	Psychology	Sexual Assault *	Social Work
		Radiation oncology medical physics	Social Work	Sonography *
		Radiation therapy	Speech Pathology	Speech Pathology
		Radiography	Welfare *	
		Social work		
		Sonography *		
		Speech therapy		

\*May not be on lists of other jurisdictions, AHPRA or AHPA as of 2019 (1, 5, 6)

# Not all disciplines managed by jurisdictions are considered allied health but are listed if they are managed by allied health advisors

## 1.2 Rural allied health and rural community need

Services for Rural and Remote Allied Health (SARRAH) emerged in 1995 as a grassroots organisation advocating for rural allied health workers (7). SARRAH includes a range of allied health professions including but not limited to: audiology, dietetics, exercise physiology, occupational therapy, optometry, oral health, pharmacy, physiotherapy, podiatry, psychology, social work and speech pathology.

Various jurisdictions have initiated rural training and support programs to achieve a skilled and distributed rural allied health workforce and services. The most advanced of these is the Queensland (led by James Cook University - JCU) rural generalist allied health training program. Within this program, “generalist allied health” is described as either a service, or a practitioner, responding to the broad range of healthcare needs of rural or remote communities by delivering services for people with a wide range of clinical presentations, across the age spectrum, and in a variety of clinical settings (inpatient, ambulatory care, community). The aim of allied health generalist services/workers is to deliver accessible, high quality, safe, effective and efficient care using strategies such as telehealth, delegation, extended scope of practice and partnerships (particularly for low volume but important areas of care).

The University Departments of Rural Health (UDRH) and their parent body, the Australian Rural Health Education Network (ARHEN) which was formed in 2001, represent rural nursing and allied health disciplines (8). The UDRH Program was established as a result of the 1996-1997 Federal budget after being identified as a key component of the Government’s Rural Workforce Strategy (9). In 2016, UDRH funding was incorporated into the Rural Health Multi-disciplinary Training Program (along with funding for rural medical and dental training). Around 16 UDRHs in Australia

provide clinical placements in rural and remote locations for health science students and have a role in developing evidence to inform rural health system quality improvement (8).

Rural and remote communities have access to fewer allied health services. Despite more allied health workers being produced nationally in recent years, workforce statistics suggest poor distribution (10). In 2016, 83% of psychologists, 81% of physiotherapists, 79% of optometrists, 77% of pharmacists, and 75% of podiatrists worked in metropolitan locations (MMM1) where only 70% of the population resides (10). The ratio of allied health workers per 100,000 population diminishes with increasing remoteness. This absolute deficit is in addition to the large distances, population dispersion, lower socio-economic and health status and higher health risk behavior of rural and remote that also impact on shortfall of workers relative to the number required (10).

In 2012, core primary care services needed for rural and remote communities were defined using a Dephi method with 39 experts - 'care of the sick and injured', 'mental health', 'maternal/child health', 'allied health', 'sexual/reproductive health', 'rehabilitation', 'oral/dental health' and 'public health/illness prevention'. The challenges of providing these services equitably in rural and remote areas required diverse strategies and strong service coordination (11). A follow up study identified that most of these core services were required even in communities as small as <1000 people (12).

Hospitalisation data reflects substantial unaddressed need within rural and remote primary care. One 2011-2013 study found that hospitalisations for oral and dental conditions were significantly higher for Indigenous infants and primary school-aged children from remote areas than age-matched metropolitan controls (13). Also over a one year period, a remote Northern Territory clinic transferred 789 children (aged <16 years - average age of 4.4 years) for care in a metropolitan centre (14).

Other literature directly reflects unmet need and barriers to accessing rural allied health services. O'Callaghan et al, identified that 85% of parents in rural NSW considered access to paediatric speech pathology services a prime concern, mainly related to lack of providers (15). Rural families faced long travel distances and costs for accessing services, lack of public transport, poor awareness of available services, and delays in treatment due to waiting lists. A further integrative review of the experience of rural mothers caring for children with chronic conditions identified that common challenges were accessing the right staff and resources, long travel times and social isolation (16). Mitsch et al found there was limited access to rehabilitation for brain injury in rural and remote areas in New South Wales (NSW) related to funding, recruiting and retaining appropriately skilled health, rehabilitation and support staff (17). An international literature review reinforced the deficits in access to rehabilitation services in rural and underserved areas, mainly related to the supply and distribution of an appropriately skilled workforce (18).

Indigenous people are over-represented in rural and remote areas. Leach et al described otitis media which commenced in Aboriginal infants within 3 months of birth, progressed to chronic suppurative otitis media in 60% of the children and did not resolve throughout early childhood (19). Rural pharmacists identified that access and maintenance of medications with appropriate support was essential to manage the high burden of early onset chronic diseases experienced by rural Indigenous clients (20). Based on increased hospitalisations and deaths from suicide in remote Indigenous communities, Hunter identified more comprehensive upstream approaches were required rather than narrowly focused clinical services models (21). Another study identified that strong and collaborative workforce models were also important for improving the management and prevention of chronic diseases in rural and remote Indigenous populations (22).

Communities with younger populations relative to Australian averages may need early intervention services including for oral health. Gussy et al (2008) reported among rural Victorian parents (in towns 10-15,000 population) that tooth cleaning was done for 12-24 month year old infants "at least sometimes", however a large proportion lacked confidence and this was significantly related to the frequency of the cleaning (23). In another study, with multivariate models controlling for Indigenous status, living in a fluoridated area, low socio-economic status (SES), and age and sex, the mean decayed/missing/filled teeth of 5-10 year old and 8-12-year-old children in 2009 were significantly higher for rural children compared with metropolitan (24). Children in remote areas fared worst, mainly related to having more filled teeth. In another study of adolescents aged 11-17 years in rural Victoria, early lesions were found in 60% of students and advanced decay in 28%, associated with diet, mothers' education level being primary school and irregular check-ups (25).

Rural and remote service access is also affected by the health-seeking behaviour of rural and remote people. For small and dispersed populations who have lower access to healthcare, many working in self-employed industries, important

health needs are not necessarily well-identified, nor acted upon. Rural and remote people tend to under-access health services due to poor health literacy, stigma, stoicism, long waiting lists, lack of medical providers as gate keepers, cost (time), distance (time), cultural safety and convenience (26-30). Unmet healthcare needs can in turn affect the ability to fully participate in education, work and community life (31).

### 1.3 The Commissioner’s focus

Under Part VA of the Health Insurance Act 1973 (the Act), the National Rural Health Commissioner is required to consider the needs of the entire rural health workforce. For this reason, the review was deliberately broad and inclusive of allied health disciplines as defined by AAHLF, thus excluding medicine, nursing, midwifery, dentistry, paramedicine and non-clinical roles. Given the rural context requires cost-effective and sustainable models that can operate well across geographically distributed populations, allied health assistants, oral therapists/hygienists and Aboriginal and Torres Strait Islander health Practitioners were included in the search terms. Given the Commissioner reports to the Minister responsible for Rural Health, the review predominantly focused on the health sector, rather than disability, aged care, justice and education areas. The Commissioner’s focus is on discerning policy options within the remit of the Commonwealth Department of Health, but the literature review was broader in order to understand the evidence from a whole of community perspective.

## Section 2: Collecting the published evidence

### 2.1 Review question and search strategy

Scoping reviews are an effective way to summarise existing evidence and inform real-life policy and program questions (32). The following questions were posed:

*What are the characteristics of the rural allied health workforce and their scope of practice?*

*What is the range of evidence about the rural allied health workforce and rural allied health services for informing policy development, specifically about issues of access, distribution and quality?*

In line with scoping review methods, questions guided all aspects of data collection and extraction. A range of search terms was mapped based on the review questions. These were then iteratively developed to ensure sensitivity to the range of disciplines and rural contexts of interest. The final search included three key concepts, allied health (not specific to discipline names) using terms like “allied health”, “health work\*” “therap\*”, rural or remote practice, and training, recruitment, retention and service models. To ensure relevance of material to informing Australian policy, a fourth concept limited the material to high income countries where previous global scale literature reviews had identified the most evidence about primary care/allied health: Australia, New Zealand, Japan, Canada and the United States (33, 34).

Concept 1	Concept 2	Concept 3	Concept 4
Rural OR remote	“health work*” OR “rural generalist” OR “allied health” OR “community health worker” OR “health assistant” OR “therap*”	train* OR curricul* OR develop* OR course OR placement OR immersion OR skill OR education OR qualification OR competen* OR recruit* OR retention OR *care OR *access OR model OR telehealth OR outreach	Australia OR New Zealand OR Japan OR Canada OR United States OR North America

Six databases were selected based on scope and relevance of literature content: *Medline, Social Science Citation Index, CINAHL, ERIC, Rural and Remote Health, Informit Health Collection, and the Cochrane Database of Systematic reviews*. The search included literature published between February 1999 and February 2019. A Boolean search was applied based on the terms in each concept. The final search was restricted to English, producing around 8,000 articles considered both feasible within a time-limited review, and found to be sensitive when checked against ten allied health articles of different disciplines, countries and topics, already known to the authors. Other key published texts were found by hand searching and identified by key informants. The literature was entered into Endnote and duplicates were removed.

## 2.2 Study selection

Study selection occurred iteratively, led by two team members and guided by whole-of-team weekly discussions. Titles and abstracts were screened and included if:

- Based in a rural or remote location
- Empirical study or literature review about allied health disciplines or services “in scope”
- Reporting outcomes
- Over 40% of results about allied health workforce
- From Australia, Canada, United States of America, New Zealand, Japan

Studies were excluded if:

- Low or middle income country
- Discussion or perspective only
- Clearly aged care, disability or education sectors
- Virtual service models not specific to supporting rural workforce or rural access
- <15 people in sample
- Full text not available (via find full text using Endnote, Google or direct library searching)

After abstract and title screening, relevant material was read in full text. All forms of investigation were considered potentially useful for informing policy directions. Data extraction criteria were determined based on the review questions, trialled and refined during first reading to ensure that they were fit-for-purpose. The following information was extracted:

- Country, location and year
- Health worker type/s
- Area of care
- Research question
- Study sample
- Study design / methods
- Outcomes
- Enablers or barriers

The extracted material was thematically analysed, firstly by reading the articles and recording preliminary ideas and thoughts, discussed at weekly team meetings. Secondly by re-reading and organising the material into themes (35).

## Section 3: Results

### 3.1 The range of evidence

Of 7,429 articles, 205 were relevant from initial abstract and title screening. Of these, 85 were excluded using the above criteria, leaving 118 meeting the inclusion criteria. Two additional studies, not already in the database, were included from stakeholders, resulting in a total of 120 articles. Of these, 101 were empirical studies, 19 were literature reviews; 83 (70%) were published recently (2009-2019).

Of the 101 empirical studies, 11 were from another country - 8 from Canada, 2 the USA, 1 from New Zealand. The other 90 were based in Australia – 6 of which were national scale studies and 84 from one or more state or territory jurisdictions. Of jurisdictional studies, most (n=24) were from Queensland (including one which also covered Northern Territory (NT)), (n=22) New South Wales (NSW) and (n=21) Victoria (Vic) (including one which also included Queensland). Only 16 of the 84 jurisdictional studies were state or territory-wide. The others were based in a region (such as a cluster of towns or health service/s). Most (n=85) explored both hospital and community (non-hospital) practice settings, a further 23 focused on community (non-hospital) and only 12 on hospital only care.

The main themes were: workforce and scope of practice (n=9); rural pathways to train and support (n=44); recruitment and retention (n=31) and; models of service (n=36).

Of empirical studies, 83 were cross-sectional designs. Many (n=64) involved questionnaires 33 interviews and 11 focus groups. Only 8 studies used multivariate analyses and 15 used comparison groups (metropolitan workers, regular care, public workers or pre and post intervention testing). Putting these quality measures together, only three used longitudinal designs, controlled for confounders and used comparison groups.

## 3.2 Findings

The findings are summarised according to theme.

### 3.2.1 Characteristics of the workforce and their scope of work

The first theme described the characteristics of the rural allied health workforce and their scope of work.

#### SNAPSHOT OF EVIDENCE

Cross-sectional surveys estimated that around 11-35% of various allied health professions worked in rural areas. More than half of rural allied health professionals worked in the public sector; those more privately based were optometrists, podiatrists, pharmacists, physiotherapists and psychologists. Commonly, rural allied health workers serviced large catchments, visiting multiple communities and around a third had more than one job. Rural allied health professionals covered an extended scope of work using generalist and specialist skills to meet diverse community needs with limited infrastructure. Particular skills areas included in paediatrics, Indigenous health, chronic diseases, health promotion and prevention, primary health care and health service management. Service prioritisation and cross-regional networking were used to cope with high service demand.

An allied health workforce survey from South Australia in 2009 included 17 disciplines and achieved 1,539 respondents (response rate could not be calculated). It identified that the proportion of allied health workers working in rural locations varied by discipline (between 35-11%) (36).

In a cross-sectional survey in 2005 of 451 rural allied health workers in NSW, including 12 disciplines to which 49% responded, more than half of the respondents worked exclusively in the public sector and 11% said that they worked in both public and private sectors. The highest proportions of privately based workers were based in optometry, podiatry, pharmacy, physiotherapy and psychology (37). Another survey of allied health workers in rural western Victoria in 2003 to which 28% (n=138) responded, identified that 69% worked in public sector positions (38). In a survey of 84 rural physiotherapists working in Shepparton, Benalla and Wangaratta (response rate 79%), two-thirds worked part-time with most in the public sector (70%), with one third holding more than one position (39). One-third considered themselves generalists and one-third specialists. In a 2008-09 NSW rural allied health survey from 21 different allied health occupations, 1,879 (around 44%) responded showing 84% worked in towns >10,000 population, and were employed publicly (46%), privately (40%) or in both public and private sectors (11%) (40).

A 2005 survey of rural and remote occupational therapy managers (44% response, n=18 people) in South Australia identified that the most prevalent services provided were in areas of rehabilitative, health promotion, prevention and remediation (41). The vast majority were servicing large geographical catchments (89% over 100km), with travel time and distance between clients a key consideration in the service model. Respondents described the challenges for service delivery included the wide range of services needed for diverse client groups, the high client to therapist ratio, and limited human resources.

Merritt et al undertook a national survey of 64 outer regional and remote occupational therapists identified through business listings, receiving 37 complete responses. No practices were based in very remote towns (42). One quarter of respondents visited at least five towns each week and one third had other paid employment.

Adams et al described, based on interviews and surveys with public and private physiotherapists in a large region of rural Queensland, that the scope of services was rationalised based on the overall size and skills of the available workforce in both public and private sectors of the region (43).

In 17 interviews with allied health professionals in speech therapy, occupational therapy and physiotherapy working in Alice Springs hospital, the work involved supporting many Aboriginal clients, managing a large caseload and geographic catchment, and addressing a wide range client ages and conditions (44). The job involved providing advice and support for health clinical staff, bush nurses, and Aboriginal health assistants in schools. This required clear communication, support and careful prioritisation of workload. Enablers of their work and retention were inter-disciplinary networking and cooperation across the catchment, along with inter-agency mentoring systems and becoming an "expert generalist". Of respondents, 59% liked the diversity of the workload.

In another 2012-13 semi-structured survey of 33 from 40 eligible nutritionists who worked in remote Northern Territory Aboriginal communities in last decade, identified through the Department of Health and by snowballing, it was found that the scope of their work was not supported by their training. They were working across public health approaches,

with limited training in cultural awareness and relying on materials that were from the nutritional field pedagogy but did not incorporate Aboriginal concepts of health and healthy eating (45).

In a national cross-sectional survey of 4,684 registered chiropractors to which 41.7% responded and indicated their practice location, 22.8% (n = 435) were based in rural or remote areas, and 4.0% (n = 77) in both urban and rural or remote areas. Statistically significant predictors of rural or remote practice compared with metropolitan work included more patients treated per week, practising in more than one location, working with no imaging facilities on site, often treating degenerative spinal conditions or migraine, often treating people over 65 years, and treating Aboriginal and Torres Strait Islander people. This study provided insights into unique practice challenges for rural or remote chiropractors include a higher workload and fewer diagnostic tools (46).

Hoffman et al reported the results of a self-administered questionnaire sent to 608 occupational therapists (seeking to select those working in adult neurological rehabilitation) in all rural areas of Queensland. Overall, 39 responses were received from relevant practitioners (not possible to calculate the exact response rate). The scope of work involved mainly home visits and modifications, equipment prescription, client/family education, and activities of daily living assessment and retraining. They travelled long distances to see clients, managed large workloads and worked with limited resources (47).

In a study to identify relevant chronic diseases curriculum for remote settings, the Northern Territory and Queensland governments brought stakeholders together (35 key informants) using surveys with remote staff to identify their current scope of work. It was found that there was little difference in the training and skills for chronic diseases work by discipline, although few were trained in population health. There was an identified need to improve the scope of work being undertaken in prevention and early intervention (these components were seen as challenging compared with downstream chronic diseases management) (48).

In interviews and focus groups with 18 participants from 8 disciplines in allied health in remote northern Australia, unique factors related to remote work were being organized but flexible, exhibiting cooperation and mediation, being culturally aware, knowing the community, and showing resourcefulness, resilience and reflectivity. This included being able to be an agent in a system where there were low resources and use knowledge and awareness across communities for shared problem solving (49).

In interviews with 37 GPs, 19 Queensland Health mental health staff and 18 community organisation participants from 8 general practices, 3 mental health services and 2 non-government organisations in 8 rural Queensland towns, consensus was reached that there were significant problems with inter-service communication and liaison in mental health services across the region (50).

In a national survey of 184 public hand therapists (physiotherapists and occupational therapists) working in rural and remote public hospitals and identified through direct contact, 64 responded (17.2% were physios). Over half of respondents reported that their scope of work involved providing initial splinting and exercise prescriptions and over 85% reported that they administered exercise protocols (51). Barriers to providing services in rural/ remote locations included transport, travelling time, limited staff, and lack of expert knowledge in hand injuries or rural/remote health care.

In terms of the non-Australian literature, there were two studies about scope of work, both from Canada. In surveys about rural rehabilitation practice with 6 occupational therapists and 13 physiotherapists in rural British Columbia (BC), Canada, serving a total of 15 rural communities of population <15 000, participants considered their generalist practice was 'a specialty' requiring advanced skills in assessment. They described 'stretching their role' and 'participating in, and partnerships with, community' as ways to overcome resource shortages. Reflective practice, networking and collaboration were deemed essential to maintaining competence. Stretching roles was a way of remaining 'client focused' by not turning people away just because that task is normally done by someone in a sub-specialist unit in the city (52).

Finally, in a self-completed survey of rural occupational therapists in working in rural Alberta and Saskatchewan, more than half worked in sole therapy positions, with challenges related to managing the generalist nature of rural occupational therapy practice. In terms of handling the scope of work, participants recommended "hands-on" experience during rural fieldwork placements, working in an urban setting prior to embarking on a rural career, coming from a rural background, and finding a mentor prior to working rurally. Some recommended increasing management and organisational skills content in the curriculum because they considered them essential skills for effective rural practice (53).

### **3.2.2 Assistants and training local staff to provide allied health services**

There was a range of evidence covering the concept of allied health assistants (AHA) and training health workers in rural and remote locations for allied health tasks and working with visiting allied health teams.

#### **SNAPSHOT OF EVIDENCE**

Allied health assistants could substitute around 17% of allied health work (same for rural and metropolitan areas). Highest substitution was possible in podiatry, speech and exercise physiology and included aspects like exercise, slings, functional therapies and excursions). However professional trust and governance (referral, tailored role, and supervision) are factors underpinning effective implementation. In rural and remote communities, training local health workers, including Indigenous health workers, for allied health tasks and working with allied health teams, facilitates improved early intervention, prevention, service coordination and enables culturally-safe care in areas like eye and oral health and access to medicines.

In Victoria, a state-wide study in 2009-2011 involving focus groups and a quantitative survey of allied health professionals in public health and community service positions, (783 rural respondents and 1,666 metropolitan), suitable allied health assistant (AHA) tasks were delineated along with how allied health professionals use their time. (54) This discerned that allied health professionals spend up to 17% of time undertaking tasks able to be delegated to an AHA (half were clinical tasks). This did not vary by rural or metropolitan context of work. Podiatry, followed by speech pathology and exercise physiology, recorded the highest percentage of AHA-attributable time that could be delegated. Tasks included exercise sessions, hydrotherapy, slings, community outings and functional therapy.

In 2009 in Queensland, 51 new allied health assistant roles were implemented in numerous hospital settings for 6-9 months at one of three levels: trainee, full scope, or advanced scope. There were generic position descriptions and task lists for each level. These were then audited over a two month period by trained allied health professionals working in pairs using systematic data collection methods (55). The main finding was that tailored (not generic) allied health assistant position descriptions were needed to account for different disciplines and their work context and the level of training of the assistant. They also identified the need for supervision frameworks. There was not enough delegation from allied health professionals to the roles, partly due to professional trust and clarity about roles and responsibilities.

In terms of competence, a rural Queensland hospital found that a global nutrition assessment (SGA), applied to 45 patients by 5 AHAs with a Certificate IV in Allied Health Assistance, produced equivalent results as those of qualified dietitians (n=3) (56). Although AHAs reported significantly lower confidence than dietitians ( $t = 4.49$ ,  $P < 0.001$ ), the mean confidence for both groups was quite high (AHA=7.5, dietitians = 9.0). There was some variation in the results of different components of the assessment tool between the two groups, but the results suggest that assistants could reliably undertake these assessments.

In an exploratory interview based study of 49 rural healthcare workers (including pharmacists) concerning access to community medicines in rural areas (<1500 population), it was found that maintaining continuity of access was challenging as patients moved between hospital and community (57). Generalist nurses and doctors were over-loaded and managing medications was an additional demand on their time. Solutions suggested were developing "extended community medication roles" with oversight of rural pharmacist, along with more long-term scripts.

Based on interviews with 32 health staff attending or working in remote clinics to provide oral care in 2005-2008, there was strong support for oral health roles for Aboriginal and Torres Strait Islander health practitioners (58). These roles could help to stem late intervention and reduce the demand on the visiting dental team along with aeromedical retrievals. Equally, to sustain access, partnerships and coordination of outreach and telehealth services, along with providing culturally safe care in Indigenous eye health, a literature review by Durkin et al considered there is potential to develop an Indigenous eye health role (59). This was particularly to address issues of prevention, early intervention and follow up.

### **3.2.3 Rural pathways to train and support**

A range of literature was focused on factors related to rural pathways, including student selection, training, additional skills attainment and professional support.

## Tertiary training

### SNAPSHOT OF EVIDENCE

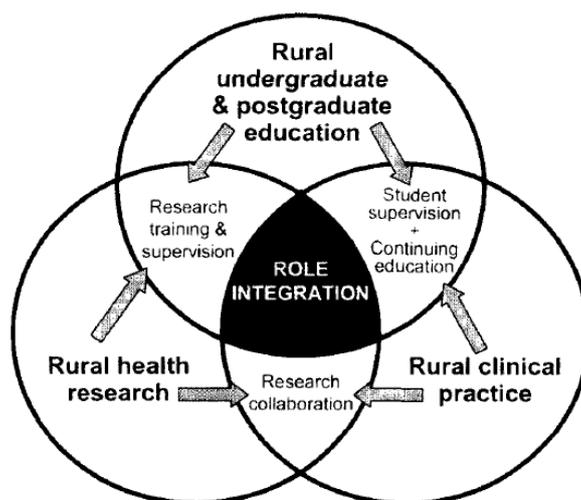
Around half to two-thirds of rural allied health workers had a rural origin and half had some rural training experience. Rural and remote youth had a limited frame of reference for allied health professions, lacked access to required subject choices for course eligibility, needed to relocate to study allied health and faced more costs to participate. University Departments of Rural Health (UDRH) have increased rural training volume but only some provide up to 12 months' training for selected disciplines). One univariate study showed that up to 12 months' training related to 50% working rurally compared with 24% average rural work outcome across the disciplines and another multivariate study identified that 2-18 week rural placement and their self-reported high quality were associated with graduates working in rural areas in their first postgraduate year, once rural background was controlled for. Rural settings provided a range of unique learning environments. Apart from rural clinical placements, UDRHs also provide support for research/teaching and career pathways for mid-career rural allied health professionals.

In a review of the evidence by Durey et al published in 2015, many factors considered effective for training rural doctors could also support the growth of the rural allied health workforce (60). Of 1,539 respondents to an allied health workforce survey in South Australia in 2009 (17 disciplines, response rate could not be calculated), 41% with a rural background and 17% with a metropolitan background worked rurally.(36) In a repeated cross-sectional survey of rural allied health workforce in one NSW region (>200 respondents spanning 12 disciplines with around 50% responding to first survey), the proportion of respondents of rural origin was about two-thirds in both surveys and about half had some rural experience during training (61). In a 2008-09 NSW wide survey of regional, rural and remote allied health professionals from more than 21 different allied health occupations contacted via diverse communication channels, to which 1,879 responded (approximately 44% response rate), 60% had a rural background (40). Another cross-sectional survey of 605 rehabilitation professionals living and working in Northern Ontario, (occupational therapy, physiotherapy, speech-language pathology and audiology) in 2009 with 345 respondents, nearly two thirds were originally from Northern Ontario (62).

Attracting rural background students to allied health courses may be challenging. In interviews with 126 students in years 10-12, 52 parents, 10 grandparents, 76 teachers and 4 Aboriginal and Islander Education Officers (AIEO) from 15 secondary schools in rural and remote Western Australia in 2000, Durey et al identified structural and cultural barriers for rural and remote secondary students being attracted to and accessing health courses (63). Structural barriers included cost and information about courses and cultural barriers such as feeling capable and seeing allied health role models in the community. In terms of the rural training path, a national integrative review (up to 2012) of rural allied health training (14 disciplines) identified that pathways into tertiary studies in rural and remote communities were vague and often interrupted along with the return of graduates being haphazard (64). Rural secondary students had poorer access to subject choices for course eligibility and there were financial barriers to participating. Issues of daunting social isolation and separation from families and support systems are problematic to attend city-based courses. Students may also lack a frame of reference for accessing rural placement options. More tailored entry criteria, along with coordination and capacity building for rural training within rural courses were considered important.

Rural allied health training opportunities appear to be growing in Australia but many remain of short-duration. A survey of University of South Australia Division of Health Sciences Schools (training a range of allied health disciplines) in 2000, showed that between 5-20% of all allied health tertiary students did rural training, usually as a fieldwork placement in the final two years, but this was only short-term (65). The Schools identified strong potential to grow these opportunities. At the University of Newcastle, over a 12-year study period, the UDRH delivered 3,964 physiotherapy placements. Between 2003 and 2005 the average proportion of clinical placements occurring in metropolitan areas (MMM1) was 78% and in rural areas (MMM categories 3-6) was 22% (presumably no placements in MMM2 or 7 based on the location of the UDRH). In 2014, the proportion in MMM3-6 increased to 40%. There were also lower assessment marks for students trained in MMM1 than other categories (66). The UDRH model was conceptualised by Smith et al as facilitating all of clinical work, teaching and research, along with providing rural clinicians with career paths (schematically represented in Figure 2) (67). The article described an increase of rural placements (in placement weeks) at the University of Newcastle in dietetics, occupational therapy, radiography, pharmacy and physiotherapy from 300 in 2003 to nearly 800 in 2008. Another national cross-sectional survey of UDRHs in 2014-15, including 3,204 students who participated in rural training (46% were allied health respondents, the rest were from nursing/medicine), described strong ruralisation effects of rural training, with enablers being the quality of the experience, the supervisors and interaction with the community (68). Financial support, accommodation and internet were deterrents of ongoing rural practice intention.

**Figure 2:** Adapted from Smith et al depicting the integrated rural health education, research and clinical practice of UDRHs (67)



Two studies explored the quality of training for allied health workers in unique rural settings. One was of physiotherapists learning musculoskeletal therapy in rural emergency department. The training did not impact on the time it took to care for patients, and emergency department data showed that it provided an appropriate case-mix where the students gained experience for managing a range of conditions common in physiotherapy practice.(69) The other study was of training occupation therapists and speech pathologists in a brain injury rehabilitation unit in a regional hospital with supervisors who had dual roles of clinical work and case management. Focus groups and interviews identified that students placed with dual role supervisors gained a broad perspective holistic care (70).

Only two studies were identified which evaluated the outcomes of rural training on rural practice. Of 98 allied health students who completed 257 end-of-placement surveys (most completed one year of rural training) in Tamworth and Taree as of June 2014, 73% intended to work rurally at the end of the placement and by one year after graduation, 50% were working rurally compared with an average figure of 24% of graduates from the same disciplines (71). The other study, after controlling for rural background, identified that among 429 students from 12 health disciplines who did 2-18 week rural placements in Western Australia, rural placements and their perceived quality, related to working rurally in the first postgraduate year (72).

### **Additional skills and professional development**

#### **SNAPSHOT OF EVIDENCE**

Approaches to developing more skills for rural practice and ongoing professional development included examples of rural curriculum for clinical skills, safety and quality, equity and cultural safety, and primary care and other practice models. Educational modules were delivered online and face-to-face, and participants appreciated flexible delivery on the basis that it improved their capacity to access training around their workload. Programs structured around service objectives and professional's learning needs were successful. Victoria implemented 12 months' advanced regional paediatrics training helping the physiotherapists to meet client needs in a catchment and helping to keep skilled professionals in the region. For professional development, NSW and Qld both described rural staff rotating into other units, including metropolitan tertiary paediatric units, to address specific learning objectives and develop professional networks relevant to their rural practice.

There were several examples of training for qualified rural allied health workers to develop specific scope for rural practice, community work and rural-specific service models. These included a rural and remote distance education program in mental health, delivered by technology in 1999 across 10 rural sites to 31 health professionals (including nursing, allied health and Aboriginal health workers). The program consisted of three formal modules of learning, 3 written assignments, five days of residential school (either at the psychiatric unit in a region or in the city) and five days of clinical practice in a mental health setting. Six tutors with extensive mental health experience provided support to students by responding to general enquiries, marking assignments, arranging and participating in group discussions and co-ordinating a week of local clinical community placements. Immediate post-course learning outcomes were high and at four months, participants reported more clinical practice in liaison with the mental health team (73).

A new Graduate Certificate in Health (Remote Health Practice – Allied Health) was introduced for rural allied health workers employed with Queensland Health in early 2000s. It was based on an environmental scan of existing courses (74). The qualification incorporated learning about personal organisation (time, case-load and information management), models of service delivery (primary care) for Indigenous and other rural and remote communities and opportunities for advanced clinical skills development through a clinical placement. Students enrolled in the training pilot included four social workers, four occupational therapists, two speech pathologists, one pharmacist and one physiotherapist. Based on a review of the course via teleconference, email feedback and a written survey, there was strong support and participants considered that it helped them to improve their primary care skills and culturally safe practice, areas where they had limited previous exposure. The assignments were relevant, feedback was timely, and the clinical placement opportunities of 2 weeks were valuable.

In Western Australia, a new competency framework was developed and released in 2009. It addressed learning needs of senior rural allied health practitioners, to guide training and performance monitoring (75). The competencies covered learning for audiology, dietetics, occupational therapy, podiatry, physiotherapy, social work and speech pathology (excluding mental health and aged care), covering 88 areas of practice (service delivery, equity, professional practice, ethical practice, development and support, quality and safety and clinical skills), delineated based on literature review and consensus.

In Victoria, new postgraduate paediatric physiotherapy training was implemented over 12 months in 2008 with pilot funding for two new senior positions (76). The program was developed in consultation with various committees and an expert reference group. Weekly tutorials, case studies and presentations formed an important part of clinical rotations between hospital outpatients, specialist schools and the disability sector. The program resulted in increased access to skilled paediatric physiotherapy services for the regional catchment. Training increased knowledge and confidence, and provided a career pathway for local physiotherapists. The senior clinicians valued the introduction of appropriately skilled younger peers to their clinical practice.

An Allied Health Rural and Remote Training Scheme (AHRRTS) was implemented in Queensland in 2010 to support education and professional support for rural and remote allied health professionals working within Queensland Health (77). It incorporated distance-based and face-to-face delivery covering eight domains of service delivery, equity and diversity, professional skills, ethical practice, development and support, quality and safety, and clinical management, in line with an Allied Health Capability Framework. Participation was flexible and tailored to requirements of each worker. The AHRRTS included options for participating in the Allied Health Education Program (AHEP) as well, which was a clinical learning placement with an experienced professional. The AHEP was rolled out over two years across Queensland since July 2009 (78). In the rollout phase, 170 of 380 eligible allied health professionals participated. A review of barriers and enablers for accessing the program via 55 stakeholders semi-structured interviews suggested that flexible (online as well as FTF) delivery was important (some people like to get away from work, others couldn't access it unless online options were available), support from employers, particularly line managers, and time to participate.

Another educational secondment model was described in 2001 in Queensland. This involved 29 rural and remote Queensland speech pathologists, occupational therapists and dieticians spending time in a tertiary paediatrics specialist practice environment for two weeks over a 2-6 month period (79). The program enhanced clinical skills in clinical areas of interest (through observation, sharing ideas, practice and learning) along with networking and liaison between rural and metropolitan participants. Participants valued the support and the locum coverage provided by the Program.

NSW also developed a new educational secondment model to enable allied health staff in rural and remote areas to access tertiary-level hospitals or specialist health facilities to learn and network in areas of care important for their scope of practice for paediatric care (80). The 'Allied to Kids' program, a collaboration between the Children's Healthcare Network and NSW Health, involved rural clinicians nominating a learning objective and undertaking a secondment for up to 5 days, with travel and accommodation paid by the program. Of 106 expressions of interest over 2011-2014, 89 were eligible and could be supported and were completed – most were physiotherapists and speech pathologists. Pre and post program evaluations showed that secondments improved skills and confidence, extended networks and increased development of resources for rural units.

There was limited information about allied health mentorship and supervision, however, a review of the literature by the UDRH in Shepparton included 39 articles to discern models of mentorship that would be applicable to rural and remote

settings. Four models identified were cloning, nurturing, friendship and apprenticeship. The latter three were considered applicable for rural and remote early professional learning. These need to be trialled and evaluated (81).

### 3.2.4 Recruitment and retention

#### SNAPSHOT OF EVIDENCE

Tertiary scholarships with rural return of service requirements could increase the uptake of rural work if coupled with the right support. Only one study measured retention longitudinally in rural health services, showing that between 2004 and 2009, median turnover of dietitians was 18 months, physios 3 years and social workers 4 years. Reduced turnover was predicted by employment at higher grade (2/3 versus 1) or aged >35 years. Part-time work did not predict turnover but turnover tended to increase with remoteness. Factors related to retention had substantial overlap across the literature (mainly cross-sectional surveys and interviews). These were broadly related to career path, access to relevant professional development (topic, time and cost), working in a supportive practice environment (clearly documented role, orientation to workplace, culturally safe work environment, having professional colleagues and allied health involved in decision-making) and the nature of work (independence in role, variety of work, community focused and a feasible workload). Social and personal determinants were also factors. Intention to stay and turnover have the potential to vary between public and private sectors warranting tailored approaches.

One survey, conducted with international physiotherapy graduates (Victoria) seeking to be assessed on the Standard Pathway to become registered for practice in Australia found that, of fifty-seven (from 73) participants who responded to the question about work location, 56% said that they would consider working in a rural location (>100km from central business district). (82) Of those not open to working in a rural location, 12 cited family reasons.

Another study outlined a 2010 review of the Queensland Health Rural Scholarship Scheme (Allied Health) (QHRSS-AH). The Scheme involved two years' of university scholarship funding valued at \$21,000 per year for applicants agreeing to a 2-year rural return of service period upon graduation (83). The scholarships started in 1998 for students in physiotherapy, occupational therapy, speech pathology, social work, podiatry, psychology, pharmacy, radiography, sonography, and nutrition and dietetics. Participant data (n=146) and semi-structured interviews suggested 69% had completed or were completing the service period and of these, 86% were working rurally (57% rural or remote and 29% regional). Only 14% did not complete the return of service obligations and 3% deferred. Rural training during the undergraduate degree, health service orientation, mentoring and professional support were considered important for enhancing the program's outcomes.

A range of other studies explored recruitment and retention issues. One study outlined six focus groups with a total of 30 individuals from nine allied health professions and some managers in rural NSW (who had self-nominated from a 2008 NSW rural allied health workforce survey) to reach consensus about recruitment and retention factors (84). The key factors related to recruitment and retention were categorised as: personal (from rural area or attracted to rural life); workload related (breadth of clinical work and high demand/workload); professional development, career progression and recognition; and management-related including effort to recruit vacant positions. Key recommendations to address these factors were summarised:

- Involve local communities in attracting rural allied health workers
- Regionally-based universities
- Access to CPD through back-fill, travel subsidy and management
- Develop regional professional networks
- Invest in IT infrastructure
- Support extended practice roles and career development options
- Address workplace culture and stress management
- Train allied health managers and involve them in decision-making
- Preserve clinical work roles for allied health managers (84)

In a survey of rural physiotherapists based in regions of Shepparton, Benalla and Wangaratta, recruitment and retention issues noted included lack of career path, professional support, access to professional development and postgraduate education (39). Additional issues were the costs and time to attend courses, travel/distance and inadequate resources. Positive elements of rural practice were part-time employment opportunities, independence as primary health providers, practice variety and community recognition.

A review of international literature (up to 2009) about recruitment and retention of the occupational therapy and physiotherapy rural workforce identified 12 included articles (qualitatively focused) which suggested that the biggest factors related to recruitment and retention were practice support and career growth (85).

Keane et al identified different retention efforts needed for public and private sector rural allied health workers using data from the NSW rural allied health workforce survey inclusive of n=833 public and n=756 public allied health workers (86). Multivariate analysis showed that high clinical demand predicted intention to leave rural work both public and private allied health models (odds 1.4 and 1.6 respectively) and professional isolation and participation in community (OR 1.4 and 1.6) also contributed to private practitioner's intention to leave. In another cross-sectional survey of 451 rural allied health workers (12 disciplines) in NSW in 2005 (50% response rate), the mean time in current position was 10 years and half intended to leave in five years (37).

In a state-wide questionnaire distributed to 2,736 allied health professionals across Tasmania, identified from registration boards, professional associations, yellow pages directories and the Principal Allied Health Advisor in 2008 (response rate of 45%), univariate analysis showed retention (intention to stay for next two years) is multifactorial. Using multivariate analysis, job satisfaction was the strongest independent predictor (odds of staying 6 times higher if satisfied) (87).

A literature review (up to 2017) including 15 articles, identified that the factors important for the retention of Aboriginal and Torres Strait Islander health practitioners have some similarities and differences with those of non-Indigenous health workers. Notable factors were the need for a supportive and culturally safe workplace; clear documentation and communication of roles, scope of practice and responsibilities; and being appropriately supported and remunerated (88).

The only study to predict turnover using longitudinal data was based in Victoria. Eighteen health services were invited and 11 participated by providing de-identified individual level employment entry and exit data for dietitians, occupational therapists, physiotherapists, podiatrists, psychologists, social workers and speech pathologists employed between 1 January 2004 and 31 December 2009 (total of 901 allied health workers) (89). The median survival in the job by podiatrists and dietitians was lowest (18 months), then physiotherapists (3 years) and social workers (4 years). Proportional hazards modelling indicated profession and employee age (over 35) and grade (2 or 3) upon commencement were significant determinants of lower turnover risk (better retention). Turnover was not associated with part-time employment. Median costs of replacing allied health workers were between \$23-47,000 per worker depending on remoteness of health service (direct and indirect costs of turnover).

Based on interviews with 17 of 20 invited participants in a remote health service in 1997 (physiotherapy, speech pathology and occupational therapy), Bent indicated that lack of supportive management was a barrier to staying in remote allied health work, along with absence of orientation, delays in recruiting positions, and high turnover from lack of adequate professional development or support. Overall, 40% staff intended to leave in next 3 months.(44)

In a study with 26 nursing and allied health professionals (inclusive of 19 social workers, psychologists, Aboriginal Mental Health Workers and diversional therapists) in their first 5 years of work in community mental health services in rural New South Wales, issues for retention were: workplace conditions, career advancement opportunities and social and personal determinants (90). A "turnover theory" was developed positing that the gap between individuals' professional and personal expectations and the reality of their current employment and rural-living experience stimulates turnover. In adjustment phase, this gap was mainly impacted by professional factors but in the adapted phase, personal factors become more important.

In terms of non-Australian studies, qualitative interviews with 26 long term employed allied health workers in rural Canada (6 speech language pathologists, 4 psychologists, 4 occupational therapists, 8 social workers, and 4 physiotherapists) revealed that they worked rurally because they could access rural education where they currently work, had a rural background, had positive rural experiences and recognised a community need for healthcare professionals (91). Variety and challenge of work, as well as enjoyment of adventure were other reasons.

Finally, a survey study of allied health workers in south-western Victoria in 2003 to which 28% (n=138) responded, identified that 69% worked in public sector positions. Only 53% (n = 50) of the professionals in the public sector intended to stay more than 2 years in their present position, compared with 84% (n = 27) of the professionals who worked privately (38). Reasons for intending to leave were mainly lack of professional support, poor management, lack of career structure and personal factors. Receiving orientation was related to increased intention to stay in the job.

### 3.2.5 Models of service

#### SNAPSHOT OF EVIDENCE

The number and range of allied health services available in regional catchments depends on the number and mix of professionals, their skills and local community need. Partnerships and networks between public and private providers and hospitals regionally, including shared care, maximises utility of available workforce for more comprehensive services. A rehabilitation network of 5 rural hospitals involving a team leader/coordinator, clear referral pathway and staff training, also provided first ever access to rehabilitation in a rural catchment. Critical success factors included information and referral for eligible rural participants, staff education and leadership. Access to services in smaller communities is effective through outreach, telehealth and consideration of viable business models. For example, Medicare funded Chronic Disease Management was the main income source for 50% of occupational therapists working in outer regional/remote. Individual and home based cardiac rehabilitation (internet and phone-based) can be as useful as hospital-based models. Online consultations could provide equivalent quality service to that provided face-to-face for diabetic foot healing, rehabilitation and speech pathology. Some services need face-to-face delivery and providers and clients may prefer this. Where outreach and telehealth were used, training local staff to maintain service engagement and foster ongoing participation was important for success. An oral therapy program for Indigenous children was successfully implemented in Canada by using trained community workers who identified and engaged people for treatment by visiting dental therapists and hygienists.

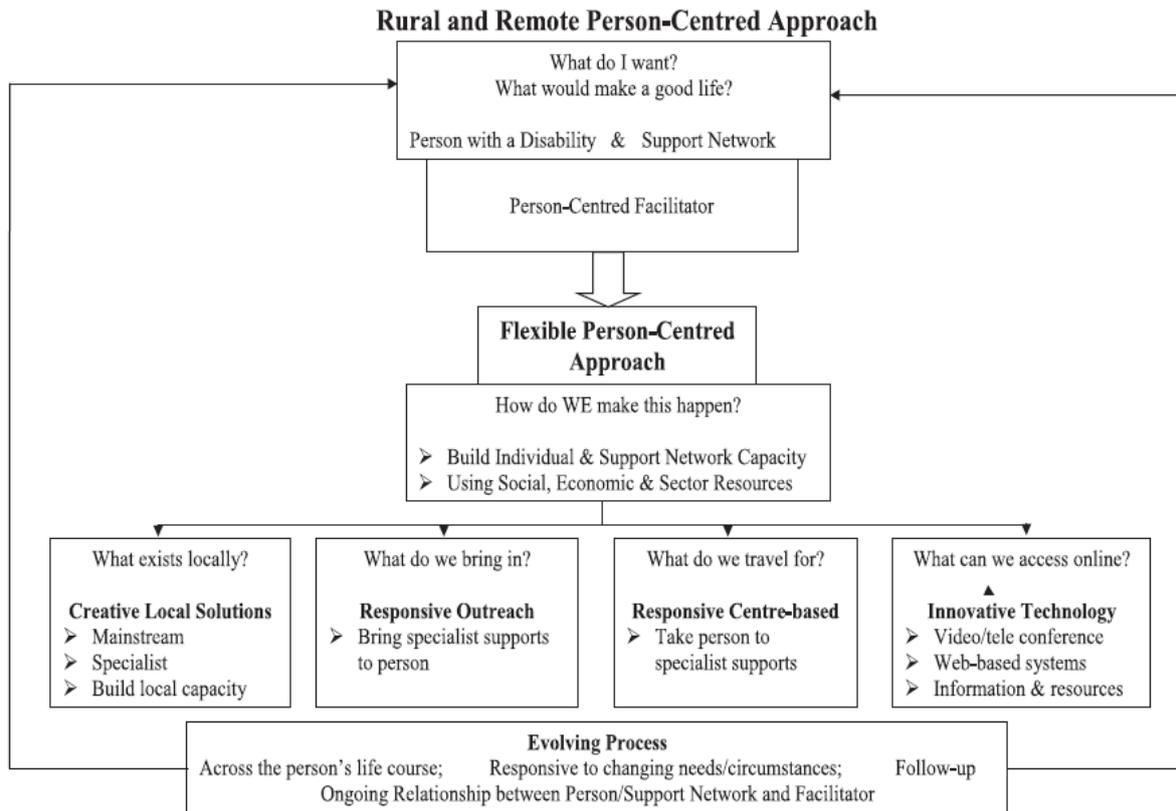
The theme about models of service identified the importance of models of care for increasing access and maximising the comprehensiveness of services within limited resources. In a 2012 survey (n=34) and in-depth interviews (n=19) with physiotherapists and health service managers in regional, rural and remote services in Queensland, it was found that the physiotherapy services provided were decided based on available staff and their skills, along with the community need.(92) Overall public service decisions were driven by organisational priorities whereas private ones were driven by financial viability and skills. In a further article using this data, a matrix for decision-making showed the complexity of rural health service decisions.(93) Further work identified that public sector physiotherapists were more focused on acuity, relying on private physiotherapists to support the outpatient load. (94)

In terms of promoting patient care pathways, one NSW study identified, based on interviews and focus groups with 78 carers and 10 rural clients needing rehabilitation services, that many people were regularly: (i) travelling to access therapy; (ii) waiting a long time to get therapy; and (iii) getting limited access to therapy after early childhood (95). A person-centred model was proposed for planning increased access to address client needs (Figure 3). It identified building the right services involved using multiple resources - local resources, travel, online service options and responsive outreach.

To cope with large geographic catchments and high client to occupational therapist ratios, a South Australian study identified using less labour-intensive service delivery models, multi-skilling of staff (recruiting right range of people skilled in different areas), networking (to manage waiting lists and access enough support for diverse client needs), and problem-solving (41). Further, to cope with barriers to accessing hand therapy rehabilitation (occupational therapy and physiotherapy) in rural/ remote locations, the service model incorporated flexible and realistic goals and interventions, along with a shared care approach between metropolitan/regional and rural/ remote therapists (51). Shared care approaches were also suggested to address earlier intervention in mental health, based on a study of rural services in Queensland, involving interviews with 37 GPs, 19 Queensland Health mental health staff and 18 participants from community organisations (50).

In Victoria, a survey of private rural rehabilitation therapists (physiotherapists, occupational therapists and speech pathologists) (40% response rate), about policies to support access to rural services, identified that more partnerships between private and public practitioners in rural and regional areas is likely to increase the comprehensiveness of programs (more available skills, supervision options and better service coordination). (96)

**Figure 3** – Adapted from Dew et al depicting a person-centred approach to planning (95)



Collaboration between rural hospitals was equally important. In south-western Victoria five rural hospitals worked together to deliver the first ever rehabilitation service in the area (97). The model was based on a local assessment of community needs and health service capacity. The aim was to address functional recovery goals by delivering services across the rehabilitation team (different hospital sites and across a multi-disciplinary workforce), with dedicated project leadership. It involved staff education, team meetings, early intervention, and discharge planning. It achieved 112 admissions (2005-2006), (median clients aged 74 years), mainly for orthopaedic rehabilitation. Participants improved functionally at least as well as the Victorian State average for similar client groups (BI change 26.5 compared with 22.3 points,  $p < 0.001$ ), with a shorter length of stay (13.8 compared with 22.3 days). Enablers were an approachable team leader and cross community referral pathway systems. Barriers were that rehabilitation beds were set up in the acute ward and not all staff were on board with a rehabilitation mindset.

In an integrative review (16 included studies) to identify barriers, enablers and pathways to cardiac rehabilitation for adults living independently in rural and remote areas of high-income countries, including Australia, it was found that access was driven by being referred to the rehabilitation program and knowing that it existed in the first place (98). The following recommendations were made for rural rehabilitation models:

- Eligibility criteria
- Flexible programs, face-to-face, internet and phone
- Education about cardiac rehabilitation for clinicians, patients and families
- Systems for easy referral and improving access by Indigenous populations
- Comprehensive programs - primary and secondary prevention, risk factor management
- Improved funding

Outreach services were one model for increasing access to allied health services in smaller communities. A study was undertaken on outreach service planning for allied health chronic disease management across a large geographic catchment in Queensland (99). Consensus based planning identified that outreach services were best if regular, reliable, included case conferences and in-service education for local workers involved in ongoing local care.

A successful oral therapy outreach model for Indigenous children was implemented in Canada using trained community workers who identified and engaged people for screening by visiting dental therapists and hygienists (100). Piloted in 41 communities in 2004, the program was rolled out to 320 communities by 2012 and achieved screening and treatment of 23,000 Indigenous children.

Online services were also described as alternatives to face-to-face models. A systematic review analysed the international evidence for the effectiveness of alternative models of cardiac rehabilitation, including 83 articles published since 1999. Eight models emerged, but only individualized telehealth (telehealth addressing multiple risk factors and providing individualized assessment and risk factor modification) and community- or home-based cardiac rehabilitation were considered effective alternative models of cardiac rehabilitation, producing similar reductions in cardiovascular disease risk factors compared with hospital-based programmes (101).

Other studies considered the validity and applicability of online consultations in allied health. In Ottawa, Canada, online consultations with 12 allied health disciplines were made available to primary care providers (doctors and nurse practitioners) in a metropolitan and rural region in 2011-2016 (102). Primary care providers submitted requests online and allied health workers had 7 days to respond. Good uptake was demonstrated with minimal demand for additional face-to-face consultation and good resolution of the referral problem. The main services accessed were clinical pharmacy, addiction support and musculoskeletal services.

Another scoping review of Australian literature (44 studies published up to 2015) suggested that services provided by online consultations were equivalent in quality with face-to-face services for diabetic foot healing, rural rehabilitation and speech pathology (103). Some aspects of allied health work were suggested to not be amenable to online delivery. This was reinforced in another study of 5 allied health disciplines who undertook a health assessment on each of 12 patients in a high dependency unit 250km away through online (video) consultation and the following week, the same assessment face-to-face (104). In 35 cases out of 60, two independent raters agreed that the therapists' care plans were the same using the different methods. However, the providers preferred face-to-face work (based on Likert scale agreement). In each case, only the dietician's assessments did not differ significantly between the two modalities (as opposed to other disciplines - occupational therapy, physiotherapy, podiatry and speech pathology).

The costs of video-consultation based service delivery were deducted from real costs of face-to-face delivery of speech, podiatry, physiotherapy, occupational therapy and dietetics services (from a metropolitan hospital to a rural high dependency facility) over a three month period in Queensland (105). Costs were estimated based on fixed and variable components. Given an annual workload of 1,000 occasions of service (estimated based on three months' services), each video-based assessment was identified as costing \$84.93, compared with \$90.25 for face-to-face assessments.

A cross-sectional survey was done of 600 clinicians in around 2000 in NSW, inclusive of 125 allied health staff (e.g. psychologists, social workers, play therapists), along with doctors and nurses working in paediatrics aimed to understand attitudes to telemedicine by discipline, distance, and sector of practice (106). Based on a 31% response rate, the highest application of telehealth was for education, rather than patient management. Medical staff, and those in private practice considered telehealth had lowest utility for their practice. Rural clinicians had similar attitudes. Telehealth was considered to have limited capacity to replace traditional methods of face-to-face contact, phone and letter.

"Come N See" was a video-conferenced allied health speech therapy services from Sydney to rural and remote school children in NSW, with email follow-up (107). Over a 12-week period, children were offered therapy blocks of six fortnightly sessions, 30 minutes long. Sessions were delivered via low-bandwidth videoconferencing, with email follow-up. Instructions were provided to a therapist assistant and family member supporting the child. Interviews with school executives and therapy assistants noted that the program addressed a number of unmet needs for speech services, however, communication could be strengthened between providers.

In Victoria and Queensland, community participation in the implementation of oral health initiatives was enabled where the program was perceived as viable, sustainable and relevant to their needs, and when trusting relationships occurred with "the right people" and advisory groups (108).

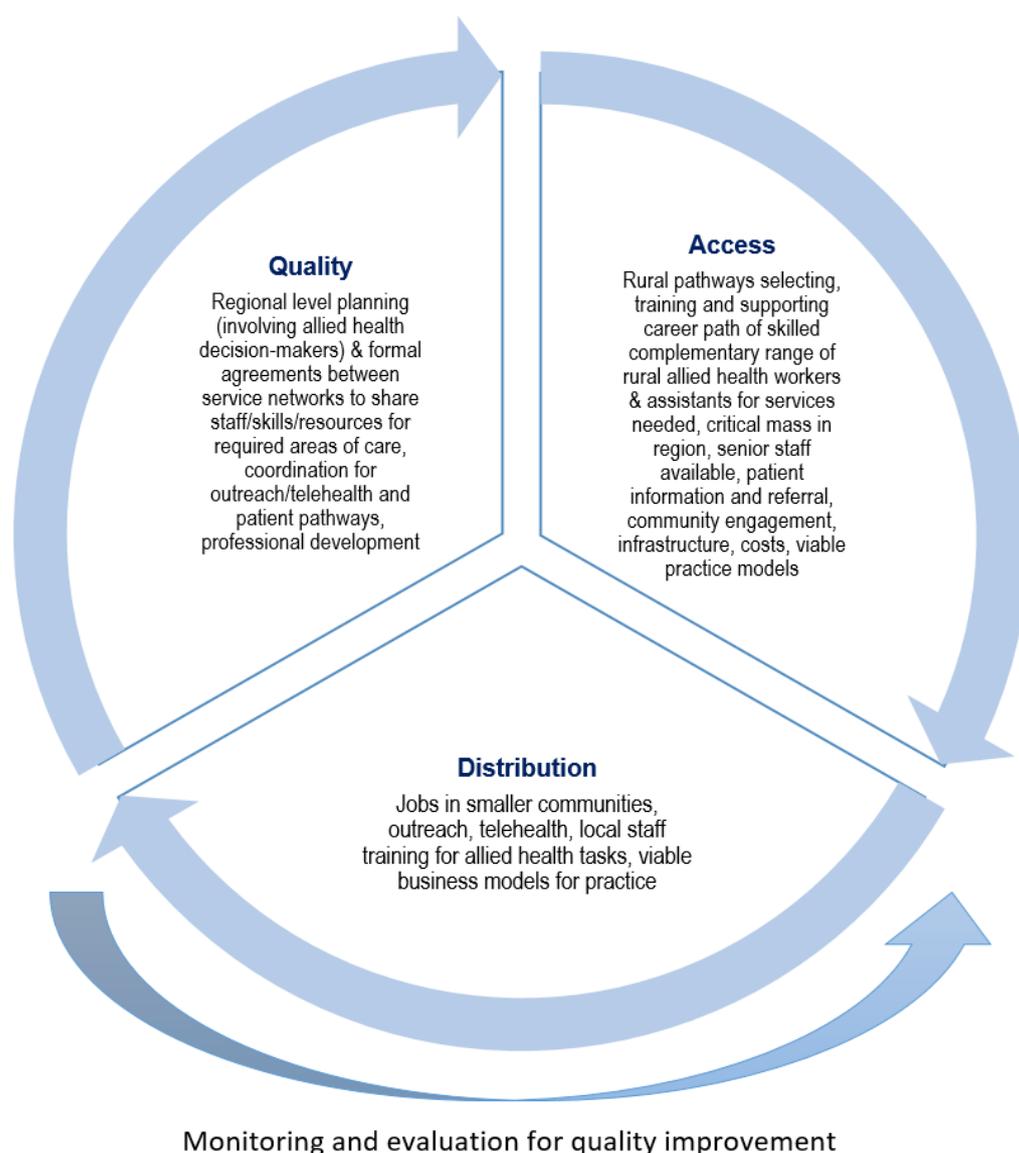
Viable models of funding was an important source of income for occupation therapists working in smaller communities. Medicare Chronic Disease Management was the main income source of around half of occupational therapists working in this context (42).

## Section 4: Discussion

This scoping review has uniquely drawn on the most up-to-date published evidence about rural and remote allied health workforce and services to inform Australian policy. With 89% of the evidence from Australia, our country is relatively advanced in rural allied health research. Nineteen other literature reviews were identified, but this review included the largest volume and range of material. With a diverse range of allied health disciplines and rural contexts included, the findings provide an important backdrop for policy-making, and key inter-related factors for addressing access, distribution and quality can be deduced (Figure 4).

Based on the evidence, increasing access is likely to rely heavily on increasing skilled rural workforce development and retention by rural training and career pathways including more senior staff availability. Distribution of services requires jobs in smaller communities along with viable business models, training and service models like telehealth. Finally, quality demands a degree of integration of skilled providers and their coordination to address the patient pathways for rural and remote people. This is challenging given the multiplicity of professions working in different sectors, practice models and remuneration structures, but not impossible and strong examples were evident in the literature.

**Figure 4:** Matrix of factors to consider for quality, access and distribution based on the literature



As depicted in Figure 4, monitoring and evaluation underpins the achievement of access, distribution and quality. There are a number of elements required to strengthen the current evidence base in this field: both quantitative and qualitative studies, multi-disciplinary and outcomes-focused methods, and national scale. This will be enhanced by broader access to routinely collected data, linked data and an impetus to target evidence towards understanding impact of training, career support and employment and service models on access, distribution and quality. Understanding the effect of policies and programs helps to target interventions and optimise cost-benefits. UDRHs could lead this evidence generation, given the right resources and systems, noting that in 2008-2010 only 56% of UDRH research output was about rural health issues.(109)

Critically, the evidence suggests that accessible and high quality rural allied health services is depicted by: *An appropriately skilled and distributed workforce, working in viable, regionally-coordinated ways, to promote prevention, early intervention, and appropriate follow up and referral for additional care as required, through a closely networked array of services, suitable for the population's needs.*

#### 4.1 What are the policy implications of these data?

Although there were few metropolitan to rural workforce comparisons, the rural allied health providers described had distinctive scope of practice fit to providing a breadth of services for wide population needs and using additional skills. Defining and recognising these rural skills could be a key driver of training for and uptake and retention in rural and remote allied health work. A key enabler would be to agree on rural practice credentials in key disciplines and relevant training and professional development avenues. Developing and recruiting more allied health generalist workers needs to also accommodate a sufficient staff base to release people for additional roles in training, teaching/supervision, telehealth and multi-site practice.

The largest critical mass of rural allied health services is publicly based and this needs to be continually fostered through jurisdictional approaches. Importantly, growing the primary health service base should complement salaried roles and provide a crucial buffer for more upstream prevention/management services. Private growth opportunities is particularly relevant for enabling access to optometry, pharmacy, psychology, physiotherapy and podiatry. Opportunities for integration with the NDIS, My Aged Care and other sector revenue streams could also enable greater growth in the private sector.

Training and using allied health assistants and potentially micro credentialing of other health workers to undertake allied health tasks is likely to improve access to allied health services across wider catchments. It may useful to adopt national frameworks for this to occur over time, ensuring roles are adaptable to context and discipline (public and private sector), in consultation with rural health services and allied health professionals.

The evidence clearly points to the need for rural pathways to train and support rural allied health workers. Pathways start with attracting rural youth to allied health careers and connecting them with virtual or local mentors and rural pathways. Evidence in medicine demonstrates that return to region is enhanced by selecting and training people from the region (110). Rural scholarships and course bridging opportunities allow interested rural students to access integrated pathways between rural secondary and technical schools, rural TAFEs (allied health assistant courses) and universities.

Agreeing national targets and incremental growth for the selection of rural background students and longer, high quality distributed rural training is important. These could particularly target rural primary care workforce development for vision, hearing, mental health, maternal and child health, rehabilitation, chronic disease and Indigenous health outcomes as well as access to medicines and relevant (non-dentistry) oral health options. The current requirement under RHMT is to provide “placement weeks” but “academic years” may be more valuable for rural return based on the emerging allied health literature and lessons learnt from rural medicine (111-113). Commonwealth RHMT Program funding to the may require specific delineation and possibly augmentation for this to be achieved (111). A range of issues including course accreditation, partnerships, placements, accommodation and supervisors may require targeted policy work and investment.

Implementing rural-facing curriculum to address the workforce and service needs of rural communities is also important (9). Evidence has shown that high quality rural allied health training can occur in non-traditional clinical settings (including primary and community care), beyond hospital training commonly occurring in cities (69). Enabling medical students to experience a mix of distributed primary care and regional hospital placements improves their distribution compared with

regional hospital placements alone (113). To achieve this in allied health, the RHMT Program staff may need more formal roles within curriculum and rural curriculum development for the various allied health professions.

Rural pathways include allied health workers being able to access jobs where there is senior clinician along with professional development. Good examples were of professional exchange programs where learning needs specific to the local service were addressed with flexible, tailored education modules for rural practice. Selected UDRHs and the Queensland rural allied health generalist pathway also have good professional development models for early career allied health workers (67). The RHMT Program could extend the expectation for activity in this area. The Government's Health Workforce Scholarships Program, which is well subscribed, supports professional development for allied health workers engaged in any private allied health work, but its outcomes haven't been published (114).

Scant evidence suggests that any compulsory rural return of service scholarships may be effective if coupled with the right support. Evidence from medicine suggests that bonded places have a mild positive impact on rural supply (113). However, medical students participating in rural training through real-time choice can achieve better distribution outcomes than contracting people to it (115).

The evidence suggests that building the size of allied health teams, including recruiting senior allied health worker roles (in public and private practice), can improve retention. Senior professional positions increase the potential for regional supervision and career advancement opportunities. All services, whether public or private, could improve orientation processes, provide clear positions for interesting jobs, give autonomy in role and involve allied health in decision-making. Bundled retention incentives have been suggested to work best for rural primary care, allowing tailored response to individual needs (116).

To attract and retain private providers, viable practice models are critical, including access to Medicare benefits that fit with population need and complexity. Allied health assistants may be useful to supplement private allied health teams in some instances, especially if they have cross-disciplinary roles of carrying out care plans in multiple sectors.

Integrating local providers for particular models of service can optimise patient care pathways in a region. Regional level planning of teams around catchment priorities, with clear eligibility and referral improves coordinated services. The different drivers at play in the public and private systems (financial viability) and the unique disciplinary practice models require consideration for brokering networked services. Dew provided a useful framework for patient-centred planning around what can be provided locally, supplemented by outreach or telehealth and what needs to be sought elsewhere through travel (95). This is acknowledged to be more complicated when public and private entities and multiple sectors are working to different agendas.

Outreach and telehealth are important options for extending the distribution of selected services. They work best if supported by a sufficient volume of staff, visiting regularly and providing training and real-time support for local health workers who implementing allied health care plans between visits. The Commonwealth currently funds a range of rural outreach programs, however, these have the potential to be expanded to more specifically address service coordination roles and effective sustained allied health multi-disciplinary teams (117). Telehealth items and its associated infrastructure are a clear way of promoting its use, however uptake depends on relevance, clinical equivalence, cost, provider interest and patient satisfaction.

Viable business models for practising sustainably in smaller communities is an important consideration for the Commonwealth. Policies such as strengthening access to Chronic Disease Management and Medicare telehealth items may help, along with subsidies or grants to cover travel time and infrastructure.

## Conclusion

Australia is leading the evidence base with respect to rural allied health workforce and services. Findings suggest that allied health providers are working as generalists and need particular skills to maximise their effectiveness. Access and quality depends on a critical mass of skilled providers, working in complementary teams to address needs of regional catchments. This could be aided by selecting rural background students, providing more rural-based training, rural curriculum, supported rural jobs and rural career pathways including addressing job satisfaction. At the regional level, patient-centred service planning and coordination of public and private providers underpins access to more comprehensive and high quality services. For smaller communities, outreach and virtual consultations are critical for early intervention and continuity of care, but viable business models and an adequate staff base are essential to improve

service distribution. A number of these areas have direct application to Commonwealth Department of Health policy and equally require strong engagement with jurisdictions and rural representation across the sector.

## References

1. Australian Institute of Health and Welfare. Australia's allied health workforce growing. Canberra: AIHW; 2014.
2. Allied Health Professions Australia. What is allied health? Melbourne: AHPA; 2019.
3. Department of Health and Human Services Victoria. Allied Health Workforce. Victoria: DHHS; 2018.
4. Australian Allied Health Leadership Forum. Australian Allied Health Leadership Forum. 2019.
5. NSW Health. Allied health portfolio. North Sydney: NSW Health; 2018.
6. Queensland Health. Allied Health. Brisbane: Queensland Government; 2017.
7. SARRAH. Services for Rural and Remote Allied Health. Canberra: SARRAH; 2019.
8. Australian Rural Health Education Network. ARHEN. Canberra: ARHEN; 2019.
9. Urbis. University Departments of Rural Health Program. Canberra: Commonwealth Department of Health; 2008.
10. Commonwealth Department of Health. Health workforce data: fact sheets. Canberra: Australian Government Department of Health; 2016.
11. Thomas SL, Wakerman J, Humphreys JS. What core primary health care services should be available to Australians living in rural and remote communities? *BMC Family Practice*. 2014;15:1-9.
12. Thomas SL, Wakerman J, Humphreys JS. Ensuring equity of access to primary health care in rural and remote Australia - what core services should be locally available? *International Journal For Equity In Health*. 2015;14:1-8.
13. Caffery L, Bradford N, Meurer M, Smith A. Association between patient age, geographical location, Indigenous status and hospitalisation for oral and dental conditions in Queensland, Australia. *Australian Journal Of Primary Health*. 2017;23(1):46-52.
14. Barker CL, Ross M. Paediatric aeromedical retrievals in the 'Top End' of the Northern Territory. *The Australian Journal Of Rural Health*. 2014;22(1):29-32.
15. O'Callaghan AM, McAllister L, Wilson L. Barriers to accessing rural paediatric speech pathology services: health care consumers' perspectives. *The Australian Journal Of Rural Health*. 2005;13(3):162-71.
16. Bristow S, Jackson D, Shields L, Usher K. The rural mother's experience of caring for a child with a chronic health condition: An integrative review. *Journal Of Clinical Nursing*. 2018;27(13-14):2558-68.
17. Mitsch V, Curtin M, Badge H. The provision of brain injury rehabilitation services for people living in rural and remote New South Wales, Australia. *Brain Injury*. 2014;12(12):1504-13.
18. Jesus TS, Landry MD, Dussault G, Fronteira I. Human resources for health (and rehabilitation): Six Rehab-Workforce Challenges for the century. *Human Resources For Health*. 2017;15(1):1-12.
19. Leach AJ. Otitis media in Australian Aboriginal children: an overview. *International Journal Of Pediatric Otorhinolaryngology*. 1999;49 Suppl 1:S173-S8.
20. Stoneman J, Taylor SJ. Pharmacists' views on Indigenous health: is there more that can be done? *Rural And Remote Health*. 2007;7(3):1-16.
21. Hunter E. Disadvantage and discontent: a review of issues relevant to the mental health of rural and remote Indigenous Australians. *The Australian Journal Of Rural Health*. 2007;15(2):88-93.
22. Baeza J, Baillie R, Lewis JM. Care for chronic conditions for indigenous Australians: key informants' perspectives on policy. *Health Policy*. 2009;92(2-3):211-7.
23. Gussy MG, Waters EB, Riggs EM, Lo SK, Kilpatrick NM. Parental knowledge, beliefs and behaviours for oral health of toddlers residing in rural Victoria. *Australian Dental Journal*. 2008;53(1):52-60.
24. Ha DH, Crocombe LA, Mejia GC. Clinical oral health of Australia's rural children in a sample attending school dental services. *The Australian Journal Of Rural Health*. 2014;22(6):316-22.
25. Mayze L, Pawlak J, Rogers M, Smith M. Oral health of adolescents in the Colac-Otway Shire. *The Australian Journal Of Rural Health*. 2019;27(1):93-8.
26. Bell N, Kidanie T, Cai B, Krause JS. Geographic Variation in Outpatient Health Care Service Utilization After Spinal Cord Injury. *Archives Of Physical Medicine And Rehabilitation*. 2017;98(2):341-6.
27. Boudville AI, Anjou MD, Taylor HR. Improving eye care for Indigenous Australians in primary health care settings. *The Australian Journal Of Rural Health*. 2013;21(2):121-7.
28. Briggs AM, Slater H, Bunzli S, Jordan JE, Davies SJ, Smith AJ, et al. Consumers' experiences of back pain in rural Western Australia: access to information and services, and self-management behaviours. *BMC Health Services Research*. 2012;12:1-12.
29. Brooks J. Building a Perinatal Service Model with a Western Australian Indigenous Community. *Aboriginal and Islander Health Worker Journal*. 2009(1):16.
30. Wilson RL, Cruickshank M, Lea J. Experiences of families who help young rural men with emergent mental health problems in a rural community in New South Wales, Australia. *Contemporary Nurse*. 2012;42(2):167-77.
31. Tamwoy E, Haswell-Elkins MR, Wong M, Rogers W, D'Abbs P, McDermott R. Living and coping with diabetes in the Torres Strait and Northern Peninsula Area. *Health Promotion Journal of Australia: Official Journal of Australian Association of Health Promotion Professionals*. 2004(3):231.
32. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology*. 2005;8:19-32.
33. Berndt A, Murray CM, Kennedy K, Stanley MJ, Gilbert-Hunt S. Effectiveness of distance learning strategies for continuing professional development (CPD) for rural allied health practitioners: a systematic review. *BMC Medical Education*. 2017;17(1):117-.
34. Dolea C, Stormont L, Braichet J-M. Evaluated strategies to increase attraction and retention of health workers in remote and rural areas. *Bulletin of the World Health Organization*. 2010;88(5):379-85.
35. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology*. 2006;3(2):77-101.
36. Whitford D, Smith T, Newbury J. The South Australian Allied Health Workforce survey: helping to fill the evidence gap in primary health workforce planning. *Australian Journal Of Primary Health*. 2012;18(3):234-41.
37. Smith T, Cooper R, Brown L, Hemmings R, Greaves J. Profile of the rural allied health workforce in northern New South Wales and comparison with previous studies. *The Australian Journal Of Rural Health*. 2008;16(3):156-63.
38. O'Toole K, Schoo A, Stagnitti K, Cuss K. Rethinking policies for the retention of allied health professionals in rural areas: a social relations approach. *Health Policy*. 2008;87(3):326-32.
39. Williams E, D'Amore W, McMeeken J. Physiotherapy in rural and regional Australia. *The Australian Journal Of Rural Health*. 2007;15(6):380-6.
40. Keane S, Smith T, Lincoln M, Fisher K. Survey of the rural allied health workforce in New South Wales to inform recruitment and retention. *The Australian Journal Of Rural Health*. 2011;19(1):38-44.
41. Boshoff K, Hartshorne S. Profile of occupational therapy practice in rural and remote South Australia. *The Australian Journal Of Rural Health*. 2008;16(5):255-61.
42. Merritt J, Perkins D, Boreland F. Regional and remote occupational therapy: a preliminary exploration of private occupational therapy practice. *Australian Occupational Therapy Journal*. 2013;60(4):276-87.
43. Adams R, Jones A, Lefmann S, Sheppard L. Rationing is a reality in rural physiotherapy: a qualitative exploration of service level decision-making. *BMC Health Services Research*. 2015;15:1-12.
44. Bent A. Allied health in Central Australia: Challenges and rewards in remote area practice. *The Australian Journal Of Physiotherapy*. 1999;45(3):203-12.
45. Colles SL, Beiton S, Brimblecombe J. Insights into nutritionists' practices and experiences in remote Australian Aboriginal communities. *Australian & New Zealand Journal of Public Health*. 2016;40:S7-S13.
46. Adams J, de Luca K, Swain M, Funabashi M, Wong A, Pagé I, et al. Prevalence and practice characteristics of urban and rural or remote Australian chiropractors: Analysis of a nationally representative sample of 1830 chiropractors. *The Australian Journal Of Rural Health*. 2019;27:34-41.
47. Hoffmann T, Cantoni N. Occupational therapy services for adult neurological clients in Queensland and therapists' use of telehealth to provide services. *Australian Occupational Therapy Journal*. 2008;55(4):239-48.
48. Smith JD, O'Dea K, McDermott R, Schmidt B, Connors C. Educating to improve population health outcomes in chronic disease: an innovative workforce initiative across remote, rural and Indigenous communities in northern Australia. *Rural & Remote Health*. 2006;6(3):1-15.
49. Thomas Y, Clark M. The aptitudes of allied health professionals working in remote communities. *International Journal of Therapy & Rehabilitation*. 2007;14(5):216-20.
50. Bambling M, Kavanagh D, Lewis G, King R, King D, Sturk H, et al. Challenges faced by general practitioners and allied mental health services in providing mental health services in rural Queensland. *The Australian Journal Of Rural Health*. 2007;15(2):126-30.
51. Kingston GA, Williams G, Judd J, Gray MA. Hand therapy services for rural and remote residents: Results of a survey of Australian occupational therapists and physiotherapists. *The Australian Journal Of Rural Health*. 2015;23(2):112-21.
52. Roots RK, Brown H, Bainbridge L, Li LC. Rural rehabilitation practice: perspectives of occupational therapists and physical therapists in British Columbia, Canada. *Rural & Remote Health*. 2014;14(1):1-16.
53. Wielandt PM, Taylor E. Understanding rural practice: implications for occupational therapy education in Canada. *Rural & Remote Health*. 2010;10(3):1-13.

54. Somerville L, Davis A, Elliott AL, Terrill D, Austin N, Philip K. Building allied health workforce capacity: a strategic approach to workforce innovation. *Australian Health Review*. 2015;39(3):264-70.
55. Stute M, Hurwood A, Hulcombe J, Kuipers P. Pilot implementation of allied health assistant roles within publicly funded health services in Queensland, Australia: results of a workplace audit. *BMC Health Services Research*. 2014;14:1-9.
56. Newman CS, Cornwell PL, Young AM, Ward EC, McErlain AL. Accuracy and confidence of allied health assistants administering the subjective global assessment on inpatients in a rural setting: a preliminary feasibility study. *Nutrition & Dietetics: The Journal Of The Dietitians Association Of Australia*. 2018;75(1):129-36.
57. Tan ACW, Emmerton LM, Hattingh HL. Issues with medication supply and management in a rural community in Queensland. *The Australian Journal Of Rural Health*. 2012;20(3):138-43.
58. Walker D, Tennant M, Short SD. An exploration of the priority remote health personnel give to the development of the Indigenous Health Worker oral health role and why: unexpected findings. *The Australian Journal Of Rural Health*. 2013;21(5):274-8.
59. Durkin SR. Eye health programs within remote Aboriginal communities in Australia: a review of the literature. *Australian Health Review: A Publication Of The Australian Hospital Association*. 2008;32(4):664-76.
60. Durey A, Haigh M, Katzenellenbogen JM. What role can the rural pipeline play in the recruitment and retention of rural allied health professionals? *Rural & Remote Health*. 2015;15(3):1-11.
61. Smith T, Fisher K, Keane S, Lincoln M. Comparison of the results of two rural allied health workforce surveys in the Hunter New England region of New South Wales: 2005 versus 2008. *The Australian Journal Of Rural Health*. 2011;19(3):154-9.
62. Winn CS, Chisolm BA, Hummelbrunner JA. Factors affecting recruitment and retention of rehabilitation professionals in Northern Ontario, Canada: a cross-sectional study. *Rural & Remote Health*. 2014;14(2):1-7.
63. Durey A, McNamara B, Larson A. Towards a health career for rural and remote students: cultural and structural barriers influencing choices. *The Australian Journal Of Rural Health*. 2003;11(3):145-50.
64. Spiers M, Harris M. Challenges to student transition in allied health undergraduate education in the Australian rural and remote context: a synthesis of barriers and enablers. *Rural & Remote Health*. 2015;15(2):1-17.
65. Laurence C, Wilkinson D. Towards more rural nursing and allied health services: current and potential rural activity in the Division of Health Sciences of the University of South Australia. *Rural & Remote Health*. 2002;2(1):1-9.
66. Johnston C, Newstead C, Sanderson M, Wakely L, Osmotherly P. The changing landscape of physiotherapy student clinical placements: An exploration of geographical distribution and student performance across settings. *The Australian Journal Of Rural Health*. 2017;25(2):85-93.
67. Smith T, Brown L, Cooper R. A multidisciplinary model of rural allied health clinical-academic practice: a case study. *Journal Of Allied Health*. 2009;38(4):236-41.
68. Smith T, Cross M, Waller S, Chambers H, Farthing A, Barraclough F, et al. Ruralization of students' horizons: insights into Australian health professional students' rural and remote placements. *Journal Of Multidisciplinary Healthcare*. 2018;11:85-97.
69. Leys J, Wakely L, Thurlow K, Hyde Page R. Physiotherapy students in rural emergency departments: A NEAT place to learn. *Australian Journal of Rural Health*. 2017;25(2):130-1.
70. Thomasz T, Young D. Speech pathology and occupational therapy students participating in placements where their supervisor works in a dual role. *The Australian Journal Of Rural Health*. 2016;24(1):36-40.
71. Brown L, Smith T, Wakely L, Wolfgang R, Little A, Burrows J. Longitudinal Tracking of Workplace Outcomes for Undergraduate Allied Health Students Undertaking Placements in Rural Australia. *Journal Of Allied Health*. 2017;46(2):79-87.
72. Playford D, Larson A, Wheatland B. Going country: rural student placement factors associated with future rural employment in nursing and allied health. *The Australian Journal Of Rural Health*. 2006;14(1):14-9.
73. Aoun S, Johnson L. Capacity building in rural mental health in Western Australia. *The Australian Journal Of Rural Health*. 2002;10(1):39-44.
74. Cox R, Hurwood A. Queensland Health trial of an allied health postgraduate qualification in remote health practice. *The Australian Journal Of Rural Health*. 2005;13(3):191-2.
75. Lin IB, Beattie N, Spitz S, Ellis A. Developing competencies for remote and rural senior allied health professionals in Western Australia. *Rural & Remote Health*. 2009;9(2):1-11.
76. Williams EN, McMeeken JM. Building capacity in the rural physiotherapy workforce: a paediatric training partnership. *Rural & Remote Health*. 2014;14(1):1-11.
77. Ducat WH, Burge V, Kumar S. Barriers to, and enablers of, participation in the Allied Health Rural and Remote Training and Support (AHRRTS) program for rural and remote allied health workers: a qualitative descriptive study. *BMC Medical Education*. 2014;14:1-9.
78. Martin P, Kumar S, Stone M, Abernathy L, Burge V, Lizarondo L. Impact and feasibility of the Allied Health Professional Enhancement Program placements - experiences from rural and remote Queensland. *Advances In Medical Education And Practice*. 2016;7:41-8.
79. Parkin AE, McMahan S, Upfield N, Copley J, Hollands K. Work experience program at a metropolitan paediatric hospital: assisting rural and metropolitan allied health professionals exchange clinical skills. *The Australian Journal Of Rural Health*. 2001;9(6):297-303.
80. Blayden C, Hughes S, Nicol J, Sims S, Hubbard IJ. Using secondments in tertiary health facilities to build paediatric expertise in allied health professionals working in rural New South Wales. *The Australian Journal Of Rural Health*. 2017;25(6):376-81.
81. Bourke L, Waite C, Wright J. Mentoring as a retention strategy to sustain the rural and remote health workforce. *The Australian Journal Of Rural Health*. 2014;22(1):2-7.
82. Foo J, Storr M, Maloney S. The characteristics and experiences of international physiotherapy graduates seeking registration to practise in Australia. *New Zealand Journal of Physiotherapy*. 2017;45(3):135-42.
83. Devine SG, Williams G, Nielsen I. Rural Allied Health Scholarships: do they make a difference? *Rural & Remote Health*. 2013;13(4):1-13.
84. Keane S, Lincoln M, Smith T. Retention of allied health professionals in rural New South Wales: a thematic analysis of focus group discussions. *BMC Health Services Research*. 2012;12:1-11.
85. Roots RK, Li LC. Recruitment and retention of occupational therapists and physiotherapists in rural regions: a meta-synthesis. *BMC Health Services Research*. 2013;13:1-14.
86. Keane S, Lincoln M, Rolfe M, Smith T. Retention of the rural allied health workforce in New South Wales: a comparison of public and private practitioners. *BMC Health Services Research*. 2013;13:1-9.
87. Bond A, Barnett T, Lowe S, Allen P. Retention of allied health professionals in Tasmania. *The Australian Journal Of Rural Health*. 2013;21(4):236-7.
88. Lai GC, Taylor EV, Haigh MM, Thompson SC. Factors Affecting the Retention of Indigenous Australians in the Health Workforce: A Systematic Review. *International Journal Of Environmental Research And Public Health*. 2018;15(5).
89. Chisholm M, Russell D, Humphreys J. Measuring rural allied health workforce turnover and retention: what are the patterns, determinants and costs? *The Australian Journal Of Rural Health*. 2011;19(2):81-8.
90. Cosgrave C, Maple M, Hussain R. An explanation of turnover intention among early-career nursing and allied health professionals working in rural and remote Australia - findings from a grounded theory study. *Rural & Remote Health*. 2018;18(3):1-17.
91. Manahan CM, Hardy CL, MacLeod MLP. Personal characteristics and experiences of long-term allied health professionals in rural and northern British Columbia. *Rural & Remote Health*. 2009;9(4):1-13.
92. . !!! INVALID CITATION !!! (91).
93. . !!! INVALID CITATION !!! (92).
94. Adams R, Jones A, Lefmann S, Sheppard L. Towards understanding the availability of physiotherapy services in rural Australia. *Rural & Remote Health*. 2016;16(2):1-14.
95. Dew A, Bulkeley K, Veitch C, Bundy A, Gallego G, Lincoln M, et al. Addressing the barriers to accessing therapy services in rural and remote areas. *Disability And Rehabilitation*. 2013;35(18):1564-70.
96. O'Toole K, Schoo AM. Retention policies for allied health professionals in rural areas: a survey of private practitioners. *Rural & Remote Health*. 2010;10(2):1-12.
97. Dow B, Moore K, Dunbar JM, Nankervis J, Hunt S. A description and evaluation of an innovative rural rehabilitation programme in South Eastern Australia. *Disability And Rehabilitation*. 2010;32(9):781-9.
98. Field PE, Franklin RC, Barker RN, Ring I, Leggat PA. Cardiac rehabilitation services for people in rural and remote areas: an integrative literature review. *Rural & Remote Health*. 2018;18(4):1-13.
99. Battye KM, McTaggart K. Development of a model for sustainable delivery of outreach allied health services to remote north-west Queensland, Australia. *Rural & Remote Health*. 2003;3(3):1-14.
100. Mathu-Muju KR, McLeod J, Walker ML, Chartier M, Harrison RL. The Children's Oral Health Initiative: An intervention to address the challenges of dental caries in early childhood in Canada's First Nation and Inuit communities. *Canadian Journal Of Public Health*. 2016;107(2):e188-e93.
101. Clark RA, Conway A, Poulsen V, Keech W, Tirimacco R, Tideman P. Alternative models of cardiac rehabilitation: a systematic review. *European Journal Of Preventive Cardiology*. 2015;22(1):35-74.

102. McKellips F, Keely E, Afkham A, Liddy C. Improving access to allied health professionals through the Champlain BASE™ eConsult service: a cross-sectional study in Canada. *The British Journal Of General Practice: The Journal Of The Royal College Of General Practitioners*. 2017;67(664):e757-e63.
103. Iacono T, Stagg K, Pearce N, Hulme Chambers A. A scoping review of Australian allied health research in ehealth. *BMC Health Services Research*. 2016;16(1):1-8.
104. Guilfoyle C, Wootton R, Hassall S, Offer J, Warren M, Smith D. Preliminary experience of allied health assessments delivered face to face and by videoconference to a residential facility for elderly people. *Journal Of Telemedicine And Telecare*. 2003;9(4):230-3.
105. Hassall S, Wootton R, Guilfoyle C. The cost of allied health assessments delivered by videoconference to a residential facility for elderly people. *Journal Of Telemedicine And Telecare*. 2003;9(4):234-7.
106. Cohn RJ, Goodenough B. Health professionals' attitudes to videoconferencing in paediatric health-care. *Journal Of Telemedicine And Telecare*. 2002;8(5):274-82.
107. Fairweather GC, Lincoln MA, Ramsden R. Speech-language pathology telehealth in rural and remote schools: the experience of school executive and therapy assistants. *Rural & Remote Health*. 2017;17(3):1-13.
108. Taylor J, Carlisle K, Farmer J, Larkins S, Dickson-Swift V, Kenny A. Implementation of oral health initiatives by Australian rural communities: Factors for success. *Health & Social Care In The Community*. 2018;26(1):e102-e10.
109. Gausia K, Thompson SC, Lindeman MA, Brown LJ, Perkins D. Contribution of university departments of rural health to rural health research: An analysis of outputs. *Australian Journal of Rural Health*. 2015;23:101-6.
110. McGrail M, O'Sullivan B, Russell D. Rural training pathways: the return rate of doctors to work in the same region as their basic medical training. *Human Resources for Health*. 2018;16(56):1-10.
111. Australian Government Department of Health. Rural Health Multidisciplinary Training Program. Canberra: DoH; 2019.
112. O'Sullivan BG, McGrail MR, Russell D, Chambers H, Major L. A review of characteristics and outcomes of Australia's undergraduate medical education rural immersion programs. *Human Resources for Health*. 2018;16(8):1-10.
113. O'Sullivan B, McGrail M, Russell D, Walker J, Chambers H, Major L, et al. Duration and setting of rural immersion during the medical degree relates to rural work outcomes. *Medical Education* 2018:1-13.
114. Commonwealth Department of Health. Health Workforce Scholarship Program. Canberra: DoH; 2018.
115. O'Sullivan B, McGrail M, Major L, Woodfield M, Holmes C. Rural work outcomes of medical students participating in a contracted Extended Rural Cohort (ERC) program by course-entry preference. *Medical Teacher*. 2019:1-9.
116. Russell D, McGrail M, Humphreys J. Determinants of rural Australian primary health care worker retention: A synthesis of key evidence and implications for policymaking. *Australian Journal of Rural Health* 2017;25:5-14.
117. O'Sullivan B, Joyce C, McGrail M. Adoption, implementation and prioritization of specialist outreach policy in Australia: a national perspective. *Bulletin Of The World Health Organization*. 2014;9:512-9.

# Attachment B: Consultations

## *Organisations*

Australian Allied Health Leadership Forum  
Australian Council of Deans of Health Sciences  
Australian Healthcare and Hospitals Association  
Australian Rural Health Education Network  
Allied Health Professions Australia  
Country Health SA, Rural Health Workforce Strategy Steering Committee  
Indigenous Allied Health Australia  
Murrumbidgee Primary Health Network Board of Directors  
National Allied Health Advisors Committee  
National Rural Health Alliance  
North Coast Allied Health Association  
Northern Territory Primary Health Network  
NSW Rural Doctors Network Rural Allied Health Workforce Planning Group  
Royal Flying Doctors Service of Australia  
Royal Flying Doctors Service, Victoria  
Rural Health Stakeholder Roundtable  
Rural Health West Board  
Services for Rural and Remote Allied Health  
Western NSW Health Collaboration

## *Office Holders*

Philip Anderton – Convenor, Rural Optometry Group of Optometry Australia  
Kate Boucher – Principal Policy Advisor, Allied Health & Community Services Workforce, Victoria  
A/Prof Chris Brenber – Dean of Education, College of Nursing and Health Sciences, Flinders University  
Ashley Brown – Chair, National Rural Health Student Network  
Megan Cahill – Chair, Rural Workforce Agency Network  
Jenny Campbell – Allied Health Advisor, WA Department of Health

Richard Cheney – Director Allied Health, Western New South Wales Local Health District

Dr The Hon David Clark – Minister for Health, New Zealand

Richard Colbran – Chief Executive Officer NSW Rural Doctors Network

Dr Deborah Cole – Chair, Australian Healthcare and Hospitals Association

Dr Wendy Cox – Executive Director Medical Services, Murrumbidgee Local Health District

Rob Curry – President, Services for Australian Rural and Remote Allied Health

Bob Davis – CEO, Maari Ma

Mark Diamond – CEO, National Rural Health Alliance

Michael Dirienzo – CEO, Workforce and Allied Health, Hunter New England Local Health District

Vivienne Duggin – Regional Training Hub Project Officer, University of Western Australia

Michael Fisher – Principal, Broken Hill Public School

June Foulds – Regional Training Hub Project Officer, University of Western Australia

Richard Griffiths – Executive Director, Workforce Planning and Talent Development Branch, New South Wales Ministry of Health

Simon Hanna – Clinical Consultant, Optometry Australia

Andrew Harvey – CEO, Western New South Wales Primary Health Network

Claire Hewat – CEO, Allied Health Professions Australia

Hassan Kadous – Principal Allied Health Advisor, Workforce Planning and Talent Development Branch, New South Wales Ministry of Health

Dr Martin Laverty – CEO, Royal Flying Doctors Service of Australia

Tanya Lehmann – Chair, National Rural Health Alliance

Jill Ludford – CEO, Murrumbidgee Local Health District

Heather Malcolm – Principal Allied Health Officer, Northern Territory Department of Health

Cath Maloney – A/g CEO, Services for Australian Rural and Remote Allied Health

Donna Markham – Chief Allied Health Officer, Safer Care Victoria

Prof Esther May – Dean, Academic and Clinical Education, Health Sciences Divisional Office, University of South Australia

Prof Jenny May – Director, University of Newcastle Department of Rural Health

Liza-Jane McBride – Acting Chief Allied Health Officer, Allied Health Professions' Office of Queensland, Clinical Excellence Division

Scott McLachlan – CEO, Western New South Wales Local Health District

Donna Murray – CEO, Indigenous Allied Health Australia

Prof Richard Murray – Dean, College of Medicine and Dentistry, James Cook University

Kim Nguyen – Executive Director, Workforce and Allied Health, Hunter New England Local Health District

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Krishn Parmer – Allied Health Officer, National Rural Health Student Network

Stephen Pincus – CEO, Northern Territory General Practice Education

Janine Ramsay – National Director, Australian Rural Health Education Network

Peta Rutherford – CEO, Rural Doctors Association of Australia

Dr Greg Sam – CEO, Royal Flying Doctor Service, Broken Hill

A/Prof Rebecca Sealey – Associate Dean of Learning & Teaching, College of Healthcare Services, James Cook University

Dr John Smithson – Acting Academic Head Nursing and Midwifery, James Cook University

Dr Tim Smyth – Chair, Western New South Wales Primary Health Network

Prof Lee Stewart – Dean, College of Healthcare Sciences, Division of Tropical Health & Medicine, James Cook University

Catherine Stoddart – CEO, Northern Territory Health

Rachel Strauss – Executive Director, Latrobe Community Health Service, Victoria

Edward Swan – Executive Officer, Rural Health Workforce Australia

Catherine Turnbull – Chief Allied and Scientific Health Officer, SA Health

Lisa Vandommele – Acting Director of Academic Quality & Strategy, James Cook University

Alison Verhoeven – CEO, Australian Healthcare and Hospitals Association

Katrina Wakely – Allied Health Academic, University of Newcastle Department of Rural Health

Luke Wakely – Allied Health Academic, University of Newcastle Department of Rural Health

Judi Walker – Board Director, Latrobe Community Health Service

Prof Trish Wielandt – Academic Head Occupational Therapy and Speech Pathology, College of Health Science, James Cook University

Rebecca Wolfgang – Allied Health Academic, University of Newcastle Department of Rural Health

Prof Ian Wronski – Deputy Vice Chancellor, Division of Tropical Health & Medicine, James Cook University

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Caroline Edwards – Deputy Secretary, Department of Health

Diagnostic Imaging and Pathology Branch, Medical Benefits Division

Health Workforce Reform Branch, Health Workforce Division

National Disability Insurance Scheme Market Reform Branch, Department of Social Services

Pharmacy Branch, Technology Assessment and Access Division

Primary Care, Dental and Palliative Care Branch, Primary Care and Mental Health Division

Primary Health Networks Branch, Primary Care and Mental Health Division

Rural Access Branch, Health Workforce Division

Health Training Branch, Health Workforce Division