The allied health rural generalist pathway: A workforce initiative

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ABSTRACT

Rural and remote allied health professionals work across a broad scope of practice with high levels of clinical complexity and workload demands and, in an environment where professional support is limited. The allied health rural generalist pathway (AHRGP) is a workforce strategy that enables early career allied health professionals to develop generalist and service development skills and knowledge for practice. The pathway includes work integrated learning activities, dedicated study time and supervision and is available for rural or remote allied health professionals with up to 3 years' experience (level 1 program) or more than 2 years' experience (level 2 program). This research investigated the experiences and impact of the AHRGP as it was introduced in South Australia. The research sought to explore the experiences and perceptions of the rural generalist trainees, their supervisors, managers, clinical leads, and consumers. It also aimed to measure the impacts of the pathway on individuals, organisations, and consumers.

This research generated new knowledge in rural and remote allied health workforce and training. Personal and organisational contextual factors for rural and remote practice were synthesised for allied health professionals and doctors for the first time outlining relevant workforce recommendations for both groups. The experiences and perceptions of trainees undertaking the AHRPG as well as their supervisors, managers, clinical leads and consumer representatives were described across four distinct phases (pre, mid, end and six months post pathway). A range of factors for success of the pathway were outlined including organisational and personal elements. The costs and consequences of AHRGP were also measured and an innovative approach to economic evaluation was developed.

A pragmatic mixed methods approach underpinned the research with concurrent convergent analysis. This ensured a comprehensive analysis of the experiences and impact of the AHRGP for regional Local Health Networks across South Australia. Semi structured interviews were used to collect rich qualitative data across three research phases. Quantitative methods included the descriptive analysis of survey and workforce data and a cost consequence analysis.

Between 2019 and 2022, 15 trainees participated in the AHRGP in South Australia, seven completed the pathway, one deferred and seven discontinued. Of the 10 level 1 trainees, three completed and all five of the level 2 trainees either completed or planned to complete. Despite the high turnover of level 1 trainees, their length of stay in rural South Australia was 82% longer than the rest of the allied health population working at the equivalent pay level. During the follow up period, no level 2 trainees left, however 17.6% of allied health professionals at the equivalent pay level left across the regional LHNs. While a range of factors contribute to retention, these results indicate the AHRGP had a positive impact on workforce outcomes.

The AHRGP was cost effective considering the relatively small costs and the wide-ranging benefits. Benefits included reduced turnover, positive impacts on trainees' intention to continue working rurally, increasing confidence and competence and participation in service development activities. Costs included tuition, study time and the project manager salary. Time for supervision and management support were found to be within organisational expectations and were not an additional cost.

Results of this research indicated the experience of early career allied health professionals working in rural and remote areas is both rewarding and challenging and a range of workforce strategies are required to meet individuals needs and encourage them to continue to stay. Organisations and consumers benefit from the AHRGP through the development of more skilled, knowledgeable, consistent, and passionate allied health professionals.

The experience of trainees participating in the AHRG was mixed. Benefits included developing rural generalist and project management skills and knowledge, participating in service development activities, feeling more confident and developing a passion for rural health. Challenges relating to finding time to study, maintaining motivation and the relevance of course content.

Over the four research phases, factors related to successful completion of the pathway were identified. Access to supervision and management support, the opportunity to work across a broad range of clinical areas and participation in service development activities were important.

It is recommended that education providers and employing organisations work together to develop training programs that effectively support the development of allied health rural generalist skills and knowledge. This study found that the AHRGP is an effective workforce strategy. However, to increase the effectiveness of the pathway, clearer career advancement opportunities and support structures are needed. More research is required to explore alternative workforce strategies and to continue to build the evidence base measuring the effectiveness and experience of allied health rural generalist training in different organisational contexts and jurisdictions.

DECLARATION

I certify that this thesis:

1. does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university
2. and the research within will not be submitted for any other future degree or diploma without the permission of Flinders University; and
3. to the best of my knowledge and belief, does not contain any material previously published or written by another person except where due reference is made in the text.

Signed Alison Dymmott

Date ..4th July, 2023.....

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To the rural and remote communities of Australia, I hope this research contributes to the development of better access, quality and consistency of health services for you all.

PUBLICATIONS ARISING FROM THIS RESEARCH

Refereed manuscripts

Dymmott, A., George, S., Campbell, N., & Brebner, C. (2022). Experiences of working as early career allied health professionals and doctors in rural and remote environments: a qualitative systematic review. *BMC Health Services Research*, *22*(951), 20. https://doi.org/https://doi.org/10.1186/s12913-022-08261-2

Dymmott, A., George, S., Campbell, N., & Brebner, C. (2021). Experiences of working as early career allied health professionals and doctors in rural and remote environments: a qualitative systematic review protocol. *JBI evidence synthesis*, *19*(12), 3301-3307. https://doi.org/10.11124/JBIES-20-00553

Under review

Dymmott, A., George, S., Campbell, N., Brebner, C. May, J., Gill, R. & Milte, R (2023). The allied health rural generalist pathway: A cost-consequence analysis (submitted to the Journal of Rural Health 22/6/23)

Commissioned reports

Dymmott, A., George, S., Campbell, N., Brebner, C., O'Connor, J., May, J., Poklar, S. (2019). *South Australian Allied Health Rural Generalist Pathway Evaluation: Phase 1 Report*. Government of South Australia 10.25957/sakp-ab29

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Dymmott, A. (2022, November 16). Experiences of early career allied health professionals and doctors in rural and remote environments: A systematic review. National Rural and Remote Allied Health Conference, online.

Dymmott, A. (2021, October 6). Plenary Panel: The allied health rural generalist pathway what is it and why do we need it? National Allied Health Conference, online.

Dymmott, A. (2021, October 6). Allied health rural generalist pathway in South Australia; Benefits, challenges and recommendations. Rural and Remote Scientific Symposium, online.

Dymmott, A. (2021, August 9). The Right Fit: Learnings to inform the selection of AHPs to undertake the allied health rural generalist pathway. National Allied Health Conference, online.

Dymmott, A. (2021, June 24). Perspectives and experiences of early career AHPs undertaking the allied health rural generalist pathway. National Occupational Therapy Conference, Occupational Therapy Australia, online.

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TERMINOLOGY USED THROUGHOUT THIS THESIS

Terminology used throughout this thesis reflects that which is used routinely in rural and remote South Australia and is clarified here.

Allied health professional – includes the following professions, among others: audiology, dietetics, medical radiation, occupational therapy, orthotics and prosthetics, pharmacy, physiotherapy, podiatry, psychology, social work and speech pathology. This term will be used to discuss the collective professions and also to de-identify professions when reporting on individual experiences. Where appropriate for context, specific professions will be described. 'Allied health professional' will be used in place of other similar terms including AHP, clinician and therapist, although the short form 'AHP' does appear in some interview transcripts.

Clinical lead – describes the advanced clinical lead allied health professionals who work across rural and remote South Australia. These positions are clinical governance leaders and represent each of the allied health professions employed by regional local health networks, including dietetics, occupational therapy, orthotics and prosthetics, physiotherapy, podiatry, social work and speech pathology. The short form 'ACL' does appear in some interview transcripts.

Education provider – refers to the James Cook University which provided the allied health rural generalist program.

Manager – encompasses participants who were in team leader, manager and director roles and who were responsible for at least one trainee in their organisation.

Project managers – includes staff members who were working to coordinate the allied health rural generalist pathway across South Australia.

Service leads – umbrella term encompassing managers, clinical leads, supervisors and project managers as a group. Where a result is specifically reported by supervisors, managers, clinical leads or project managers this will be stated separately.

Supervisor – the person who clinically supports the trainee allied health professional. They are often referred to as a clinical supervisor or clinical senior clinician. The supervisor is from the same discipline as the trainee and may be co-located or working remotely.

Trainee – allied health professionals who are enrolled in the allied health rural generalist pathway will be referred to as trainees.

ABBREVIATIONS

AHP Allied health professional – this term will be stated in full throughout the thesis, but it is mentioned by stakeholders in quotes

AHRGP Allied health rural generalist pathway – this research focuses on the allied health rural generalist pathway in South Australia, a postgraduate training pathway for rural and remote allied health professionals

FTE Full-time equivalent – used to describe the fraction of full-time employment an individual works

LHN Local Health Network – six regional local health networks provide health services to specific geographical areas across rural and remote areas. Although this term is not used by the author it does appear in quotes.

NSW New South Wales

RGP Rural generalist program – the education component of the allied health rural generalist pathway which is provided by the education provider

RSS Rural Support Service – a business unit of SA Health supporting each of the six regional local health networks with innovation, operational, strategic and governance business

SA South Australia

SA Health Department for Health and Wellbeing, South Australia

SARRAH Services for Australian Rural and Remote Allied Health, a peak professional body representing rural and remote allied health professionals in Australia

TCI Temperament and Character Inventory

Regional Local Health Networks

Region 1 Eyre and Far North regional LHN

Region 2 Flinders Upper North regional LHN

Region 3 Yorke and Northern regional LHN

Region 4	Riverland Mallee Coorong regional LHN
Region 5	Barossa Hills Fleurieu regional LHN
Region 6	Limestone Coast regional LHN

South Australian Allied Health Professional (AHP) classifications

AHP1	New graduate or base grade clinician
AHP2	Experienced clinician or clinical supervisor
AHP3	Senior clinician, specialist clinician, or operational line manager
AHP4	Advanced clinical lead, advanced specialist clinician, or senior operational manager

Use of pronouns

To protect the anonymity of the two male trainees, the gendered pronouns in quotes and references to gender have been changed to gender-neutral terminology.

CHAPTER 1: INTRODUCTION

This thesis explores rural and remote allied health workforce challenges and opportunities and the experience and outcomes of the allied health rural generalist pathway as a workforce strategy. The demand for allied health services in Australia is high (Australian Institute of Health and Welfare, 2019), and the recruitment and retention of allied health professionals in rural and remote health services is particularly challenging (Chisholm et al., 2011). A range of strategies are required to improve workforce outcomes (Battye et al., 2019; Buykx et al., 2010) as no one strategy is effective in isolation. In 2019, Rural Health Workforce Strategy funding provided by the Government of South Australia enabled the introduction of the allied health rural generalist pathway (AHRGP) in South Australian regional local health networks (LHN). The aim of this was to give early career allied health professionals the skills and knowledge required for rural and remote practice and to improve workforce outcomes including recruitment and retention. The regional LHNs received government funding for 12 AHRGP positions and a project manager. Flinders University was contracted by SA Health to conduct a comprehensive research project investigating the experiences and impacts of the pathway for individuals, organisations and communities.

The purpose of this research is to explore allied health workforce challenges and opportunities in rural and remote South Australia (SA) and then to ascertain whether the AHRGP is an effective strategy to overcome these challenges. The AHRGP is new and has the potential to fill training, support and career advancement gaps in allied health (Fisher & Fraser, 2010; O'Sullivan & Worley, 2020). To date, a very small number of published studies have investigated the experience and outcomes of the pathway for allied health professionals, organisations and consumers (Barker et al., 2021; McMaster et al., 2021). In contrast, the medical rural generalist pathway has been more thoroughly evaluated

(Schubert et al., 2018), but it is unclear if the experience of early career rural and remote allied health professionals is comparable to doctors.

A systematic review exploring current evidence in terms of the experiences of early career rural and remote allied health professionals and doctors outlined similarities and differences of the two groups. This review informed allied health and medicine workforce policy and reform and gave the primary research direction and focus for analysis. Following the systematic review, the experiences of allied health professionals across rural and remote health services in SA were explored to identify the similar and different opportunities and challenges they face compared to the findings from the review. This exploration built on the existing evidence available and identified specific contextual factors for SA allied health professionals.

Following the broad exploration of allied health experiences, a comprehensive study examined the experience and impact of the AHRGP as it was implemented across rural and remote SA. The outcomes of this research built on existing allied health workforce research and will influence workforce policy and planning. The research will also enable allied health employers and potential trainees to make informed choices about investing in the AHRGP in the future. Furthermore, it is hypothesised that if allied health professionals have access to high-quality training and support, there should be positive impacts on the individual, the organisation and the community in which they work. This is extensively explored throughout this research.

This research will help to identify if the rural generalist pathway is an effective workforce strategy for allied health service delivery for improving retention and high-quality service delivery. Retention, recruitment, career development and service development are key areas requiring improvement in rural and remote SA, and the significant investment in this pathway is unlikely to be funded long term without measurable and positive outcomes. The outcomes of this research will inform policy and workforce planning about the needs of allied health

professionals, their supervisors, managers and consumers and will assist in planning recruitment, retention and career development strategies for the future.

Justification for research

The AHRGP is new to SA, and there is a paucity of research investigating the AHRGP in general. The pathway was initially developed, implemented and evaluated in Queensland state government services. From 2017 the pathway was introduced in other Australian state and territories. The pathway has not previously been implemented in SA. There are differences between state and territory health services, governance and environmental contexts, and the way the AHRGP has been introduced that make evaluation of the model necessary for different circumstances.

Early research investigating the AHRGP show promising outcomes and impacts (Barker et al., 2021; McMaster et al., 2021; Nancarrow et al., 2015; Queensland Health, 2017), but further research is required to understand the impact in different circumstances. There is a need for broad research questioning and exploration of experiences and outcomes to paint a comprehensive picture of the impact of the AHRGP. The research undertaken in Queensland in 2015 and 2017 was undertaken when the pathway was in its infancy with limited formal training opportunities for participants (Nancarrow et al., 2015; Queensland Health, 2017). The study in New South Wales (NSW) concentrated on a very cohort of participants (McMaster et al., 2021). The research undertaken by Barker and colleagues examined explored the education component of the pathway across states and territories but not the pathway overall (Barker et al., 2021). Gaps in the literature include; a multilevel analysis of the pathway that considers the experience and impacts for trainees, their supervisors, managers, clinical leads and consumers, longitudinal analysis of the pathway, tracking the outcomes for those who do complete and identifying long-term outcomes. More knowledge is needed about the types of contexts and circumstances that support positive outcomes and what trainees need to succeed and benefit from the AHRGP. There is also

little known about the cost-effectiveness of the pathway and whether it is a financially sound initiative.

Research aims

1. To explore workforce challenges and opportunities for allied health professionals in rural and remote areas.
2. To explore the experience of the allied health professionals participating in the AHRGP and the impact on their skills, abilities and knowledge for practice.
3. To understand the impact and perceptions of the AHRGP on supervisors, clinical leads and managers working with rural generalist trainees.
4. To explore how the AHRGP has impacted consumer perceptions, access and quality of allied health service delivery and development.
5. To identify where the rural generalist pathway works and which professions, locations and individual characteristics are particularly suited to the AHRGP.
6. To explore the costs and benefits of the AHRGP.

Structure of thesis

This thesis is structured over 15 chapters. Chapters 1 and 2 introduce and outline the context for the research. Chapter 3 further explores the background of the research through a published systematic review and protocol. Chapter 4 describes the methodology and methods used and chapters 5 to 12 include the results of the AHRGP primary research. Chapters 13, 14 and 15 synthesise and discuss the results as a whole, describe the implications and limitations of the research and make recommendations for future research.

Chapter 1: Introduction – introduces the thesis and outlines the research questions and rationale for the research.

Chapter 2: Background – outlines the literature that is relevant to this research and gives context to the background of the project. It also explains why a more extensive review of the literature in terms of allied health and medicine experiences in rural and remote areas was warranted before reporting the results of the primary research.

Chapter 3: Systematic review and protocol – "Experiences of working as early career allied health professionals and doctors in rural and remote environments: a qualitative systematic review". This systematic review explores the organisational and personal factors that influence the experience of early career health professionals working in rural and remote areas and synthesises the differences and similarities. The systematic review protocol was published in *JBI Evidence Synthesis* (Dymmott et al., 2021).This systematic review was published in *BMC Health Services Research* (Dymmott et al., 2022).

Chapter 4: Methods – describes the methodology and methods used throughout the primary research study.

Chapter 5: Results overview – outlines how the results will be presented and the demographics of the research participants.

Chapter 6: Opportunities and challenges of working in rural and remote areas – builds on the results of the systematic review and explores the experience of participants working in rural and remote areas. The chapter outlines a range of influencing factors that give context to the research.

Chapter 7: Allied health professional experiences of the allied health rural generalist pathway – explores and describes trainee perspectives and experiences of the pathway.

Chapter 8: Service leader experiences of the allied health rural generalist pathway – explores and describes manager, supervisor, clinical lead and project manager perceptions of the pathway over three phases.

Chapter 9: Consumer impacts of the allied health rural generalist pathway – describes what consumer representatives perceive quality allied health services to look like and how the pathway has impacted consumers from the perspective of consumer representatives, service leaders and trainees.

Chapter 10: Organisational impacts of the allied health rural generalist pathway – outlines the outcomes of the pathway for health services in which the trainees work from the perspectives of the service leaders and trainees.

Chapter 11: Contextual factors for success – explores the personal and organisational factors and circumstances that contribute to positive outcomes/success in the pathway.

Chapter 12: Economic analysis – describes the costs and benefits of the pathway from an economic perspective.

Chapter 13: Synthesised findings – summarises the results of the research using program logic and Kirkpatrick frameworks (Kirkpatrick & Kirkpatrick, 2016).

Chapter 14: Discussion – describes the analysis of the research across all phases and levels of participation. It also analyses the overall outcomes of the research in context with previous published research and the limitations of the research.

Chapter 15: Conclusion – summarises the implications of the research and recommendations for future research and workforce initiatives.

CHAPTER 2: BACKGROUND

Chapter overview

This chapter will outline existing research relevant to the rural and remote allied health service workforce. Organisational and personal factors impacting recruitment and retention will be described, and then research relating to workforce initiatives across rural and remote health professions will be outlined to give context to the gaps in allied health research. The concept of the allied health rural generalist pathway (AHRGP) will be introduced and the research that has been undertaken in this area will be analysed. This summary will demonstrate clear gaps in allied health workforce and training research and give context to this new research.

Rural and remote health service workforce

People living in rural and remote areas have a higher risk of experiencing disease, poorer health outcomes (Australian Institute for Health and Welfare, 2018; Smith et al., 2008) and a lower life expectancy (Australian Government, 2012) than their metropolitan peers. There are vast inequalities in access to health professionals in rural and remote areas in comparison to metropolitan settings, with populations experiencing diverse and complex health conditions over vast geographical areas with limited services to support them (Australian Government, 2012). Government workforce and service reform funding is predominantly focused on metropolitan tertiary health services despite significant workforce shortages and service challenges in rural and remote areas (Mason, 2013), and this negatively impacts the overall health outcomes of communities (Australian Institute for Health and Welfare, 2018).

Allied health professionals working in rural and remote areas provide vital and wide-ranging services to local communities, but their roles are often poorly understood and underfunded

(National Rural Health Alliance Inc., 2004). ‘Allied health’ as a broad term encompasses health professions, excluding medicine and nursing, involved in enhancing and maintaining function with individuals, groups and communities (Australian Government, 2013). These professions include audiology, dietetics, exercise physiology, medical radiation, occupational therapy, orthotics/prosthetics, physiotherapy, podiatry, social work, speech pathology, psychology and pharmacy (Allied Health Professions Australia, 2021). A range of factors contribute to the undervaluing and misunderstood nature of allied health professionals, including the relatively small number of professionals compared to nursing and medicine and the diverse range of professions, roles and tasks that fall under the collective umbrella of allied health service provision (National Rural Health Alliance Inc., 2004). In rural and remote areas allied health workforce challenges are complex and challenging to overcome due to multiple workforce challenges.

Workforce challenges and opportunities

Retaining a health workforce is one of the many challenges faced by rural and remote health services; it is an expensive workforce challenge and negatively impacts on overall health outcomes for communities (Campbell et al., 2012). When retention rates are low, the costs associated with recruiting a replacement clinician are significant, including advertising costs and associated staff time taken up in undertaking recruitment processes, funding locums to fill short-term gaps in service delivery, moving costs of new staff as well as orientation and on the job training (Chisholm et al., 2011). When services are able to retain staff, these organisational costs and loss of time can be prevented. Chisholm et al. (2011) investigated patterns of retention in rural Victoria allied health services. They found that retention decreased the more remote a location and the lower the pay grade, and on average across rural and remote areas allied health professionals were retained for 12 to 24 months. Local community members treated by health professionals who stay such short periods of time experience further disadvantage in accessing services.

Influences on retention of allied health professionals have been reported widely in the literature, with many studies based in Australia (Beccaria et al., 2021; Buykx et al., 2010; Campbell et al., 2012; Couch et al., 2021; Roots & Li, 2013). These influences are wide-ranging and complex and are often referred to as organisational and personal factors (Cosgrave et al., 2018; O'Toole et al., 2010). Attractive factors of rural areas, including the opportunity to work with a diverse case load, high levels of autonomy and career advancement, can also be attributed to negative influences for retention when these lead to heavy workloads, burnout and limited support (Couch et al., 2021). Multiple strategies are required to address these complex influences.

Organisational factors

Clinicians working in rural and remote areas are required to have high-level skills in a range of clinical areas in order to meet the highly variable needs of their communities, and this broad nature of practice is often a drawcard for newly qualified allied health professionals (Devine, 2006; Lee & Mackenzie, 2003). Often these clinicians have poor access to professional development, resources and support to acquire and maintain these broad skills (Centre for Allied Health Evidence, 2009; Paliadelis et al., 2012; Worley & Champion, 2020). Because of the highly varied and complex workload it is challenging to develop specialised clinical skills across the entire scope of practice and burnout is commonly reported (Centre for Allied Health Evidence, 2009; Couch et al., 2021). Finding ways to better support allied health professionals to work across clinical areas in rural and remote areas is imperative in maintaining a quality health service and workforce.

In addition to the broad nature of rural practice, allied health professionals working in rural and remote areas report various other organisational factors that impact on their satisfaction and intention to stay. The availability of professional and managerial support is a common theme across recent reviews (Beccaria et al., 2021; Campbell et al., 2012; Couch et al., 2021; Roots & Li, 2013). Feeling professionally supported by managers, supervisors and

colleagues appears to be a significant factor in terms of allied health professionals feeling integrated in the workplace and willing to continue working there (Beccaria et al., 2021). Organisational factors that negatively impact on health professionals include limited opportunities for career advancement, limited access to professional development, high workloads (Campbell et al., 2012; Couch et al., 2021; Roots & Li, 2013) and issues with workplace culture and leadership (Beccaria et al., 2021). Challenges accessing adequate supervision and support in the workplace are also consistently reported (Gardner et al., 2018; Kumar et al., 2015).

Positive organisational factors include working relationships with colleagues, job satisfaction, the opportunity to make a positive contribution to the community, work-life balance (Beccaria et al., 2021), satisfying clinical work and career advancement opportunities (Campbell et al., 2012; Couch et al., 2021; Roots & Li, 2013). Organisational factors can be multifaceted and challenging to overcome, especially since there are differences across health services, professions, regions and populations which impact in different ways. Organisational factors have the potential to improve rural and remote workforce outcomes (O'Toole et al., 2010), which will have flow-on effects for the health and wellbeing of local communities.

Reviews investigating organisational factors for health professionals more broadly tend to focus on the experience of doctors and include factors around specialist training, financial incentives and opportunities to practice across a wide range of clinical areas (Buykx et al., 2010; Schubert et al., 2018; Wilson et al., 2009). The medical workforce in rural and remote Australia receives considerable resourcing and government focus (Australian Government, 2021; Government of South Australia, 2022b) compared to allied health, but it is important to understand the similarities and differences in terms of contextual factors to effectively advocate for allied health workforce improvement strategies.

Personal and social factors

Rural background

Growing up in a rural area has been demonstrated to have a positive impact on health service recruitment and retention in rural areas (Beccaria et al., 2021; Carson et al., 2015; Devine, 2006; Keane et al., 2012). Similarly, undertaking clinical placement or having another personal association with a rural area, for example having a partner or family in a rural area (Keane et al., 2012), appears to also positively impact the intention of allied health professionals to work rurally (Beccaria et al., 2021; Brown et al., 2017; Playford et al., 2006; T. Smith et al., 2018). Growing up in or spending time in a rural area may also lead to individuals feeling a sense of fit in a rural or remote area, and this sense of fit or belonging may be an important factor in considering a rural location as a long-term career plan (Beccaria et al., 2021). The location of social supports is an important factor for allied health professionals. When family or friends are close by, this can have a positive impact on the individual (Campbell et al., 2012), whereas when social supports are some distance away a range of challenges present, including difficulties integrating in the community and travelling large distances on weekends (Couch et al., 2021; O'Toole et al., 2010). Similar personal factors have been discussed in papers focusing on doctors with a rural background, access to rural placements during training and the location of family or partner being important factors in recruitment and retention (McGrail et al., 2018; Strasser et al., 2016; Wilson et al., 2009).

Personal attributes

Personal attributes have been investigated in terms of factors influencing recruitment and retention of allied health professionals (Campbell et al., 2016; Louwen et al., 2023). Health professionals generally have courteous, cooperative, self-directed, relaxed and collaborative traits (Louwen et al., 2023). Campbell et al. (2017) found that individuals who seek novelty or have a laid-back, optimistic and decisive personality may be more likely to seek work and

stay in a rural and remote area. Several studies have investigated the temperament and characteristics of nurses and doctors, describing patterns of traits that are more likely to suit rural and remote practice (Eley et al., 2011; Eley et al., 2015; Eley, Young, & Shrapnel, 2008). Although personality traits associated with successful retention have not been widely researched in allied health, the small amount of literature (Campbell et al., 2013; Campbell et al., 2016) does align with the research investigating personality factors in Australia's remote and rural medical and nursing workforce and could be considered during recruitment to potentially retain staff for longer.

Workforce initiatives in Australia

Australian government policy has implemented some of the strategic initiatives proposed by the World Health Organisation (WHO) to reduce retention challenges for health professionals (World Health Organisation, 2010). In particular, supporting undergraduate students from rural backgrounds to become health professionals and incorporating rural education in undergraduate training (Brown et al., 2017; Devine et al., 2013). University and government initiatives have largely been successful in increasing student placement opportunities in rural and remote locations, giving students valuable lessons about rural and remote health and contributing to improved recruitment for health professionals on graduation, although a significant focus of this funding has been for medical students (Eley et al., 2012; Eley, Young, Baker, et al., 2008; Gupta & Murray, 2011). WHO also recommended increasing the scope of practice for rural workers to work across clinical areas and improving work and personal conditions for health professionals to improve retention (Brown et al., 2017; World Health Organisation, 2010). These factors will be explored extensively throughout this research.

Government health services face economic challenges as they attempt to work within allocated funding whilst also meeting the needs of the communities. Organisations need to be able to justify how and why they are using funding and to show that resources are used in

effective and efficient ways. Significant resources are allocated to rural and remote health workforce initiatives and training (Lyle & Greenhill, 2018; Mason, 2013; Orda et al., 2017) and judicious use of public funds is essential; however, there is a scarcity of research investigating the economic impact of these initiatives. Economic evaluation explicitly compares the outputs or outcomes of a program, initiative or process with the resources used in its delivery using systematic, transparent and quantifiable approaches (Drummond, 2015). When health services are clear about the economic value of the services they provide, it is easier to justify the cost to funding bodies or to make decisions about where resources should be allocated for maximum benefits (Mauskopf et al., 1998).

Medical workforce initiatives and postgraduate training

The training, recruitment and retention of doctors in rural and remote areas receives considerable government funding and support in Australia (Humphreys et al., 2002; McKenzie, 2018). Initiatives that facilitate medical undergraduate training and clinical placements in rural and remote areas have been found to be effective strategies for recruiting early career doctors to rural and remote areas (O'Sullivan & Worley, 2020). Opportunities and experiences of postgraduate training in rural and remote areas also have a significant impact on early career doctors' career intentions (McGrail et al., 2023). Postgraduate medical specialist training in rural generalist practice has been introduced throughout Australia (Orda et al., 2017; Sen Gupta et al., 2013). The medical rural generalist model enables doctors to access comprehensive training and resources to develop and maintain skills required for a broad scope of rural and remote practice (Stewart, 2017; Worley et al., 2019).

A range of studies have investigated the effectiveness of the medical rural generalist pathway (Australian College of Rural and Remote Medicine, 2014; Pashen et al., 2007) and found that the pathway successfully improves recruitment and retention of doctors and enables them to develop generalist skills that are relevant to their local community (Orda et

al., 2017; Sen Gupta et al., 2013). A scoping review conducted by Schubert and colleagues (Schubert et al., 2018) investigating international approaches to rural generalist medicine found that doctors valued the opportunity to be trained in advanced and comprehensive rural generalist practice. They also valued the opportunity to engage in a broad scope of practice, including procedural and primary health care work, and being appropriately remunerated and incentivised to develop a career in rural and remote generalist practice. Some rural generalist trainee doctors choose to discontinue generalist training but continue to work in rural areas by transferring to another specialist or general practice training program available in their local area. Others leave the program for personal or family reasons or to pursue a metropolitan career (Kitchener et al., 2021). Specialist training and career advancement opportunities are well established for rural and remote doctors and have proven to impact positively on workforce outcomes (McGrail et al., 2023; Worley et al., 2019). The allied health workforce could potentially be improved through adopting some of the learning from these initiatives.

Nursing workforce initiatives

Rural generalist practice in nursing has not been as clearly defined or developed as it has for medicine and there is limited evidence published (Long et al., 1997). Rural and remote nursing is a large, strong, consistent workforce (National Rural Health Alliance Inc., 2019) with significant government investment in training and remuneration (Australian Goverment, 2022; Government of South Australia, 2021b). Nurses working in rural and remote areas have traditionally been expected to work across a broad scope of practice due to the nature of their work. They are often well integrated into rural communities (S. Smith et al., 2018), and this enables them to have an extensive understanding of local community needs and resources. Rural nurses face similar challenges to other health professionals in terms of access to professional development, professional isolation, stress and burnout (Clark et al., 2005; S. Smith et al., 2018). There are multiple rural health courses and postgraduate qualifications available to rural and remote nurses in Australia (Centre for Remote Health,

2019). The development of nurse practitioner roles has enabled nurses with high levels of skill and qualification to broaden their scope of practice in discrete specialised areas (Xue et al., 2018) and be remunerated appropriately. This has enabled rural nurses to meet the needs of their community in various ways by being accredited to do tasks and roles that traditionally would have been undertaken by another professional. Various barriers continue to prevent nurse practitioners working to their full scope of practice and being appropriately remunerated, and work in this area continues (Carryer et al., 2011).

Allied health workforce initiatives and rural generalist training

Rural and remote allied health professionals require structured training and professional support to enable them to develop the skills needed for practice and encourage them to stay and advance their career in rural and remote areas (Fisher & Fraser, 2010; O'Sullivan & Worley, 2020). Recent initiatives have proposed strategies to attract and retain allied health professionals, and improve service quality, clinical governance and equity of access for rural and remote communities (Government of South Australia, 2021a; Worley & Champion, 2020). Actions relating to these proposals are new and emerging (May et al., 2022). Until recently there were limited opportunities for allied health professionals to be recognised for advanced skills in rural and remote practice (Fisher & Fraser, 2010), and career advancement opportunities and retention strategies were also limited (Worley & Champion, 2020).

In response to wide-ranging workforce limitations, in 2014 the Queensland government introduced allied health rural generalist training positions across seven allied health professions (dietetics, medical imaging, occupational therapy, pharmacy, physiotherapy, podiatry and speech pathology). These positions were designed to improve recruitment and retention of allied health professionals, to increase access to health services for rural and remote communities and to improve the quality and sustainability of health service delivery. The program included the provision of supernumerary allied health trainee positions in teams

with dedicated professional development activities, targeted supervision and participation in local quality improvement activities (Queensland Health, 2017). Evaluation of the pathway in 2015 found a range of benefits and improvements for trainees, organisations and consumers: trainee job satisfaction improved, and they gained relevant skills for practice; health services reported the trainees' capacity to manage clinical workloads increased; multidisciplinary team communication and coordination improved; and the volume of quality improvement activities undertaken increased. All of the trainees completed the pathway within 24 months and 78% remained working in rural or remote locations six months after completion (Nielsen et al., 2017; Queensland Health, 2017). Consumer benefits of the program included decreased need to travel for services, quicker access to health services and improved quality and continuity of care (Nancarrow et al., 2015; Queensland Health, 2017). The evaluation identified that a dedicated training program was required for the pathway to support the development of generalist skills and knowledge (Nielsen et al., 2017).

In 2017 an allied health rural generalist training program (RGP) was established in conjunction with Queensland Health and James Cook University (the education provider) which allowed rural generalist trainees to undertake formal education in rural generalist practice. Services for Australian Rural and Remote Allied Health Professionals (SARRAH) was instrumental in developing and fostering the AHRGP, which is the overarching pathway in which the RGP is one component (as well as dedicated supervision, quarantined study time at work and work-integrated learning opportunities). SARRAH also advocated for other states and territories to adopt the AHRGP as an allied health workforce strategy (SARRAH, 2019). Since 2017, the AHRGP has included the RGP provided by James Cook University as a core component of the pathway.

The RGP comprises two levels of postgraduate training. Level 1 is a non-award postgraduate program designed for early career rural or remote allied health professionals with less than three years of experience. It comprises 12 modules that are each six weeks in

duration requiring approximately 22 hours each to complete. The level 2 program is a graduate diploma qualification with eight modules requiring approximately 130 hours per module and is designed for rural and remote allied health professionals who have more than two years of work experience (James Cook University, 2022). Both levels offer specialist training and education designed to support clinicians working in rural and remote areas and incorporate online coursework and work-based projects and activities(James Cook University, 2022).

Barker and colleagues (2021) completed an evaluation of the RGP which explored the impact of the training component of the AHRGP on trainees, employing organisations and consumers across Australia. They identified a range of benefits and positive aspects of the program for trainees which included the relevance and availability of different modules, consolidating skills and knowledge, clear topic expectations, flexibility of the program and feedback received from academics. Stakeholders reported that organisations and consumers benefited from the RGP through improved efficiency, effectiveness and accessibility of services and the completion of project work by participants. Overall, the RGP was reported to positively impact on building a rural and remote allied health workforce. Enablers for success included stable allied health staffing, supportive allied health teams and the ability for trainees to align course content with clinical and project work. Challenges of the RGP included the relevance of module content to work, the significant time required to complete modules and assessment tasks and the challenge of contacting and getting feedback from academic staff. Both employers and trainees reported finding it challenging to juggle clinical work, study time and the administrative aspects of the program.

An evaluation of the AHRGP in NSW was conducted between 2017 and 2021 and focused on the recruitment of small cohort of physiotherapy trainee positions and one senior physiotherapy supervisor in a region that had significant difficulties recruiting and retaining physiotherapists (McMaster et al., 2021). The focus of the evaluation was the recruitment, retention and restructuring of physiotherapy roles and the utilisation of the AHRGP to

support the development of early career physiotherapists in the service. Organisational outputs including recruitment and retention, service outputs and patient-related outcomes were measured. Results indicated improvements in recruitment and retention were achieved and clinical outputs increased in hospitals with the recruitment of physiotherapy positions that had previously been vacant. The organisation did not have funding for the RGP tuition fees and not all rural generalist trainees participated in the training component of the pathway, although one physiotherapist did complete the level 1 program during the follow-up period. The main features of the rural generalist training positions were quarantined study time, dedicated supervision and targeted professional development activities (McMaster et al., 2021).

As the evidence relating to the AHRGP is limited, it is relevant to consider research investigating allied health training more broadly; however, there is also limited evidence available measuring the effectiveness of postgraduate training for allied health professionals. Most studies that investigate the impact of allied health training focus on participant reactions and learning from training, and there is limited evidence of the implementation of learning, behavioural changes, organisational and consumer impacts (Berndt et al., 2017; Windfield-Lund et al., 2023). A systematic review conducted by Leahy and colleagues found that physiotherapists benefit from online or face-to-face training that provides opportunities for active engagement including feedback, interactions with peers, practice and mentoring in order to make a positive difference to behaviour and practice (Leahy et al., 2020a). A review conducted by Berndt and colleagues investigating online training for rural and remote allied health professionals identified similar findings, although they also noted complexities in terms of preferred delivery methods across studies (Berndt et al., 2017). Leahy and colleagues also found that connection and interaction between participants and educators in training allows participants to make sense of the training, adopt learning to practice, build confidence and feel supported to implement new skills (Leahy et al., 2020b). There is a scarcity of research investigating the individual and organisational impacts of allied health

training. It has however been identified that contextualised, tailored training with opportunities for implementation in practice are likely to have the greatest impact (Windfield-Lund et al., 2023).

Chapter summary

Rural and remote health services face complex challenges in recruiting, training, supporting and retaining allied health professionals, and this has significant impacts on the whole community. A range of workforce initiatives have been implemented in health services more broadly, but there have been limited success for allied health specifically. A pathway to develop allied health rural generalist skills is in its infancy and has the potential to improve workforce outcomes, but there has been limited research into its effectiveness. More research has been done in terms of workforce initiatives for doctors, but it is unclear if the two groups are comparable and whether workforce and training recommendations for one are relevant for the other. Previous research has identified factors that may improve the effectiveness and impact of training, although there is limited evidence linking these factors with the AHRGP.

CHAPTER 3: EXPERIENCES OF WORKING AS EARLY CAREER ALLIED HEALTH PROFESSIONALS AND DOCTORS IN RURAL AND REMOTE ENVIRONMENTS: A QUALITATIVE SYSTEMATIC REVIEW

Chapter overview

This chapter reviews and synthesises qualitative literature exploring the experiences of early career allied health professionals and doctors working in rural and remote areas. This builds on the previous chapter exploring rural and remote health workforce literature and fills a gap in understanding of the differences and similarities of personal and professional factors that influence both allied health professionals and doctors. Understanding these similarities and differences will enable the generation of relevant workforce recommendation for both groups. This chapter was published in *BMC Health Services Research* on 26 July 2022, volume 22:951. The protocol was published in *JBI Evidence Synthesis* in December 2021, volume 19(12) and is available in appendix 1 of this thesis.

Experiences of working as early career allied health professionals and doctors in rural and remote environments: a qualitative systematic review

Abstract

Background: Maintaining a health professional workforce in rural and remote areas pose a significant challenge internationally. A range of strategies have had varying success and these are generally developed from the collective experience of all health professions, rather than targeted to professional groups with differing educational and support contexts. This review explores, compares and synthesises the evidence examining the experience of early career rural and remote allied health professionals and doctors to better understand both the profession specific, and common factors that influence their experience.

Methods: Qualitative studies that include early career allied health professionals' or doctors' experiences of working in rural or remote areas and the personal and professional factors that impact on this experience were considered. A systematic search was completed across five databases and three grey literature repositories to identify published and unpublished studies. Studies published since 2000 in English were considered. Studies were screened for inclusion and critically appraised by two independent reviewers. Data was extracted and assigned a level of credibility. Data synthesis adhered to the JBI meta-aggregative approach.

Results: Of the 1408 identified articles, 30 papers were eligible for inclusion, with one rated as low in quality and all others moderate/ high quality. A total of 23 categories, 334 findings and illustrations were aggregated into three synthesised findings for both professional groups including: making a difference through professional and organisational factors, working in rural areas can offer unique and rewarding opportunities for early career allied health professionals and doctors and personal and community influences make a difference. A rich dataset was obtained and findings illustrate similarities including the need to consider

personal factors, and differences, including discipline specific supervision for allied health professionals and local supervision for doctors.

Conclusions: Strategies to enhance the experience of both allied health professionals and doctors in rural and remote areas include enabling career paths through structured training programs, hands on learning opportunities, quality supervision and community immersion.

Systematic review registration number: PROSPERO CRD42021223187

Keywords: Allied Health, Early career, Experiences, Medicine, Rural and remote, Systematic review, Qualitative, Meta-synthesis

Background

People living in rural and remote areas are more likely to experience disease, injury and earlier death than those in metropolitan areas (Australian Institute of Health and Welfare, 2019) and face more adversity than their metropolitan counterparts in accessing health services which has a negative impact on their health and wellbeing (Smith et al., 2008). Workforce challenges including recruitment and retention of doctors, nurses and allied health professionals have negative impacts on the services that can be provided to rural and remote communities (Chisholm et al., 2011). These challenges are complex and challenging to resolve (Buykx et al., 2010; Wilson et al., 2009). A range of initiatives have been introduced in Australia in an attempt to improve access to rural and remote health services through supporting the health professional workforce however these have predominantly focused on medicine (Australian Government Department of Health, 2019). Understanding the differences and similarities between the roles and the support strategies for each profession, and the success (or not) of the strategy in improving workforce recruitment and retention, may assist in addressing rural and remote health disparities.

There are a range of similarities and differences in the role and experience of doctors and allied health professionals in terms of clinical expertise, decision making, responsibilities and

scope of practice, training and support mechanisms (Kenny & Adamson, 1992; Konkin et al., 2020; Saxon et al., 2014; Skinner et al., 2015). Rural doctors in Australia often have a rural upbringing, a positive rural experience at university or are attracted to the job opportunities and incentives offered by rural employers (Holloway et al., 2020; Ogden et al., 2020). Early career doctors undertake extensive postgraduate training in order to specialise and advance their skills. Post graduate training can be done in rural areas and evidence suggests that this can have a positive impact on retention (Dolea et al., 2010; Rural Health Workforce Australia, 2015; Wilson et al., 2009).

Allied health professionals also go to rural and remote areas for job opportunities, to be closer to family or partners, to gain diverse experience, or because of a desire to work in a rural area (Couch et al., 2021; O'Toole et al., 2010). Allied health professionals are not required to undertake postgraduate training in order to practice autonomously, with varying requirements in terms of ongoing professional development and supervision and further training which does not necessarily relate to specialisation or career progression (Skinner et al., 2015; Turnbull et al., 2009). Retention of allied health professionals is influenced by the location of social supports, the availability of workplace support, high workloads, limited career advancement opportunities and opportunities available in metropolitan areas (Couch et al., 2021; Kumar et al., 2020; O'Toole et al., 2010).

The demand for allied health services in rural and remote areas is growing with expanded funding mechanisms for people living with disability and chronic health conditions (Foley et al., 2020; McPake & Mahal, 2017). Despite this increasing demand, workforce challenges continue to prevent rural people from accessing appropriate services locally to meet their needs (Dintino et al., 2019).

Recent rural and remote health professional workforce systematic reviews have explored workforce challenges and have identified limited evidence for effective retention strategies (Buykx et al., 2010; Couch et al., 2021; Holloway et al., 2020; Ogden et al., 2020). Buykx

and colleagues (4) examined the impact of retention incentives for health professionals and found that although a range of factors were influential, these were multifaceted and complex. Interestingly the majority of the papers included in the review were based on the experience of doctors. Wakerman et al. confirmed the complexity of retention factors and made recommendations including; the need for quality education and training opportunities, safe and supportive work environments and consideration of clinicians' personal needs (Wakerman et al., 2019), again this review mostly considered medical studies. Holloway, Donohue and Moore reviewed rural and remote recruitment and retention factors for doctors and identified the most significant factors were; rural background and experiences, access to rural training, professional support, support for partner and family and opportunities to integrate into the community (Holloway et al., 2020). Ogden and colleagues (2020) also found rural background and rural education experiences pre and post university were important predictors of recruitment and retention of rural general practitioners (Ogden et al., 2020). Couch et al. (2021) explored recruitment and retention influences for allied health and identified career opportunities, diversity of clinical work and workload, workplace supports and structures, rural background and experiences, location of partner or family and lifestyle factors as being significant.

With more rural and remote health workforce research focusing on doctors than allied health professionals, to date systematic reviews and commissioned reports mostly consider medical papers in their synthesised findings and recommendations (Buykx et al., 2010; Dolea et al., 2010; Holloway et al., 2020; Ogden et al., 2020; Wilson et al., 2009). There is a need to systematically explore whether the experience of early career allied health professionals and doctors is similar or different, upon which the development of evidence-informed workforce retention strategies can be developed.

While several reviews have explored the experience of health professionals working in rural and remote areas (Buykx et al., 2010; Couch et al., 2021; Holloway et al., 2020; Ogden et al., 2020; Wakerman et al., 2019), no current systematic reviews compare the experiences

of early career allied health professionals and doctors to investigate whether the experience are similar or different. Better understanding these similarities and differences will enable the development of recommendations for future workforce reforms.

This systematic review was undertaken to evaluate, synthesise and compare the experiences of early career allied health professions and doctors working in rural areas and the professional and personal factors that influence these experiences to identify similarities and differences of the two professional groups.

Review questions

1. What are the experiences of early career allied health professionals navigating professional and personal factors when working in rural and/or remote environments?
2. What are the experiences of early career doctors navigating professional and personal factors when working in rural and/or remote environments?

Methods

The systematic review was performed in accordance with the JBI methodology for systematic reviews of qualitative evidence (Lockwood et al., 2020). The protocol was published (Dymmott et al., 2021) and the review was registered with PROSPERO (CRD42021223187). The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher et al., 2009) guidance was adhered to throughout this review.

Search strategy and selection criteria

A systematic literature search was conducted using Medline, CINAHL, Embase, Web of Science, and Informit. Grey literature was also searched using ProQuest Dissertations and Theses, Google Scholar and WorldWideScience.org. The searches were conducted between the 14th of January and 2nd February 2021. Key search terms related to early career, the medical and allied health professions, rural and remote environments and

experiences (qualitative research). Table A outlines the Medline search terms; these were adapted for the additional databases individual styles and phrasing requirements.

Table A: Medline search

Search	Query	Records retrieved
1	(“early career” or residency or “junior doctor*” or graduate* or registrar* or intern* or trainee*).tw,kf. OR “Internship and Residency”/	1,082,351
2	(physician* OR doctor* OR practitioner* OR GP*).tw,kf. OR (medical adj (personnel OR staff OR professional* OR worker*)).tw,kf. OR “allied health”/ OR rural generalist*.tw.kf. OR art therapist*.tw,kf. OR audiologist*.tw,kf. OR chiropractor*.tw,kf. OR (dietician* OR dietitian*).tw,kf. OR genetic counsellor*.tw,kf. OR music therapist*.tw,kf. OR nutritionist*.tw,kf. OR occupational therapist*.tw,kf. OR optometrist*.tw,kf. OR (orthotist* or prosthetist*).tw,kf. OR orthoptist*.tw,kf. OR pharmacist*.tw,kf. OR (physiotherapist* OR physical therapist*).tw,kf. OR podiatrist*.tw,kf. OR psychologist*.tw,kf. OR (radiographer* OR sonographer* OR radiation therapist*).tw,kf. OR rehabilitation counsellor*.tw,kf. OR (speech pathologist* OR language pathologist* OR speech therapist* OR language therapist*).tw,kf. OR ((health OR healthcare OR health care) adj (personnel OR worker* OR staff OR professional* OR workforce OR provider*)).tw,kf.	963,351
3	((rural OR remote OR non-metropolitan OR nonmetropolitan OR regional) adj (communit* OR area* OR region* OR province*)).tw,kf. OR ((rural OR remote OR nonmetropolitan OR non-metropolitan OR regional) adj (health service* OR health care OR healthcare OR medical service* OR medical care OR workforce)).tw,kf. OR (rural OR remote OR non-metropolitan OR nonmetropolitan OR regional adj (setting* OR clinic* OR hospital* OR health service*)).tw,kf. OR rural Health/ OR rural hospital*, rural/ OR rural population/ OR rural health service*	142,677
4	1 AND 2 AND 3	3,211
5	((((“semi-structured” OR semistructured OR unstructured OR informal OR “in-depth” OR indepth OR “face-to-face” OR structured OR guide) adj3 (interview* OR discussion* OR questionnaire*)) OR (focus group* OR qualitative OR ethnograph* OR fieldwork OR field work OR key informant)).tw,kf. OR interviews as topic/ OR focus groups/ OR narration/ OR qualitative research/	416,304
6	4 AND 5	575

Articles were included if: 1) they reported primary research, 2) used qualitative methodologies, 2) included early career doctors or allied health professionals, 3) focused on rural, regional or remote environments, 4) investigated experiences of the early career clinicians. Articles were excluded if they were not written in English, not based in high income countries, if they were published before 2000 and if they reported on the perspectives of students, managers, senior staff or supervisors rather than the early career professionals themselves. High income countries were defined using the World Bank criteria (World Bank, 2019). As there is no internationally accepted definition of rural and remote areas, papers where the author designated their study as focused on rural and remote areas were included. There is also no universal definition of allied health so the comprehensive list of included professions by Allied Health Professions Australia (Allied Health Professions Australia, 2021) was used to classify allied health professions included in the searches. Finally, there is no agreed definition of 'early career' in health professional literature. For the purposes of this review, doctors from their first year in the workforce up to specialty training programs were classified as early career while allied health professionals with 5 years' experience or less or who were described as being early in their career were also included. The results of all searches were uploaded onto Covidence software.

Table B: Allied health professions included in the review

art therapist	music therapist	perfusionist	radiation therapist
audiologist	occupational therapist	pharmacist	radiographer
chiropractor	optometrist	physiotherapist	sonographer
dental therapist	oral health therapist	osteopath	social worker
dietitian	orthoptist	podiatrist	speech pathologist
exercise physiologist	orthotist	psychologist	
genetic counsellor	prosthetist	rehabilitation counsellor	

Data screening and extraction

Duplicates were removed and the titles and abstracts were screened by AD and SG, potentially relevant studies were retrieved in full and assessed against the inclusion criteria by all authors. Qualitative data was extracted by all authors using the standardised JBI data extraction tool (Lockwood et al., 2020) including details of the study methodology, methods, population, phenomenon of interest, country, setting, context, culture and outcomes relevant to the review questions. All decisions and discrepancies were made through discussion by at least two of the authors.

Quality appraisal

Included studies were critically appraised for methodological quality using the standard JBI critical appraisal checklist for qualitative research (Lockwood et al., 2020). All reviewers contributed to the appraisals and discrepancies were resolved through discussion with two reviewers. The JBI appraisal checklist identified whether the studies meet the criteria for high quality qualitative research across 10 questions. Reviewers judged the research based on what is presented in the paper and may not necessarily be a true indication of the study design. Given the anticipated small body of available literature, methodological quality was not used to exclude studies as the review team were keen to include all potential findings that could explore the review questions (table 2 characteristics of studies)

Meta-synthesis

Findings and their supportive illustrations were extracted from the primary studies. Findings were descriptions of the results reported by the authors that were relevant to the first two review questions. Illustrations were direct quotes from early career rural or remote allied health professionals or doctors. Where direct quotes from early career professionals were not provided by the author, the verbatim description of the finding were quoted as the illustrations. In cases where it was unclear whether the findings were reported by early career clinicians, they were not included in the review. The findings were extracted by the

primary reviewer and confirmed by the secondary reviewers after thoroughly reading the papers.

Allied health and medicine findings were aggregated separately using the JBI meta-aggregative approach (Lockwood et al., 2020), which involved categorising the findings on the basis of meaning and quality against the research questions to generate a set of synthesised findings. Extracted findings were rated as either unequivocal (beyond reasonable doubt, supported with a direct quote), credible (result supported by an illustration from the author) or not supported (not supported with illustration of data). After analysing the allied health and medicine synthesised findings separately, they were then compared and contrasted to generate the discussion and recommendations.

The final synthesised findings were graded according to the ConQual approach for establishing confidence in the output of qualitative research synthesis (Munn et al., 2014). Each synthesised finding from the review was presented along with the type of research informing it, a score of dependability and credibility and the overall ConQual score (Munn et al., 2014). The synthesised findings relating to questions 1 and 2 exploring the experiences of allied health professionals and doctors are presented in the results of this review.

Reflexivity

Reflexivity in qualitative research recognises the role that reviewers' personal background, culture and experiences impact on how they shape, interpret and analyse research they undertake (Creswell, 2018). This review was conducted by a team of researchers with varied experiences and backgrounds, and they engaged in robust discussion throughout the review process in relation to their own biases, experiences and perspectives and how these related to the research findings. AD is an occupational therapist, lecturer and PhD candidate investigating rural and remote allied health workforce and training initiatives, she has an extensive personal and professional background in rural areas. SG is also an occupational therapist and professor specialising in allied health service provision, driving, neurology and

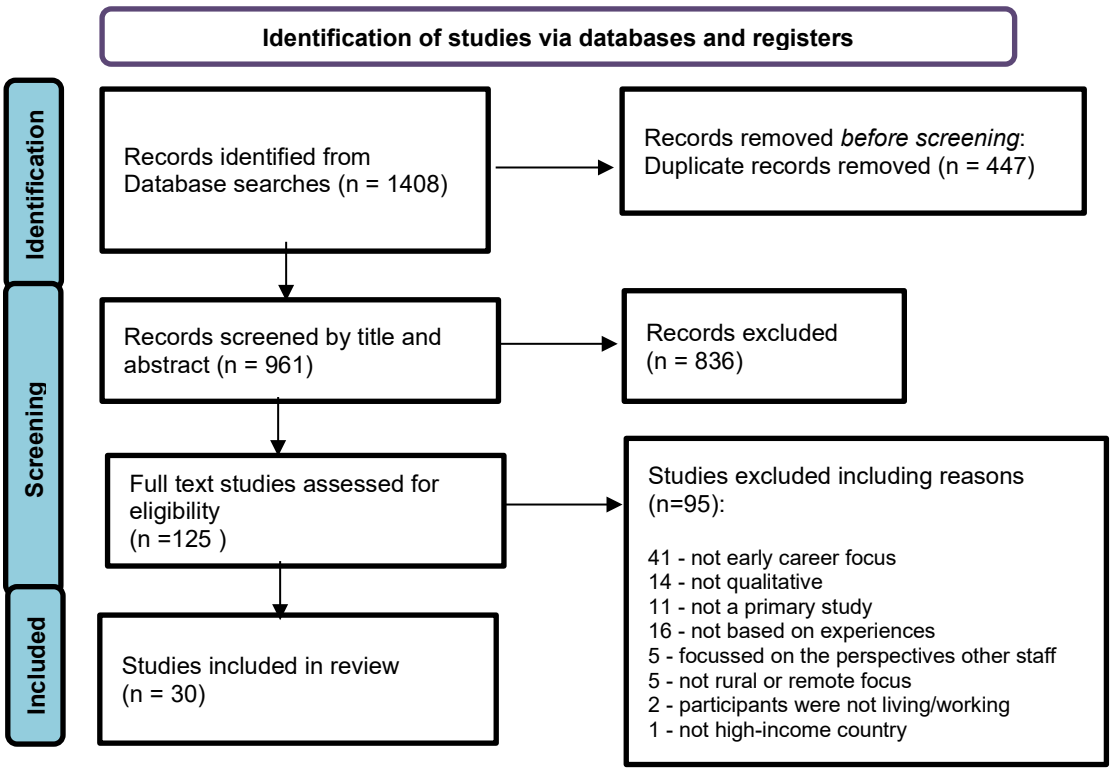
rehabilitation. NC is a speech pathologist and associate professor specialising in rural and remote and clinical education and CB is also a speech pathologist and professor specialising in allied health workforce and clinical education.

Results

Study inclusion and characteristics of included studies

As detailed in the PRISMA flow diagram (Moher et al., 2009), the systematic literature search retrieved 1408 studies, with 30 meeting the eligibility criteria (see Prisma figure 1). A total of 18 studies were excluded because it was unable to be determined how much experience the participants had or because the data was reported with participants with a wide range of experience levels and the early career findings were not able to be extracted separately.

Figure 1: PRISMA Search results, study selection and inclusion process (Moher et al., 2009)



The included studies were published between 2001 and 2020 and 21 utilised qualitative methodology, while 9 took a mixed methods approach with qualitative data that was able to be extracted. Fifteen studies reported using thematic analysis to analyse their data, five used descriptive analysis, four grounded theory, four constructivist interpretivist and there was one case study design and one longitudinal study. Of the 30 studies 25 used semi-structured interviews to collect data and the remaining utilised surveys, questionnaires and focus groups. All papers were peer reviewed, and no unpublished papers were included.

The majority of the studies were Australian (25), two were from Scotland and one each from Wales, Canada and New Zealand. Three studies reported including participants from remote areas and all papers included rural contexts. Of the 30 studies, 21 were based on the experience of early career doctors and 9 focused on allied health professionals. Of the allied health studies the following professions were included: dietetics/nutrition, exercise physiology, medical laboratory science, diagnostic medical imaging, occupational therapy, pharmacy, physiotherapy, podiatry, psychology, social work and speech pathology. Detailed information of the characteristics of the included studies is presented in Table C.

Table C: Characteristics of included studies

Author	Medicine/ Allied Health	Country	Population	Study design	Methods	Phenomena of interest
Bayley SA, Magin PJ, Sweatman JM, Regan CM.(Bayley et al., 2011)	Medicine	Australia	15 GP registrars enrolled in training	Qualitative Modified grounded theory	Semi-structured interviews, thematic analysis	Perceptions of compulsory rural GP vocational training program
Bonney A, Mullan J, Hammond A, Burns P, Yeo G, Thomson B et al. (Bonney et al., 2019)	Medicine	Australia	7 junior medical officers	Mixed methods Case study methodology	Semi structured interviews, pragmatic template analysis	Experiences of junior medical officers in metropolitan and rural emergency departments
Brown L, Smith T, Wakely L, Little A, Wolfgang R, Burrows J (Brown et al., 2017)	Allied Health	Australia	129 Allied health professionals undertook an undergraduate rural placement	Mixed methods, longitudinal study	Longitudinal survey, content analysis	Impact of rural immersive placement on longer term career outcomes
Campbell AM, Brown J, Simon DR, Young S, Kinsman L (Campbell et al., 2014)	Medicine	Australia	22 registrars and GPs upskilling in obstetrics in the last 5 years	Qualitative	Semi-structured interviews, thematic analysis	Factors influencing rural general practitioners and GP registrars to practise obstetrics
Cleland J, Johnston PW, Walker L, Needham G (Cleland et al., 2012)	Medicine	Scotland	20 Trainee doctors	Qualitative	Focus groups and interviews, framework approach	Experiences and perceptions of trainee doctors working in remote and rural areas
Cosgrave C (Cosgrave, 2020)	Allied Health	Australia	74 managers, early career and experienced allied health	Qualitative constructivist-interpretivist	Semi structured interviews, thematic analysis	Influence of perceived work and personal factors on retention
Cuesta-Briand B, Coleman M, Ledingham R, Moore S, Wright H, Oldham D et al. (Cuesta-Briand et al., 2020c)	Medicine	Australia	21 junior doctors in postgraduate training	Qualitative descriptive	Semi-structured interviews, thematic analysis	Factors influencing the decision to pursue rural work among junior doctors

Author	Medicine/ Allied Health	Country	Population	Study design	Methods	Phenomena of interest
Cuesta-Briand B, Coleman M, Ledingham R, Moore S, Wright H, Oldham D et al. (Cuesta-Briand et al., 2020a)	Medicine	Australia	21 junior doctors in postgraduate training	Qualitative descriptive	Semi-structured interviews, thematic analysis	Junior doctors internal decision-making processes in relation to their career path understanding of how junior doctors
Devine S (Devine, 2006)	Allied Health	Australia	12 Occupational therapists	Qualitative phenomenological approach	Semi-structured interviews, thematic content analysis	Perceptions of rural occupational therapists regarding essential skills for rural practice graduates
Devine SG, Williams G, Nielsen I (Devine et al., 2013)	Allied health	Australia	17 past or present Allied Health Rural scholarship holders	Mixed methods	In-depth interviews, thematic analysis	Graduate recruitment outcomes and retention within a scholarship program.
Doyle C, Isles C, Wilson P (Doyle et al., 2020)	Medicine	Scotland	Rural consultants and junior doctors	Qualitative	Questionnaire and structured interviews, thematic analysis	Structure of teams, experience of role, perspectives of potential training pathway
Edwards SL, Sergio Da Silva AL, Rapport FL, McKimm J, Williams R (Edwards et al., 2015)	Medicine	Wales	42 Junior doctors from the same medical program	Mixed methods, sequential exploratory	Online questionnaire and in-depth interviews, thematic analysis	What influences students' choices about either staying in, or leaving Wales, post-graduation?
Elliott T, Bromley T, Chur-Hansen A, Laurence C (Elliott et al., 2009)	Medicine	Australia	30 Rural GP registrars	Qualitative	Semi structured interviews, thematic analysis	Comparison of pre and post rural rotation expectations and experiences
Gill SD, Stella J, Blazeska M, Bartley B (Gill et al., 2020)	Medicine	Australia	4 remote emergency medical trainees	Multi methods – observational study	Supervision documentation, pre and post semi scripted Interviews, thematic analysis	Experience of receiving remote supervision

Author	Medicine/ Allied Health	Country	Population	Study design	Methods	Phenomena of interest
Iedema R, Brownhill S, Haines M, Lancashire B, Shaw T, Street J (Iedema et al., 2010)	Medicine	Australia	5 junior medical officers, 5 registrars, 2 consultants in one hospital.	Mixed methods.	Diary entries, content analysis	What are the barriers and facilitators of effective clinical supervision? Suggestions for improvement
Isaacs AN, Raymond A, Jacob A, Hawkings P (Isaacs et al., 2020)	Medicine	Australia	12 rural interns	Qualitative description framework	Semi structured interviews, thematic analysis	Exploring the job satisfaction, autonomy, training, social supports and mental health and wellbeing.
Keane S, Lincoln M, Smith T (Keane et al., 2012)	Allied health	Australia	30 rural allied health professionals	Qualitative study, grounded theory	Focus groups, thematic analysis	factors affecting recruitment and retention of rural allied health
Lee S, Mackenzie L (Lee & Mackenzie, 2003)	Allied health	Australia	5 new graduate rural occupational therapists	Qualitative	Semi structured interviews, thematic analysis	Attitudes and experiences of graduates working in rural areas
Malau-Aduli BS, Smith AM, Young L, Sen Gupta T, Hays R (Malau-Aduli et al., 2020)	Medicine	Australia	20 International graduate registrars and 5 supervisors	Qualitative grounded theory	Semi structured Interviews over 2 phases, researcher notes	What impacts on registrars' decisions to go to, to stay or to leave a regional, rural or remote area?
Martin R, Mandrusiak A, Lu A, Forbes R (Martin et al., 2020)	Allied health	Australia	12 Physiotherapists with 2 years or less experience	Qualitative general inductive approach	Semi structured interviews, thematic analysis	Perceptions of rural and remote practice and the influence of university training on preparedness for rural and remote practice
McKillop A, Webster C, Bennett W, O'Connor B, Bagg W (McKillop et al., 2017)	Medicine	New Zealand	15 graduates who had studied for 12 months in regional and rural area	Mixed methods, descriptive design	Focus groups and interviews, thematic analysis	Attraction to rural area factors, career intentions and factors influencing these choices
Mugford BV, Braund W, Worley P, Martin A (Mugford & Martin, 2001)	Medicine	Australia	2 interns who had undertaken a rural rotation, 2 supervisors, 1 hospital executive	Qualitative evaluation	Semi structured interviews, thematic analysis	The experience of rural interns undertaking a rural rotation

Author	Medicine/ Allied Health	Country	Population	Study design	Methods	Phenomena of interest
Myhre DL, Hohman S (Myhre & Hohman, 2012)	Medicine	Canada	Resident doctors who had worked in a rural area for 4 – 8 weeks	Mixed methods	Survey, thematic analysis	The impact of rural rotations for postgraduate medical training positions
Pandit T, Sabesan S, Ray RA (Pandit et al., 2018)	Medicine	Australia	11 Junior and 9 senior rural doctors	Qualitative grounded theory	Semi structured interviews, thematic analysis	Perceptions of training needs of rural doctors
Peel R, Young L, Reeve C, Kanakis K, Malau-Aduli B, Sen Gupta T, et al. (Peel et al., 2020)	Medicine	Australia	79 GP registrars, managers, supervisors, consumers and practice staff	Qualitative2 phases	Semi structured interviews and focus group, thematic analysis	Attractors and barriers for GP registrars to train and GP supervisors to work in rural and remote communities
Smith DM (Smith, 2005)	Medicine	Australia	Rural Junior and senior doctors, educators, directors, medical administrators	Qualitative exploratory	Semi structured interviews, thematic analysis	Issues and difficulties faced by junior doctors with bonded scholarships
Steenbergen K, Mackenzie L (Steenbergen & Mackenzie, 2004)	Allied health	Australia	9 new graduate rural occupational therapists	Qualitative	Semi structured interviews, thematic analysis	The experience of professional support for occupational therapists
Thackrah RD, Thompson SC (Thackrah & Thompson, 2019)	Allied health	Australia	3 Occupational therapists and speech pathologists, one health science graduate	Qualitative	Semi structured interviews, thematic analysis	Long term impacts of rural placements, the experience of working rurally
Walters L, Laurence CO, Dollard J, Elliott T, Eley DS (Walters et al., 2015)	Medicine	Australia	18 rural GP registrars	Qualitative grounded theory	Semi structured interviews	Exploring the resilience of rural GP registrars and strategies used to maintain resilience
Wearne SM (Wearne, 2003)	Medicine	Australia	5 Registrars who had completed a 6-month remote rotation	Qualitative	Structured interviews, content analysis by question	Factors in the interaction between GP registrars and supervisors impact on the quality of registrar learning

Methodological quality

The methodological quality of included studies using the JBI critical appraisal checklist for qualitative research (Lockwood et al., 2020) is summarised in table D and full details of the appraisals are outlined in table E. One study had limited methodological detail described and was deemed to be of low quality (4/10), however the other studies were rated moderate or high quality, five studies scored 7/10, 13 studies scored 8/10, seven studies scored 9/10 and four studies scored 10/10. Most studies did not locate the researcher culturally or theoretically and eighteen of the 30 studies did not state the influence of the researchers on the results. All studies were included for analysis.

Table D: Quality of selected studies, number of studies meeting JBI critical appraisal checklist criteria

	Yes	No	Unclear
1. Is there congruity between the stated philosophical perspective and the research methodology?	25	1	4
2. Is there congruity between the research methodology and the research question or objectives?	29		1
3. Is there congruity between the research methodology and the methods used to collect data?	30		
4. Is there congruity between the research methodology and the representation and analysis of data?	29		1
5. Is there congruity between the research methodology and the interpretation of results?	29		1
6. Is there a statement locating the researcher culturally or theoretically?	4	26	
7. Is the influence of the researcher on the research, and vice-versa, addressed?	12	18	
8. Are participants, and their voices, adequately represented?	30		
9. Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	28	2	
10. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	30		

Table e: Critical Appraisal Results

Citation	Q1	Q2*	Q3*	Q4*	Q5	Q6*	Q7*	Q8	Q9	Q10
Bayley et al.	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Bonney et al	U	Y	Y	Y	Y	N	N	Y	Y	Y
Brown et al	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Campbell et al	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Cleland et al	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Cosgrave et al	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Cuesta-Briand et al Understanding factors…	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Cuesta-Briand et al Extending conceptual framework	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Devine	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Devine et al	N	Y	Y	Y	Y	N	N	Y	Y	Y
Doyle et al	U	Y	Y	Y	Y	N	N	Y	Y	Y
Edwards et al	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Elliott et al	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gill et al	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Iedema et al.	U	U	Y	U	U	N	N	Y	Y	Y
Isaacs et al.	U	Y	Y	Y	Y	N	N	Y	Y	Y
Keane et al..	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Lee et al.	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Malau-Aduli et al.	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Martin et al.	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
McKillop et al..	Y	Y	Y	Y	Y	N	N	Y	Y	Y

Mugford et al.	Y	Y	Y	Y	Y	N	N	Y	N	Y
Myhre et al.	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Pandit et al.	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Peel et al.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Smith DM. 2005.	Y	Y	Y	Y	Y	N	Y	Y	N	Y
Steenbergen et al.	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Thackrah et al.	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Walters et al.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Wearne et al.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	83.3 %	96.7 %	100.0 %	96.7 %	96.7 %	13.3 %	40 %	100.0 %	93.3 %	100.0 %

Meta-synthesis

An analysis of the 30 papers resulted in 328 findings (199 medicine and 129 allied health) across 23 categories (13 allied health and 10 medicine). The categories were integrated into three synthesised findings which were common to both professional groups (see table D for synthesised findings and categories). In terms of credibility, 229 findings were unequivocal, 96 were credible and none were not credible (see table F for full details). Each of meta syntheses ConQual scores were low overall as they contained a mixture of credible and unequivocal findings as well as high and moderately rated appraisals.

Table F: Synthesised findings and categories

Synthesised findings	Allied health categories	Medicine categories
Making a difference through professional and organisational factors	1.1.1 Supervision 1.1.2 Manager support 1.1.3 Human resources 1.1.4 Workplace culture	2.1.1 Supervision 2.1.2 Human resources 2.1.3 Workplace culture
Working in rural areas can offer unique and	1.2.1 Broad clinical opportunities	2.2.1 Broad clinical opportunities

rewarding opportunities for health professionals	1.2.2 Career opportunities and challenges 1.2.3 Opportunities for autonomy 1.2.4 Learning opportunities 1.2.5 Professional development opportunities	2.2.2 Career and specialisation opportunities and challenges 2.2.3 Autonomy and professional identity 2.2.4 Hands on learning opportunities 2.2.5 Training opportunities
Personal and community influences make a difference	1.3.1 Family and partner influences 1.3.2 Community influences 1.3.3 Accommodation influences 1.3.4 Professional personal boundaries	2.3.1 Family and partner influences 2.3.2 Community influences

Table G: Credibility of findings by study

Citation	Credible	Unequivocal
Bayley et al.	1	8
Bonney et al	1	7
Brown et al		6
Campbell et al	3	4
Cleland et al	3	12
Cosgrave et al	1	24
Cuesta-Briand et (b)	4	11
Cuesta-Briand et al (a)	1	7
Devine	14	5
Devine et al	5	1
Doyle et al	1	4
Edwards et al		4
Elliott et al		21
Gill et al		14
Iedema et al.		4
Isaacs et al.		16
Keane et al..		4
Lee et al.	5	13
Malau-Aduli et al.	1	8
Martin et al.		14
McKillop et al..		7
Mugford et al.	8	2
Myhre et al.		6
Pandit et al.	2	4

Peel et al.		3
Smith DM. 2005.	7	3
Steenbergen et al.	13	
Thackrah et al.	9	8
Walters et al.	7	4
Wearne et al.	10	5

In this section we present the results by describing the synthesised findings and associated categories outlined in table 5 and at the end of each category the relevant quotes are presented in tables.

Making a difference through professional and organisational factors

Early career allied health professionals and doctors working in rural areas reported varied experiences based on a range of professional and organisational factors including supervision, human resources and workplace culture. Allied health professionals discussed manager supports but this was not a finding for doctors.

1.1.1 and 2.1.1 Supervision

Having access to adequate clinical support determined how supported allied health professionals felt in developing their skills and expertise. Clinicians experiencing limited supervision reported challenges in developing confidence and diverse skills. Without supervision, allied health professionals reported not knowing who to ask questions of or seek support from and feeling isolated in making clinical decisions. Allied health professionals who were receiving regular, supportive supervision described developing confidence and skills to work through challenging situations.

Many rural areas offered doctors supportive workplaces with good access to clinical supervision and informal supports. When a senior doctor was available for advice or guidance, junior doctors were likely to feel confident managing their case load. Doctors valued access to feedback about their performance and formal and informal support opportunities. Early career doctors generally

found the senior doctors to be good role models and rural services enabled them to be directly supported by consultants, rather than other doctors in training. Having high levels of support resulted in early career doctors feeling confident to 'have a go' knowing the senior doctor would be available if needed.

Early career doctors receiving remote or less frequent supervision in remote health services reported experiences of isolation and stress. For some doctors it was challenging to access adequate supervision in rural areas, reporting limited opportunity for informal support, with early career doctors contacting senior doctors to solve specific clinical problems rather than for broad skill development. With limited supervision and support, doctors reported feeling stressed, isolated, overwhelmed and lacking in confidence in their own skills.

Allied health	**Medicine**
1.1.1 Positive supervision and support	2.1.1 Positive supervision and support
"More support meant more freedom to ask questions and increased confidence. Opportunities to discuss practice dilemmas as part of professional support decreases anxiety." pg 163 (Steenbergen & Mackenzie, 2004) *"Having the opportunity to bounce things off my colleagues and discuss difficult circumstances with my seniors [helped me through difficult days] … the senior support and collegial support has been amazing".* pg 4 (Thackrah & Thompson, 2019)	*"You have to deal with everything that walks in the door. But you are paired with a consultant on the day. You basically run your assessment with them and see if they are happy with your plan, and for any instrumental deliveries or complicated issues you contact them to come in."* pg 668–669 (Campbell et al., 2014) *"I was really lucky 'cause I went to such a supportive practice. I think, potentially, if it'd not been as supportive and I hadn't had that backup so frequently available, it could have been more stressful."* pg 83 (Bayley et al., 2011)
1.1.1 Challenging or absent supervision and support	2.1.1 Challenging or absent supervision and support
"None of the study participants (including those working with other occupational therapists) reported being involved in structured supervision with another occupational therapist … Less support caused difficulty developing confidence, especially in a newly created position" pg 162–3 (Steenbergen & Mackenzie, 2004) *"It's different talking to someone on the phone than having them there, in the office when you want them. Like you could ring the adviser and*	*"Yeah, there's been times that I've been very stressed and upset, but not sure who to go to. I think that's one thing that internship really lacks is someone who is there to look out for us interns."* pg 249 (Isaacs et al., 2020) *'Unable to contact any senior staff regarding sick patient abandoned, overwhelmed' 'Registrar did not listen & was very dismissive poor advice given, felt very unsupported' 'Mocked by another registrar about previous mistake on patient*

she won't be able to get back to you if you ring her one morning, till the following afternoon. Often, you've needed to make a decision by then. So, you've had to make one anyway." pg 40 (Lee & Mackenzie, 2003)	*insulted, unhelpful'* [Field notes] pg 290 (Iedema et al., 2010)

1.1.2 Manager support

Support from a manager influenced allied health professionals' experiences in rural areas and this was reported as a different role to the clinical supervisor. Manager support findings were not found in the medical papers. It is assumed that doctors received both supervision and management support from a discipline specific leadership role while allied health professionals were often supported by a manager working across multiple disciplines.

Some allied health professionals reported managers helped them transition into the work role and build confidence. When managers were not supportive, allied health professionals felt less satisfied in their workplace and were less likely to intend to stay in rural areas.

Allied health manager support
1.1.2 Positive support provided by manager
"Anything I need, anything I have to run by them, they make the time for me and X [name of manager] really gives me a lot of confidence in my abilities. She's like, 'Why are you worrying about this? It's exactly what I would have done.' 'Of course, you're on the right track.' 'If you forgot to ask a question [to a patient], you can go back and see them, tomorrow, can't you?' or 'It's just no fuss.' I'm stressing about these things that I was made to stress about on placement which I don't ever stress about here, it's completely different." pg 13 (Cosgrave, 2020) *"My manager creates the environment and I feel like … she's the very key reason the staff that I work with are here and a very key reason for why I love to work here."* pg 11 (Cosgrave, 2020)
1.1.2 Challenging or absent support from manager
"*My boss is extremely unorganised, trying to organise time off is a nightmare unless you are [in a] senior [role]. I also feel it is not on a first apply, first granted basis. I also feel my boss is unapproachable."* (Brown et al., 2017) *"The perceived absence of a supportive manager was sharply felt and described as having negative impacts on job satisfaction: '[Early career is] not really easy. I personally don't advise new grads to work in rural anymore. I think they need support and no matter how much promise they get, I got a lot of promises, but I didn't get a lot of support."* pg 13 (Cosgrave, 2020)

1.1.3 and 2.1.2 Human resources

Human resource factors were reported by both allied health and medical professionals. Findings in allied health papers focussed on the challenge of working with short term contracts and limited notice of contract extensions and lengthy recruitment processes. Human resource processes impacted on allied health professionals' satisfaction at work. Short contracts were reported as a retention barrier with clinicians having limited job security.

Human resource findings for doctors included inconsistent expectations, challenges with contracts and job opportunities, quality of provided accommodation and inadequate pay. Human resource process issues impacted negatively on early career doctors experience in rural areas.

Allied health	**Medicine**
1.1.3 Human resources	2.1.2 Human resources
"So, the HR process took a long time to come through … Maybe I interviewed in early Feb then, because I remember starting on the [late date in] March … as that was as soon as HR could onboard me … So I remember like it made me doubt myself … and I thought how could I have not gotten this job?" pg 12 (Cosgrave, 2020) *"I hope to still be working at the hospital in two years' time, but I do want permanency … I'd love to stay (where I am) but I'll leave, only because of the permanency issue; this is a contract position."* pg 4 (Thackrah & Thompson, 2019)	*"Yeah, I think there're difficulties between DHB expectations, college training expectations, university expectations, RMO [resident medical officer] expectations …"* pg 11 (McKillop et al., 2017) *"Accommodation could be better. There's no Internet access at all, so we struggle to do our DOTS modules [compulsory online learning]. We don't even have a telly (television) that works … these home comforts are actually fairly important."* pg 480 (Cleland et al., 2012)

1.1.4 and 2.1.3 Workplace culture

Workplaces who embraced early career allied health professionals, finding ways to make them feel welcomed, included and appreciated, were enablers for clinicians overall feeling satisfied. Allied health professionals reported enjoying working with their colleagues, who were approachable, non-judgemental and supportive.

The workplace culture in rural areas for doctors was generally reported to be positive, and doctors felt like they were part of a supportive team. Taking the opportunity to make a difference to a rural community and feeling accountable to their community was a positive experience for early career doctors. For some doctors the workplace culture had a negative impact on their experience in rural areas, reports of having too much responsibility early in their career had a negative impact on confidence, stress and intention to stay in a rural area.

Allied health	**Medicine**
1.1.4 Workforce culture	2.1.3 Workforce culture positives
"Rural and remote colleagues were seen to be 'friendly', 'laid back', 'sociable' and 'supportive'." pg 448 (Martin et al., 2020) *"I felt really welcomed. As soon as I got here, they made sure I was okay, got to know me, had a welcome dinner. Y [staff member's name] organises all of the social events for X and that was a good opportunity to get to know them outside of work, you talk about different things."* pg 17 (Cosgrave, 2020) *"I enjoy working with my colleagues." "I enjoy it and I like the location and the people." "I like the way the hospital works, together with all allied health professionals and all hospital staff."* (Brown et al., 2017)	*"It's different in that it's usually only you and one other doctor and two or three nursing staff so you really feel very involved in the process, and you actually really feel like you're making a difference."* pg 479 (Bonney et al., 2019) *"They lacked resources … but they have a really good work culture which I thought was really, really amazing."* pg 247 (Isaacs et al., 2020)
	2.1.3 Workforce culture challenges
	"There was too much. It was quite stressful. The demands of rural practice are probably too high the stress and … responsibility [and the] considerable personal cost associated with that. I guess a lot of people do it, survive and cope but I can't see myself doing it at that sort of level." pg 85 (Bayley et al., 2011) *"I've had to deal with all sorts of horrendous situations … I'm glad I've done it in a way but I think it would have been nice to have got that experience without being sent to the middle of nowhere by myself"* pg 3 (Smith, 2005)

Working in rural areas can offer unique and rewarding opportunities for allied health professionals and doctors

Allied health professionals working in rural areas are afforded a range of opportunities early in their career that they may not experience in other settings including high levels of autonomy and

problem-solving. Access to professional development activities is highly valued as they develop their professional identity, skills and confidence.

Early career doctors also experience a broad range of clinical opportunities in rural areas, the work is complex, and the level of autonomy is high compared to work in a metropolitan area. Training and skill development is imperative in these environments but at times is difficult to access. Specialisation opportunities are unique in rural areas with general practice being the most common option discussed

1.2.1 and 2.2.1 Broad clinical opportunities

In rural areas allied health professionals are afforded a broad range of clinical experiences in a range of complex settings. A range of clinicians reported these experiences as being positive, satisfying and enabling the development of confidence and skills early in their career, that may not have been possible outside of a rural environment.

Early career doctors have the opportunity to work with a wide variety of clinical cases with high levels of complexity in rural areas. Rural doctors develop broad ranging skills, are less reliant on specialists for assistance, can manage complex situations and have the opportunity to pay more attention to rural people to meet their needs than their metropolitan peers.

Allied health	**Medicine**
1.2.1 Broad clinical opportunities	2.2.1 Broad clinical opportunities
"The diversity of duties that needed to be performed was seen as challenging … the assorted needs of the client groups … The importance of having administrative skills and broader management skills was also discussed. Although identified as challenges, these issues were also seen to add to the attractiveness of rural practice." pg 207 (Devine, 2006) *"I think the biggest thing is the diversity of the case load. On placement it was a set discipline or a set ward that you'd be on and even as a new-grad working in those areas … Whereas out here, I can go from an Ortho, to a MSK, to a*	*"[The rural hospital] was the complete range of patients so I saw lots of patients who didn't need any treatment at all, right through to patients who had a triage category of one and had either died or were dying at the time. But it's very unusual for the intern to see a patient who is severely ill at [the metropolitan hospital] because the registrars usually see those patients."* pg 480 (Bonney et al., 2019) *"The variety in just one day is incredible, I think. I compared it to what my urban GP placement was like in sixth year and there's no way that we would have been doing the variety of things.*

paeds, you know … even in one day it's a very different case load." pg 448 (Martin et al., 2020)	*Yes, it's kind of hard to explain but I was really just impressed with how many different things I could see just in one day."* pg 9 (Elliott et al., 2009)

1.2.2 and 2.2.2 Career and specialisation opportunities and challenges

Career development opportunities are important to allied health professionals, having positive opportunities for growth in rural areas was reported by some participants. When clinicians experienced challenges accessing career development or specialisation opportunities, this had a negative impact on their experience and intention to stay in a rural area.

Early career doctors report having positive career opportunities in rural areas. Individuals who are interested in pursuing a general practice or rural generalist specialisation are afforded good opportunities in rural areas. Junior doctors in rural areas have access to timely support from consultant doctors and other team members with teams working closely together as a result of small, rural teams working collaboratively.

In some areas, early career doctors experience limited opportunities to specialise their skills unless they are interested in general practice, anaesthetics another specialty training offered at the rural service. When doctors are interested in other specialist training, they generally need to leave rural areas to pursue training positions in metropolitan areas despite a desire to work in a rural context.

Allied health	**Medicine**
1.2.2 Career opportunities	2.2.2 Career and specialisation opportunities
"OK, now I'm here, where's the next step up?" And the career opportunities are all out here, they're not back in the city." pg 8 (Keane et al., 2012) *"I hope to regain employment when my contract finishes as the region has good capacity for growth."* (rural/remote based graduate, physiotherapy) (Brown et al., 2017)	*"… it's a small little hospital where you had open access for the undifferentiated patients that presents with a problem and it's got a significant emergency, significant outpatients' segment. It's got obstetrics and a huge Indigenous population. It suited me."* pg 3 (Walters et al., 2015) *"So, I guess at this point I want to be a generalist. I like a bit of everything, it keeps it interesting, it keeps it fresh"* pg 6 (Cuesta-Briand et al., 2020a, 2020b)
1.2.2 Career challenges	2.2.2 Career and specialisation challenges
"*Whilst I enjoy the rural lifestyle and experience. As a new graduate, I am limited with opportunities to further my career … I am moving somewhere where they have the resources to provide me with better support and opportunities."* pg 9 (Brown et al., 2017) *"Professionally and clinically my particular interests make it a bit difficult to work in regional areas … I loved working in [the country] and that's why I stayed so long, but the thing that really drew me home last month [to the city] was that I wanted to gain more experience in a very specific area … you don't get the opportunity to do that in rural areas".* pg 6 (Thackrah & Thompson, 2019)	*"There aren't training jobs in the rural hospitals, apart from GP training, which is not what I want to go into straightaway. So it's actually quite frustrating, because I've loved these two years, but there's nothing to go into afterwards, so that's why I'm going away."* pg 479 (Cleland et al., 2012) *"… unless you specifically want to be that rural GP, there's firstly no pathway. And two, it's not only not encouraged, it's almost frowned upon. I find it amazing because the whole time I was in rural areas people talk about how much they're trying to bring people rurally. When I look at it I kind of see a lot of closed doors."* pg 7 (Cuesta-Briand et al., 2020c)

1.2.3 and 2.2.3 Opportunities for autonomy and developing professional identify

Allied health professionals have the opportunity to work with high levels of autonomy and to be creative in their practice. High levels of autonomy and clinical complexity can however be very challenging for early career clinicians who reported experiences of high workloads, stress, limited support, long hours and burnout while working in rural areas. These factors were linked to clinicians choosing to leave rural practice.

Early career doctors are also afforded a high level of autonomy in rural areas which can be a positive or challenging experience. Having the opportunity to make clinical decisions in practice is daunting but also a chance to maximise skill development. Developing a professional identity in rural areas was reported to be complicated for early career doctors. They are required to reflect on their practice, build resilience and manage their self-care while undertaking training on the job and managing busy case loads. It is imperative that they can recognise their limitations and know when and how to seek assistance. This was reported as challenging when early career doctors did not feel prepared and confident for rural practice.

Allied health	**Medicine**
1.2.3 Opportunity for autonomy	2.2.3 Opportunity for autonomy
"I like being in a rural area because I have the independence and ability to structure things the way I want to. I love the autonomy, the travel and seeing all these different things." pg 208 (Devine, 2006) *"Less support meant more responsibility to seek out answers to questions, develop skills, become more independent and facilitate creativity."* pg 163 (Steenbergen & Mackenzie, 2004)	*"Increased sense of autonomy in clinical decision making and in particular felt they had the opportunity to develop and implement patient management plans"* pg 2 (Mugford & Martin, 2001) *"You stop and question whether you actually need to speak with a consultant … and now I'm back here [teaching hospital] I ask less for advice … It forces you to step up to the next level".* pg 449 (Gill et al., 2020)
1.2.3 Negatives of autonomy	2.2.3 Developing professional identity
"I'm doing two jobs and have been doing for two and a half months. Recruitment is happening and it's going, and I hit the wall and my manager said, "Keep on going," and I said, "Can you just acknowledge how much extra – all you need to do is acknowledge it …" pg 5 (Keane et al., 2012) *"I don't think I've necessarily made the wisest decision with what I've done (becoming a sole therapist). I've made a decision which I certainly benefited from, but professionally and personally it's been a hard slog …"* pg 42 (Lee & Mackenzie, 2003)	*"I think it is about fostering supported practice and this is a particular time of vulnerability in terms of support … the movement from hospital-based practice to being a new person in community-based practice."* pg 669 (Campbell et al., 2014) "*I call my boss before each shift, my supervisor, and say, I'm on tonight because he gives me telephone back up which I rarely use, but I actually like to know that he knows that I might be calling him."* pg 10 (Elliott et al., 2009) *"You could finish your internship and it could be your first week in your JHO year and be sent to a rural site and you're acting as a PHO or SMO, or something, which I think is terrifying and a bit inappropriate."* pg 4 (Pandit et al., 2018)

1.2.4 Learning opportunities and 2.2.4 Hands on learning opportunities

While transitioning to working in rural areas, allied health professionals experienced a steep learning curve while managing busy workloads, some allied health professionals experienced this steep learning curve as a positive opportunity for skill and confidence building. Experiences of being thrown in the deep end were also reported, as well as needing time to adjust to the diverse case loads. Clinicians reported limited resources and services in rural areas was challenging, with a need to be creative in terms of how clients' needs could be met.

The opportunity to be involved in hands on patient care and being thrown in the deep end early in their career enabled junior doctors to build skills and confidence that they may not have had in a metropolitan health setting. Rural doctors also have the opportunity to follow patients from the community to hospital which was reported as being a positive learning and practice experience. They also feel like they are making a difference to the community, they get to know their patients well and the patients are appreciative of services they receive. Early career doctors also reported high workloads with limited cover available, they were also required to travel long distances to provide services, work on call out of hours and in some situations, they had limited opportunity to practice skills due to the types of presentations they were exposed to at work.

Allied health	**Medicine**
1.2.4 Positive learning opportunities	2.2.4 Positive hands on experiences
"You've really got to embrace it. Think of it, like an opportunity to learn and experience a lot of different … a variety of patients from various demographics and backgrounds." pg 448 (Martin et al., 2020) *"Overall, participants felt they had gained many skills as a result of their rural practice that would not have been gained outside the rural setting."* pg 208 (Devine, 2006)	*"You get to do a lot more clinically, you don't get this hands on experience in a less remote setting"* 3 pg 9 (Doyle et al., 2020) *"So, you get to look after the patient in general practice and then if they're sick, you look after them in hospital. That was great."* pg 9 (Elliott et al., 2009) *"Great hands on clinical and operative skills rotation"* pg 5 (Myhre & Hohman, 2012)
1.2.4 Challenging learning conditions	2.2.4 Challenging hands on experiences
"Study participants often found that it was their responsibility to try to enhance the available resources. As new graduates they had not expected this responsibility and felt unprepared	*"I've had to deal with all sorts of horrendous situations … I'm glad I've done it in a way but I think it would have been nice to have got that*

and overwhelmed." pg 41 (Lee & Mackenzie, 2003)	*experience without being sent to the middle of nowhere by myself"* pg 3 (Smith, 2005)

1.2.4 Allied health professional development opportunities and 2.2.4 Medicine training opportunities

Rural allied health professionals are required to maintain their professional competence for registration or for membership to professional associations (Turnbull et al., 2009) but they are qualified to work autonomously on graduation. Findings from this review indicate rural allied health have mixed experiences in accessing professional development activities, with access to professional development activities valued, enabling early career clinicians to further develop their clinical skills and confidence. A range of barriers to professional development were also reported including heavy case loads, limited cover, challenges accessing funding and travel challenges.

Early career doctors undertake structured training programs as a requirement of their professional registration and competence development. In rural areas, doctors reported a wide range of experiences in terms of their access to training. For many, working in rural areas while training offered positive opportunities for learning and development. The programs were high quality, accessible, services were accommodating of training needs and there were hands on opportunities for integrating learning in practice. Choosing a general practice or rural generalist training pathway gave early career doctors broad and in-depth learning and skill development and the ability to solve problems. Challenges accessing training were also reported including difficulties with technology, travelling long distances to access training, employers not prioritising training, funding limitations, heavy workloads and inadequate cover. In these instances, the early career doctors felt their training needs were not being met.

Allied health	Medicine
1.2.4 Positive professional development opportunities	2.2.3 Positive training opportunities
"Yeah, good training opportunities, quick training opportunities, you're able to get training quickly here as in compared to bigger metropolitan cities [where] it takes a while." pg 15 (Cosgrave, 2020) *"… work was supportive of me taking the time off for leave and paid for the course as well, which I really didn't expect. Which was really nice…"* pg 14 (Cosgrave, 2020)	*"… most doctors thought that the resources available at smaller hospitals were adequate to meet their training needs, and some even spoke of the benefit to their clinical reasoning of having limited access to diagnostic technology, where having to 'make do' with minimal equipment resulted in their becoming more independent thinkers."* pg 5 (Cuesta-Briand et al., 2020c) "*The consultant did weekly teaching; actually twice weekly teaching; So, after work hours, he would do a non-formal tutorial with the registrar and the intern, and I thought that was good …"* pg 248 (Isaacs et al., 2020)
1.2.4 Challenges with professional development	2.2.3 Challenges with training
"Large case loads and the inability to find locums prevented attendance at professional development events. Travel distances and overall expense were also barriers." pg 207 (Devine, 2006) *"Difficulty accessing useful continuous professional development … travel and time burden to attend educational sessions in metropolitan centres… need for better access to training opportunities available locally …"* pg 163 (Steenbergen & Mackenzie, 2004)	*"In some practices, tutorials were not given priority on the timetable and so did not occur, or else were held outside of work hours"* pg 8 (Wearne, 2003) *"It is far away from everywhere, so you have got to add a whole day for travel just because of the time of flights and the cost*" pg 5 (Peel et al., 2020)

Personal and community influences make a difference

Personal factors play an important role in allied health professionals and doctors experience of working in rural areas. Allied health findings related to the location of family and friends, integration into the community, access to housing and professional personal boundaries. Early career doctors described the needs of their partner and children as vitally important when living and working in a rural area. They generally found the community to be very welcoming and there were a range of lifestyle benefits to living in rural areas.

1.3.1 and 2.3.1 Family and partner influences

Early career allied health professionals experienced personal challenges when their family or partner did not live close by. A high turnover of staff with colleagues regularly leaving was also reported as a personal challenge for maintaining social networks. Having a partner living locally was reported as a reason to stay in the rural area and conversely clinicians were planning to leave to be closer to family or a partner in the future.

Many early career doctors reported having their own family or a partner as a factor to consider when working in rural areas. Family or a partner living in the same location enabled doctors to feel socially supported. Not having family living nearby was a significant challenge. If significant others were close enough to visit on weekends, this was seen to be favourable and had a positive impact on overall satisfaction. For doctors who had brought their family to the rural area, their partners sometimes faced challenges accessing work and social supports and there were also difficulties accessing childcare or education opportunities for children.

Allied health	**Medicine**
1.3.1 Family and partner influences	2.3.1 Family and partner influences
"My family is in the city, so that's been the hardest thing, being so far away. It might be a factor in making a consider moving, but we'll see how that goes" pg 5 (Keane et al., 2012) *"I will move closer to my partner at some stage as they seek different employment opportunities, but I am hoping to stay working regionally or rurally."* pg 9 (Brown et al., 2017) *"I decided to stay around instead of moving away because my boyfriend is here."* pg 6 (Keane et al., 2012) *"Personal factors such as marrying a person from the area and having friends or family in the area also had an impact"* pg 207 (Devine, 2006)	*"The most important people in my life is just my family, my wife and kids. They are like shock absorbers for you and sometimes you have ups and downs and stress, and sometimes something doesn't go well you get upset and that is part of work and life. So you need some like you need to unwind your stress, so you need your partner just to sit and talk and de-stress yourself."* pg 11–12 (Malau-Aduli et al., 2020) *"In terms of professional concerns, and the separation from my wife, she was very, very supportive. We worked out that it was good, [my rural placement] was only an hour-and-a-bit from where we lived in Adelaide so weekends where I wasn't on call in [my rural placement] I'd go down to Adelaide and vice versa …"* pg 10 (Elliott et al., 2009)

1.3.2 and 2.3.2 Community influences

Integration into the community helps clinicians feel welcome, some participants reported they felt welcomed and involved in community activities when they arrived in a local area. Having the opportunity to be involved in sport and social networks enabled early career allied health professionals integrate into the community.

A range of early career allied health professionals experienced challenges integrating into the local community. They felt like outsiders in the rural area and found community activities were difficult to find or the activities did not suit their interests. Some participants reported feeling unwelcome at community activities while others reported difficulties making friends in the local area. These challenges had a negative impact on their overall experience.

Junior doctors experience of feeling welcomed in the rural community had a positive influence on their experience in rural areas. Doctors reported a positive of working rurally was being well known, seeing patients out and about and feeling part of the community. Lifestyle factors were also positive including social outlets, outdoor activities, short commute times and a community atmosphere. In contrast, some doctors found integrating into the community challenging and experienced social isolation in rural areas and everyone knowing each other.

Allied health	Medicine
1.3.2 Community influences positive	2.3.2 Community influences positive
"I really like the community support and spirit. Even outside of work the community is really good and it's easy to meet people. The community focus rather than the medical model focus is great." pg 208 (Devine, 2006) *"Within one or two weeks he was offering if I wanted to play on a social touch team … Everyone only had positive experiences about going out there (rural town), they all kind of tell you the things that you can do on the weekends!"* pg 448 (Martin et al., 2020)	*"Very nice lifestyle. It's not as busy, not as fast, not as crowded, everything is just nice. You know, you've got short ways everywhere. You don't have to drive so far. You get parking spots everywhere. You don't have to pay for everything. The nature is easily accessible. The people are usually relaxed and nice. Hospitals are small, you know, more working in a family than like in the big [urban] Hospital."* pg 13 (Malau-Aduli et al., 2020) *"I just made the most of it. I really enjoyed going from a big city to being in the outdoors, learned how to sail, went hiking lots, and just made the most of it."* pg 480 (Cleland et al., 2012)
1.3.2 Community influences negatives	2.3.2 Community influences negatives
"Getting out into that wider community has been difficult" pg 41 (Lee & Mackenzie, 2003) *"I think in the country towns is if you're not sort of in the football, netball, then it's harder I suppose to make those connections outside of work and get to know the people."* pg 19 (Cosgrave, 2020)	*"… it can be quite isolating as well … if you're not from there, you'll tend to make friends who are related to the medical side of things, and there's not so much going on in the city as perhaps in bigger cities, so it's kind of hard to get away from it … But medically, I'd say it's – it's good in that, I thought it was … quite captivating."* pg 6 (Edwards et al., 2015) *"Adjusting to living in small communities … those accustomed to living in big cities found it quite peculiar in towns where everybody knew everybody, and everyone knew everyone else's business"* pg 5 (Smith, 2005)

1.3.3 Accommodation and commuting influences

Allied health professionals reported challenges with accommodation especially finding somewhere suitable to live and not being financially supported with moving or living costs. Some participants were offered rooms with colleagues which helped them feel welcomed. Allied health professionals living in the city and commuting to work in a nearby rural area each day or at the end of the week, were less likely to getting involved with the local community as they were not investing time into integrating into local activities or networks.

Allied health
1.3.3 Accommodation
“Access to appropriate and affordable accommodation was important and assistance in finding accommodation was recommended as well as having access to financial support for accommodation and relocation costs.” pg 7 (Devine et al., 2013) *“I just couldn’t find anything. I just thought, ‘I can’t find anything that fits the bill’ … My working hours are anywhere between 7 and 5, so it’s just, it was impossible to even to get to a real estate office to say, ‘I’m looking for a property, I want some support’ … I’d have friends going to inspections for me.”* pg 17 (Cosgrave, 2020)
1.3.3 Clinicians commuting to work
“I would love to be closer, and I have close bonds with people [here] but there is still the [distance] barrier that separates you from developing … things further. And a lot of other people are not from here, so they’re most likely to go back home [straight after work] anyway…” (Cosgrave, 2020) *“There was a couple of people there who just weren’t interested in any of the regional stuff, unless it was open after hours on a Monday to Thursday because ‘we’ll only be here for one year and we’ll be going to Melbourne every Friday night and coming back on Monday morning’.”* (Cosgrave, 2020)

1.3.4 Professional personal boundaries

Working in rural areas present allied health with challenges of seeing clients in the community and having their personal boundaries challenged. They recognised there were benefits to seeing clients progress over time but also found the challenge of being known in the community and not being able to switch off after hours was challenging.

Allied health
1.3.4 Professional personal boundaries
“I’d have to sort of, deal with, like, people interacting outside of a professional environment. I saw another one of my patients at the pub. We were drinking, and I was like ‘this is kind of weird’ so I don’t know, I found that actually quite hard, like how much, how do I even, interact with them?” (Martin et al., 2020) *“I’d walk around, and people would recognise me as the new physio and essentially. I was filling up my car at the petrol station and a guy came over and said ‘Are you the new physio?”* pg 447–448 (Martin et al., 2020)

Discussion

This review sought to better understand the experience of early career allied health professionals and doctors in rural and remote areas. We found 30 qualitative papers that met the inclusion criteria that explored a range of experiences. Studies were heterogenous in terms of sample sizes, locations and methodologies, although most were based in Australia. The meta-synthesis identified three key synthesised findings shared across the two professional groups relating to professional and organisational factors, professional opportunities and personal and community influences.

The synthesised findings are consistent with previous systematic and scoping reviews exploring workforce challenges for health workers in rural and remote areas (Buykx et al., 2010; Couch et al., 2021; Fisher & Fraser, 2010; Holloway et al., 2020). These reviews also identified opportunities and challenges around supervision and support, training, career advancement, diverse work opportunities, personal factors and community integration. This review explored the experiences of allied health professionals and doctors separately in order to identify the similarities and differences for both groups. Both allied health professionals and doctors valued the supervision and support they received with reports of increasing skills and confidence from high quality support. When supervision and support was felt to be inadequate, both groups reported challenges with confidence, being overwhelmed and lacking satisfaction in their roles and these findings build on previous findings (Fisher & Fraser, 2010) outlining support challenges for health workers in rural areas: Remote supervision was reported to be challenging when there was limited opportunity for hands on, informal and timely support. The early career doctors reported an advantage of working in rural areas included being directly supervised by consultants and senior doctors rather than other doctors in training, which they may have experienced in metropolitan centres, this finding was not widely reported in previous reviews. A range of allied health professionals reported not receiving profession-specific supervision. In contrast, despite some doctors accessing support remotely, they all appeared to have a supervisor to call on. Allied health professionals reported being operationally supported by a line manager who was not necessarily from their discipline, in many instances the line manager’s support was an enabler for positive job satisfaction and

professional development, but some clinicians reported negative impacts from non-supportive line managers. Doctors did not mention the role of a separate line manager to their supervisor and appeared to be reporting to senior doctors predominantly. This difference may relate to the varied disciplines of allied health and a lack of available discipline specific supervisors and also the different employment and renumeration structures for both groups.

Both allied health and medicine papers reported on the diverse case load that rural practice afforded. They also commented on positive workplace cultures and small supportive teams who worked together effectively. Both groups reported the case load in rural areas was often complex and the workload was heavy. Early career medicine findings included the opportunity for hands on learning, autonomous practice and the following of patients from the community to hospital in rural locations, which was not available in metropolitan areas. Early career doctors reported not feeling adequately prepared for rural practice and at times the level of autonomy afforded to them was inappropriate for their stage of learning. In comparison, allied health findings did not emphasise the opportunity for hands on learning or following patients from the community to hospital, moreover there were some reports of steep learning curves and heavy case loads whilst transitioning to new roles. This suggests that allied health professionals may expect to have opportunities for hands on learning early in their career and that following up on patients' needs in hospital or the community was not a significantly unusual experience for them. It was also evident that both groups experienced high expectations on their workload and competency development early in their career. A recent review also reported while broad experiences often draw early career health professionals in, the heavy, complex workloads often impact negatively on retention (Couch et al., 2021).

A large number of medicine findings related to postgraduate training. In some instances, early career doctors reported positive opportunities for learning and specialisation in rural areas; in other instances, they reported challenges accessing required training, including the employer not prioritising the time needed for training, geographical and technology challenges and limited options for specialisation in rural areas. A recent review by Holloway (2020) identified similar

training challenges for rural doctors and also limitations with backfill to enable doctors to leave town to access training. Some allied health professionals experienced good access to professional development activities with adequate funding and support to attend while others reported heavy workloads, inadequate funding and geographical challenges as having a negative impact on their access to training. This is consistent with a recent review exploring priorities for allied health retention which identified the need to provide allied health professionals with access to the right training and support in order to meet their community's needs (O'Sullivan & Worley, 2020). Medicine findings discussed training programs having a link to the specialisation of skills and subsequent career advancement opportunities. Early career doctors reported needing to choose a speciality area and this was a complex process for some while others reported limited opportunities for specialisation outside of general practice and anaesthetics. The development of specialties with associated career paths was not a focus of allied health papers, some findings centred on opportunities for leadership in rural areas early in their career, while others reported the opposite with a lack of senior roles impacting on career advancement. A review by Roots and Li (2013) also found career advancement limitations in rural areas for occupational therapists and physiotherapist was a challenge that negatively impacted job satisfaction and retention. A rural generalist pathway for early career allied health professionals was introduced in Australia 2014 (Barker et al., 2021) in an attempt to give early career clinicians the opportunity to develop specialised rural practice skills, leadership and service development skills. At the time of this review, the rural generalist pathway does not appear to lead to a recognised career path or endorsement of specialty status. Experiences relating to the allied health rural generalist pathway did not feature in the papers included in this review.

Allied health and medicine findings suggest the location of family, partner or friends is an important factor in clinicians overall experience of working in a rural area which is widely recognised in the literature (Couch et al., 2021; Holloway et al., 2020; Wilson et al., 2009). In this review a range of medical findings related to doctors feeling supported when their family or partner were co-located with them or when they were close enough to visit on weekends and having a negative experience when their significant others were away. Allied health professionals reported being away from

family or a partner was a significant challenge and a couple of papers reported having a partner locally was a reason to stay. Early career doctors were particularly concerned with the needs of their partner and children, which was extensively reported. Allied health professionals reported they would leave a rural area in the future to be closer to their family, but interestingly did not report bringing their partner or family with them to the rural area. Allied health professionals undertake a 4 or 5 year degree to qualify (Turnbull et al., 2009) whereas doctors are at university for longer. Potentially allied health professionals are moving to rural areas at a younger age, in contrast to doctors, may not have yet established a family.

Allied health professionals reported challenges finding accommodation in rural areas with some reports of clinicians sharing a house to manage the challenge. Some allied health professionals were commuting long distances each day to get to work or staying in the rural area during the week and going home on the weekends. Challenges of sourcing accommodation were not reported in the medicine papers except for one finding that identified accommodation was provided by the employer but was not satisfactory.

Consistent with previous studies (Beccaria et al., 2021; Wilson et al., 2009) feeling welcomed and connected to the community was reported to be important in this review. Some allied health professionals discussed feeling welcome and included in the local community, while others reported it was challenging to get to know people, to feel involved and to find out what activities were available within the community. Conversely a range of medicine papers that discussed community integration reported doctors were welcomed into the local community, involved in activities outside of work, and enjoyed the rural lifestyle. A small number of studies reported community integration and social isolation as being challenging for early career doctors. Allied health professionals also reported challenges with personal and professional boundaries in small towns, but the doctors generally reported being well known in rural areas was a positive aspect of rural work.

Implications

The findings of this review have outlined the similarities and differences in experiences of early career allied health professionals and doctors. These findings have implications for rural and remote health services, policy makers and future researchers;

- A structured career path for early career doctors in areas other than general practice and anaesthetics similar to opportunities available in metropolitan areas might encourage more doctors to train and work in rural areas.
- Giving allied health professionals career advancement opportunities in rural areas through specialist or generalist training that result in recognition of expertise, and a pathway of rural career progression might enable clinicians to plan a rural career.
- Local supervision and prioritised access to postgraduate training for junior doctors will provide a more positive experience.
- Allied health professionals need access to discipline specific supervision in order for them to develop confidence and competence.
- Acknowledging and addressing personal factors including the location and needs of a partner or family, integration into the community and consideration of personal and professional boundaries may result in a more positive experience for all health professionals.

Strengths and limitations

It is important to consider the strengths and limitations of this review. This systematic review includes searches across eight databases, two reviewers screened titles and abstracts and full text articles. All four reviewers were involved in extraction of included studies. A meta-synthesis was conducted to identify findings and relevant illustrations, categories and synthesised findings exploring the experience of working in rural and remote areas as an early career doctor or health professional. A limitation of this review included the challenge of identifying papers that focused on early career professionals. A range of studies were excluded because it was not clear how experienced the health professionals were that were investigated. Allied health professionals

generally stay in rural or remote areas for up to three years (Chisholm et al., 2011) and doctors for seven years (Rural Health Workforce Australia, 2015) so it may have been possible to include more studies if the authors had stated the years of experience of their participants. Furthermore, some studies were excluded because the experiences of early career health professionals were reported through the perspectives of managers, employers or students rather than the early career clinician themselves.

While the appraisals indicated the quality of the articles was moderate to high, one study did not outline their methods clearly and so the appraisal was rated low. The reviewers noted that although the methods were not clearly outlined this is not necessarily a reflection of the quality of the research methods. The findings from the article were considered in relation to the other studies and were found to be consistent. Limitations with studies related to identifying the perspectives and potential biases of the researchers. Caution should therefore be observed when considering the findings of this review.

Other limitations are that only papers published in English, from high income countries, and with a defined definition of allied health were included. This ensured both the comparability in the context of the rural and remote experiences, enabling the meta-synthesis of results; and facilitated the development of policy and workforce recommendations for similar contexts. This review may have therefore been subjected to publication bias.

This research has considered experiences once clinicians are working in rural areas. Future research could focus more closely on the impact of personal and organisational factors on recruitment for early career health professionals to identify strategies to attract more people to work in rural areas.

Conclusion

Early career allied health professionals and doctors experience a range of similarities and differences working in rural areas. There is a complex interplay of factors needed to support rural health professionals career path and retention. Considering the factors as a whole, it is apparent

that there is a need for a review of workforce structures in rural and remote areas to facilitate retention of both the allied health and doctor workforce. Common areas for consideration were: access to structured training programs enabling the development of recognised generalist or specialist career paths regardless of health profession; availability of a range of hands on learning opportunities in their jobs; consistent, high quality supervision; and a whole of community approach to workforce to facilitate opportunities for both family members, and the health professional to be part of the rural and remote community.

Abbreviations

JBI: Joanna Briggs Institute, PRISMA: Preferred Reporting Items for Systematic Review and Meta-Analyses

Supplementary information

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Authors' contributions

AD conducted the literature searches, the extraction, the meta synthesis and wrote the draft of the manuscript with contributions from all authors. AD, SG and CB conducted the screening. All authors conducted the quality appraisal and validity checks of the extraction and meta synthesis. All authors reviewed the draft manuscript and contributed to the final version for submission.

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Availability of data and materials

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Declarations

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Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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Chapter summary

This chapter synthesised the experiences of rural and remote early career allied health professionals and doctors. In particular, the professional, organisational, personal and community factors that influence experiences were described. This demonstrated similarities and differences that positively and negatively impact both groups. In the following chapters the experiences of allied health professionals working in rural and remote South Australia will be explored and then the Allied Health Rural Generalist Pathway will be examined as a workforce strategy in South Australia. In the discussion chapter the findings from this review will be synthesised with the results from the research undertaken in South Australia to generate new knowledge and understanding of rural and remote allied health experiences and the impact the introduction of the rural generalist pathway has had for individuals, organisations and consumers. The next chapter in this thesis described the methodology and methods underpinning the primary research study.

CHAPTER 4: METHODOLOGY AND METHODS

Chapter overview

This chapter will outline and justify the methodology and theory used throughout this research. The process of developing the research questions, designing the methods, identifying participants and analysing the data will be described. The chapter will conclude with ethical considerations, reflexivity and limitations.

Research questions

The purpose of this research is to explore allied health workforce challenges and opportunities in rural and remote SA and then to ascertain whether the AHRGP is an effective strategy to overcome these challenges.

The research aimed to answer the following questions:

1. What are the workforce challenges and opportunities for allied health professionals in rural and remote SA?
2. What is the experience of allied health professionals participating in the AHRGP and the impact on their skills, abilities and knowledge for practice?
3. What are the experiences and perceptions of the AHRGP for supervisors, clinical leads and line managers?
4. What impact has the AHRGP had on consumers?
5. What impact has the AHRGP had on health services and workforce outcomes?
6. Where does the rural generalist pathway work? Which professions and individual characteristics are particularly suited to the AHRGP?
7. Is the AHRGP a cost-effective workforce strategy for the rural regions in SA?

Methodology

Research methodology is guided by parameters and paradigms that give the process structure, rigour and integrity. Ontology and epistemology identify the position of the researcher while the methodology gives a structure or foundation to the research design. Methods enable the collection and analysis of data. Table 1 outlines the ontology, epistemology, methodology and methods used in this research

Table 1: Research framework

Ontology	Epistemology	Methodology	Methods
Pragmatism, Quantitative and qualitative approaches	Pragmatism, Positivist Interpretivist/ constructivist	Program logic Mixed methods Economic evaluation	Interviews Focus groups Surveys Workforce and economic data Analysis of qualitative and quantitative data

Ontology

Ontology in research refers to the nature of reality in the methodology (Sarantakos, 2005). Researchers may consider single or multipole realities in research. This research is interested in both the experiences of people working in rural areas as well as the effectiveness of a training pathway. As a result, it was appropriate to take consider both single and multiple realities throughout the study.

Considering a single reality assists researchers to answer specific questions. With a single objective reality the researchers can be free from bias and a quantitative approach to research will assist in finding the answer (Maarouf, 2019). A quantitative ontology considers reality to be independent of bias and capable of being studied (Glogowska, 2011).

In contrast, when the position of the researcher and their values, beliefs and experiences are considered to be important in understanding the realities and experiences of people, then a qualitative approach to research is appropriate (Liamputtong, 2013). Qualitative researchers recognise that there are multiple realities for a given phenomenon and the researcher's own experiences, values and beliefs shape the interpretation of findings (Maarouf, 2019).

This research project is interested in the effectiveness of a generalist training program in health systems. Costs, time, satisfaction, confidence and competence can be measured using quantitative approaches to answer some of the research questions and build an understanding of the effectiveness of the AHRGP.

The research also aims to explore the experiences and perceptions of stakeholders who are living and working in rural areas and are impacted by the AHRGP. A qualitative approach is appropriate in the exploration of multiple realities. Each of these individuals will have different experiences, values, beliefs and perceptions of living and working in rural areas and of the generalist training pathway. The researcher's own experiences, values and beliefs play an important role in understanding the experiences of others, and they can empathise, understand, question, reason and analyse participants' perceptions and experiences in meaningful ways.

Considering the inclusion of single and multiple realities, this research utilises both qualitative and quantitative ontological approaches.

Epistemology

Epistemology relates to how knowledge is obtained and understood. Researchers identify their position on how they will study knowledge and what they understand the nature of knowledge to be in order to clarify their position to the reader (Liamputtong, 2013; Sarantakos, 2005). An overarching paradigm of pragmatism has underpinned this research drawing on positivist and constructivist approaches to the attainment of knowledge.

A positivist approach or paradigm considers knowledge as being objective and measurable through critical thinking, observing and recording using scientific methods (Liamputtong, 2013). A positivist approach is associated with quantitative research methods where the researcher can situate themselves separate from the phenomenon and avoid any bias they may have on findings; scientific methods are used to measure relationships between variables (Maarouf, 2019).

This research is interested in identifying variables that are objectively measurable, including how effective the pathway is in retaining allied health professionals, how cost-effective the training is for SA Health and what impacts the pathway has on competence, confidence and job satisfaction. Using quantitative approaches for objective questions enables the generalisation of findings for recommendations and transferability to other contexts.

An interpretivist or constructivist approach considers multiple realities or truths that are constructed by individuals and influenced by social factors (Creswell & Creswell, 2018). The researcher considers a range of views, perspectives and experiences in understanding a phenomenon in a subjective manner, with the researcher actively involved in the research process and analysis (Liamputtong, 2013). This approach lends itself to researchers and participants interacting to explore and phenomena in question together (Glogowska, 2011) and broadly exploring the complexities of a phenomena rather than narrowing the findings (Creswell & Creswell, 2018) for reporting a specific answer to a question.

While there are positivist aspects to this research, there was also a strong interest in exploring individuals' views, perspectives and experiences in terms of living and working in a rural area as well as the experience of undertaking a generalist training pathway. Each individual brings different world views, and a constructivist approach enabled the researcher to explore the individual and collective perspectives and experiences to generate understanding and meaning. It also allowed deep exploration of the complexity of the rural workforce and training to look at the research questions from multiple perspectives and to generate rich, meaningful findings and connections.

Pragmatism

As this research is concerned with both single and multiple realities, and objective and constructed knowledge, a pragmatic paradigm was used as a methodology to bring a range of approaches together in a practical, logical manner. Pragmatism considers knowledge as being both naturally occurring and constructed by individuals and takes on characteristics of positivism and constructivism (Liamputtong, 2013). Pragmatists are concerned with the research problem and what actually works to solve it rather what is said or considered to work (Bibi, Khan & Shabir 2022). They are also not restricted to a particular world view or approach (Creswell, 2013). Pragmatist researchers are open to multiple world views and assumptions in order to study knowledge; they find the best possible methods for data collection and analysis for their given research problem (Bibi, Khan& Shabir 2022). Pragmatism is based on actions, situations and consequences, and researchers focus on the research problem and choose relevant approaches that will help to solve it in order to find solutions to answer questions (Creswell & Creswell, 2018). This approach gives researchers freedom or choice to choose methods of data collection and analysis that will best suit the nature of the research (Creswell, 2013). It also lends itself well as an overall paradigm or world view when merging multiple forms of data for the generation and interpretation of research findings (Creswell & Plano Clark, 2018). When researchers use a pragmatic approach, it is important to justify why and how they will use both qualitative and quantitative methods (Creswell & Creswell, 2018). In this chapter, justification of these methods will be outlined.

In considering the research problems faced in this project, a significant problem for rural health services was the high turnover of allied health professionals, which was having negative impacts on the health and wellbeing of rural communities in SA. The rural and remote health services wanted to know whether the introduction of an allied health rural generalist pathway would have a positive impact on their workforce outcomes, and the literature on allied health workforce and training was unable to answer this question. The use of pragmatism as a theoretical approach allowed the researcher to consider multiple realities for the various stakeholders involved but also to focus on ‘what works’ as an overarching approach. What works for the individual allied health

professionals working in rural and remote areas? What works for the employing organisations? What works for the supervisors and managers? What works for consumers?

Mixed methods

Taking a pragmatic approach to research lends itself well to mixed methods where the researchers are free to use both qualitative and quantitative approaches to undertake a comprehensive study of a phenomenon to gain a complete understanding using the best methods that help to answer or solve the problem (Creswell & Creswell, 2018). Undertaking mixed methods research enables researchers to use the strengths of both qualitative and quantitative methods to enhance the research findings (Maarouf, 2019). It also enhances triangulation of data, which is about strengthening results through using different methods of data collection and analysis to explore a research problem (Maarouf, 2019).

Quantitative research is usually deductive or confirming, seeking to find answers or test a theory (Maarouf, 2019). In contrast, qualitative research is usually exploratory or inductive, with researchers understanding a phenomenon and the way individuals understand or make meaning from it (Maarouf, 2019). Using mixed methods enables the researcher to consider both inductive and deductive approaches to exploring the research questions or problems.

The research questions in this study lend themselves to both deductive and inductive questioning and analysis. It was important to explore the effectiveness of the rural generalist pathway in improving workforce outcomes, which lent itself to deductive investigations, while an inductive process was necessary to explore the experiences, perceptions and intentions of the allied health professionals involved in the pathway implementation. Inductive processes allowed for deep questioning, exploring and wondering with a variety of stakeholders that complemented the deductive findings.

Mixed methods research may use qualitative and quantitative methods concurrently or consecutively, depending on the nature of the research problem and the design of the research (Glogowska, 2011). Convergent or concurrent designs, sometimes referred to as parallel or

triangulated designs, utilise qualitative and quantitative datasets that are collected at the same time and then analysed to gain a comprehensive understanding of the problem (Grbich, 2017). Convergent or concurrent designs allow for qualitative and quantitative data to be analysed together for comparison, for validation and to develop a complete understanding of the problem, phenomenon and potential solutions or answers to research questions (Creswell & Plano Clark, 2018). Using a convergent design also allows researchers to collect and analyse data over multiple phases and to make improvement for progressive phases as gaps or challenges arise (Pluye et al., 2018). Using a convergent/concurrent design for this research allowed the complex and multifaceted challenge of rural and remote workforce to be explored through the collection and comparison of qualitative and quantitative information over multiple phases to describe the phenomenon in different ways. Multiphase methods utilise a combination of methods over three or more phases and are well suited to studies considering changes over time (Fetters et al., 2013). In this research, tracking stakeholders over time was a desirable strategy to measure changes in perceptions, experiences, skills and knowledge from the beginning to the end of the pathway.

A multilevel approach to mixed methods enables researchers to consider the experiences, perspectives and outcomes of stakeholders at multiple levels (Pluye et al., 2018). As a range of stakeholders were involved and potentially impacted by the introduction of the AHRGP, a multilevel approach was ideal. During the co-design phase with key stakeholders, it was clear that multiple levels of engagement with the research would yield the most comprehensive results.

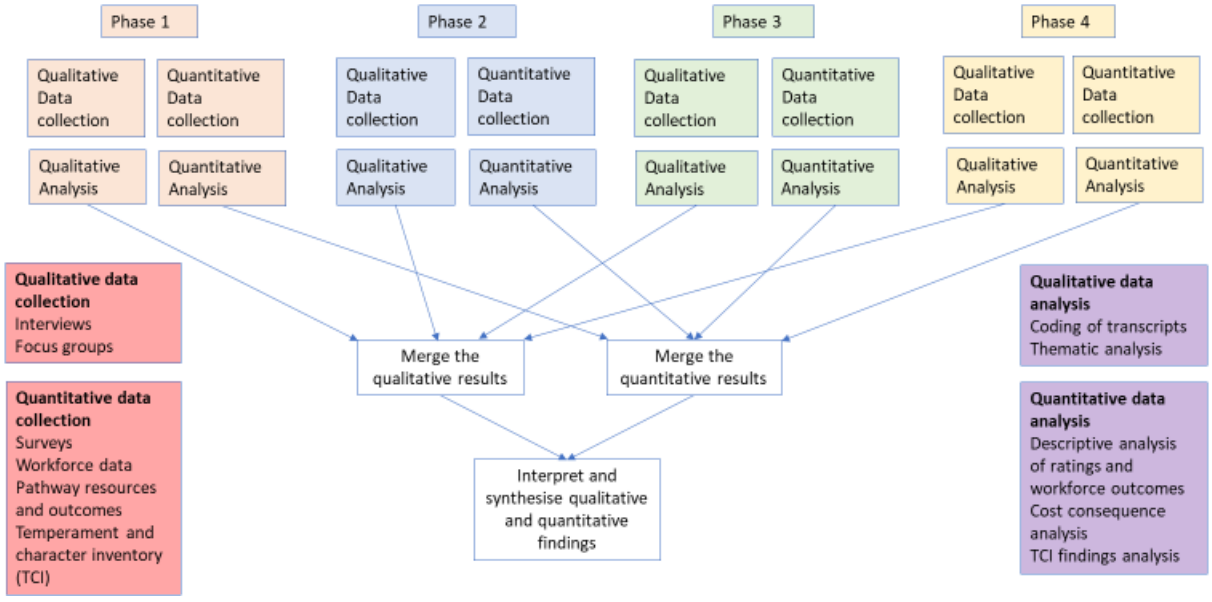
In order to avoid overburdening the research participants but also to gain a comprehensive understanding of the research problem, it was logical to collect the qualitative and quantitative data concurrently. This also enabled the researcher to ask deductive questions that measured the impact of workforce strategies while also exploring factors that impacted on these measures. For example, how long did allied health professionals intend staying in a rural area and what factors were impacting this decision?

By integrating qualitative and quantitative methods, triangulation is possible, where complex research questions can more comprehensively be researched in a way that is not easily answered

by using one method alone (Taket, 2017). In concurrent triangulation methodology there is usually a dominant method, with the secondary method used to confirm or check the primary method findings and to help comprehensively solve complex problems (Grbich, 2017). In this research, qualitative methodology is dominant, with the aim of deeply exploring the experiences and perceptions of stakeholders involved in the generalist pathway. Quantitative methodology has played and important but secondary role in supporting the qualitative findings through measuring key outcomes describing the costs and benefits of the pathway.

Mixed methods research is well suited to evaluation of training programs as it lends itself to multiple phases and multiple components in order to gain a comprehensive view of the program outcomes and also to be able to make generalisations or recommendations (Creswell & Plano Clark, 2018). The mixed methods design shown in Figure 2 was developed to describe the research methods, analysis and processes. The figure shows a convergent design where the qualitative and quantitative data are analysed separately across four phases and then brought together for interpretation and discussion of findings. In this diagram the four phases are outlined; note that qualitative and quantitative data are collected simultaneously but analysed separately.

Figure 2: Mixed methods design



(Adapted from Creswell & Plano Clark, 2018)

Doyle and colleagues identified a series of benefits of undertaking mixed methods research. These are listed in Table 2, as well as why these factors are relevant to the current research study.

Table 2: Rationale for methods

Rationale for mixed methods (Doyle et al., 2009)	**Rationale relevant to this research**
Triangulation – increasing the validity of results by comparing and contrasting qualitative and quantitative findings	Triangulation enabled the comparison of participant ratings with their perceptions of the pathway and rural workforce challenges to gain an in-depth understanding of the impact and experience of the pathway
Completeness – giving a complete and comprehensive picture of the problem/phenomenon	Rural retention is a complex problem; by using multiple methods this research was able to explore a range of factors for consideration
Offsetting weaknesses and providing stronger inferences – overcoming the weaknesses of one particular research approach by using an additional approach to fill the gaps	While the research questions lent themselves to qualitative exploration, using deductive reasoning enabled the development of specific, tangible impacts to be explored as well
Answering different research questions – helping to answer questions that are not easily answered by one approach or where multiple questions are posed that require different methods to answer them	Seven research questions were posed which covered a variety of workforce factors and strategies; by using a range of methods it was possible to explore different factors and perceptions to answer multiple questions
Explanation of findings – one research approach can be supplemented with a secondary approach to explain the data or to further understand the phenomenon	Qualitative findings were supplemented with quantitative results through asking participants to rate performance, satisfaction, measuring costs and benefits
Illustration of data – qualitative approaches can illustrate quantitative findings to better understand the results	The quantitative findings were able to illustrate changes over time, which was more challenging to do with the qualitative findings alone

(Doyle et al., 2009)

Program logic

To further explore the issue of the rural allied health workforce and to plan for undertaking this research, it was important to fully understand what the focus of the research was, what the desired outcomes were and what factors were influencing these outcomes.

Program theory is used to demonstrate or measure the results and outcomes of an intervention, program, initiative, or any event that is aimed to have an outcome. It describes the causal relationship between the inputs/activities and the outcomes (Funnell & Rogers, 2011). Using program theory enables researchers to systematically explore interventions using the theories of change and action. Theory of change refers to the mechanisms that enable change, and theory of action refers to what the program does to enable the change and what actions are required to facilitate the change (Funnell & Rogers, 2011). In program research, the theory of change and the theory of action are illustrated in logic models (Funnell & Rogers, 2011).

Program logic models give stakeholders a clear understanding of the key elements of the program being implemented, the work that is required to undertake the program and the intended results. Logic models give a visual representation of the inputs required, the outputs to be achieved and the connections between them (WK Kellogg Foundation, 2004). Logic models can take various forms and usually include a visual representation of the components of the program (the inputs), the goals and the effects or outcomes (see Wholey, 1979, in (United Way of America, 1996). Logic models are useful for designing programs with stakeholders and establishing how the program will be evaluated (Chen, 2015). Such models are useful when designing a research evaluation process to identify the anticipated outcomes, the activities required, the context in which the program is being implemented and any external factors or assumptions that are impacting the program (Chen, 2015). Using a logic model for this research enabled the measurement of effectiveness of the AHRGP through logically demonstrating how the program inputs contributed to the results/outcomes. The outcomes anticipated through the implementation of the AHRGP are influenced by a range of factors, and outlining the program using a logic model demonstrates how the pathway contributed to the outcomes and impacts.

Table 3: Program logic framework

Context	Implementation		Intended results		
Influences	**Resources/ inputs**	**Activities**	**Outputs**	**Outcomes (individual level)**	**Impacts (organisational/ community/ system)**
High turnover of allied health staff Diverse community needs Allied health mostly early in career COVID impacting service delivery, priorities and funding Restructuring of LHNs impacting allied health processes and supports Workload and funding complexities	Training program Supervision Protected study time Manager support Project team support Tuition fees Time to plan and implement service development activities	Trainees undertake the AHRGP Trainees participate in service development activities Supervisors, managers, project team provide guidance and support	Trainees complete the pathway Trainees complete service development projects	Trainees enjoy the training; it is beneficial to their work Trainees are satisfied with their job Trainee confidence and competence increases Trainees develop generalist skills Trainees keep working at the service Trainees feel supported by their organisation	Improved workforce outcomes for local health services (retention) Improved continuity and quality of services provided to consumers Improved capacity of organisation to meet needs of community Reduced recruitment costs with reduced turnover of staff

(Adapted from WK Kellogg Foundation, 2004)

Context outlines the setting, culture and internal or external factors that might influence the success of the pathway (WK Kellogg Foundation, 2004). In this research it was important for the research to consider the factors that might influence the rural region's ability to carry out the pathway. This included personal and organisational factors.

Implementation includes the various inputs for the program; it is important to consider the resources, inputs or activities that went into the development and delivery of the program (WK Kellogg Foundation, 2004). Implementation of the AHRGP required organisational resources including; tuition, study time and support structures. Through outlining inputs, it is possible to map these against outcomes to explore factors for success and challenges.

Outcomes are the results of the research, and using a logic grid enables the identification of various levels of impact. What were the immediate, short-term and long-term impacts and what contributed to these? Who has been impacted by the research and have the inputs made a difference to the individuals, the organisation and the community? (WK Kellogg Foundation, 2004)

Evaluation research processes

Evaluation is used in health care for a various tangible purposes; it can be used to measure the effectiveness of a service or initiative, to identify ways of improving a service, to solve a problem, to decide whether a service should be funded again, to identify how much a program costs, to identify gaps or needs or to measure satisfaction of staff or consumers. These evaluation processes are often undertaken internally and do not use a peer review or systematic process. In these instances, organisations are looking for tangible, practical answers to their questions; they are not necessarily looking to build theories, new knowledge or to publish their work in peer-reviewed journals (Royse et al., 2006). As a result, organisations can use evaluation methods that are convenient, low cost and accessible to generate practical answers and outcomes. The results are not necessarily generalisable or developing new knowledge and are often applicable only to the specific organisation that is the focus of the evaluation (Royse et al., 2006).

In contrast, research is a process of generating knowledge guided by a framework or philosophy through using procedures and methods that have been tested for reliability, validity and unnecessary bias (Kumar, 2005). Research is systematic, rigorous, valid, reliable, critical and transparent (Kumar, 2005). Researchers must be able to describe and justify the methods they used to collect and analyse their data through their methodology, they are transparent about how and where information was retrieved and processed, they will identify any bias or subjectivity involved and they use a critical view of the results that emerge. Results from research are generalisable or relevant to audiences outside of the participant group or organisation and are used to draw conclusions, make recommendations or develop new understanding.

This research utilised a defined sample within a statewide organisation to evaluate the introduction of the rural generalist pathway. A range of gaps were also identified in terms of understanding what it is like to be an early career allied health professional in rural and remote areas, what factors were impacting their experience and whether the generalist pathway was impacting challenges they were facing. At the time, there was very limited published research measuring the effectiveness of the generalist pathway, exploring the experience of engaging in the pathway and of the specific factors that were impacting allied health professionals' experiences and perceptions of working in rural and remote areas.

Although it would have been possible to answer some of the questions SA Health had about the pathway with a simple evaluation, in order to generate generalisable recommendations, to develop new knowledge and understanding and to share these broadly, a rigorous research process was warranted.

Research questions, design and methods

Having now considered the methodology and approaches to this research it is important to revisit the research questions in order to describe the research design and methods chosen. In this section the methods used to answer each of the research questions will be described and justified.

Table 4: Research questions and associated methods

Research question	Methods used
1. What are the workforce challenges and opportunities for allied health professionals in rural and remote SA?	Semi-structured interviews with trainees and service leaders in phase 1
2. What is the experience of allied health professionals participating in the AHRGP and the impact on their skills, abilities and knowledge for practice?	Semi-structured interviews and surveys with trainees
3. What are the experiences and perceptions of the AHRGP for service leaders?	Semi-structured interviews with service leaders and project team
4. What impact has the AHRGP had on consumers?	Consumer representative focus group

Research question	Methods used
5. What impact has the AHRGP had on health services and workforce outcomes?	Semi-structured interviews with service leaders Workforce data
6. Where does the rural generalist pathway work? Which professions and individual characteristics are particularly suited to the AHRGP?	Temperament and Character Inventory (Cloninger et al., 1994) Interviews with all participants Workforce data
7. Is the AHRGP a cost-effective workforce strategy for the rural regions in SA?	Economic analysis Workforce data

Kirkpatrick's four levels of evaluation

Workplace training and development is expensive, and organisations often evaluate the effectiveness of training provided to employees to ascertain whether it is worth investing in into the future. Often training is evaluated in terms of satisfaction and perceptions of participants; however, a comprehensive structured analysis of a training initiative gives organisations more useful and tangible information to draw conclusions and make recommendations (Steensma & Groeneveld, 2010). Kirkpatrick's four levels of evaluation is a comprehensive structure for evaluating the impact and effectiveness of training in organisations; the four levels cover participant perceptions through to organisational impacts (Yardley & Dornan, 2012). Level 1 explores participant perceptions or reactions to the training and whether it was enjoyable, organised or interesting. Level 2 is interested in what participants learnt. Level 3 focuses on the application of learning to work and looks at behavioural changes after training and level 4 concentrates on organisational changes that have resulted from the training of employees (Reio et al., 2017; Yardley & Dornan, 2012). Kirkpatrick's (Kirkpatrick & Kirkpatrick, 2016) four levels of evaluation were used as a guide to give this research a structured and logical approach as it is well recognised as a robust and comprehensive model for training evaluation and ensures multiple levels of impact are considered (Reio et al., 2017).

Previous studies have used Kirkpatrick's structure in their research to guide a comprehensive evaluation. Most have used the first two or three levels of the model to evaluate programs (Dewi & Kartowagiran, 2018; Heydari et al., 2019; Shinohara et al., 2020; Yi et al., 2020). This has included a survey to gather information about perceptions and reactions to the training (level 1) and a test of learning or competence acquisition (level 2). A recent systematic review found that allied health training programs usually measure the attainment of knowledge, and they are less likely to demonstrate changes in behaviour and clinical-related outcomes (Windfield-Lund et al., 2023). Dorri and colleagues investigated the impact and effectiveness of a cardiopulmonary training program for nurses using all four levels of Kirkpatrick's model. Level 1 was explored through a survey to review participant reactions to the training. Level 2 included an assessment of knowledge gained pre and post the training via a survey. Level 3 was evaluated via a 360-degree evaluation of behaviour change by the nurses' supervisors and peers and level 4 was assessed through management considering the ability of the organisation to meet its strategic goals and plans through the introduction of the training (Dorri et al., 2016). This study is relevant as it comprehensively considers individual and organisational impacts of the training. Studies that used part of the model did not elaborate on why they chose to omit levels 3 and 4, although it can be assumed that researching behaviour change and organisational change are more complex to measure than initial reactions and learning acquisition. Evaluating programs is also expensive when done comprehensively and budgets do not always lend themselves to measuring long-term or system-wide impacts.

Kirkpatrick's four levels were incorporated into this research to ensure a comprehensive investigation of the experience and impact of the AHRGP for the individuals participating in the pathway as well as consumers and the employing organisations. Table 5 describes these levels of evaluation and the methods used to meet the objectives of the research.

Table 5: Kirkpatrick's evaluation levels and application to this project

Kirkpatrick level	How it will be factored into this research
Level 1 – Reactions Focuses on participants perspectives of the training, satisfaction, relevance, quality and overall impressions (Yardley & Dornan, 2012).	Trainees' perceptions of the pathway were evaluated via survey and semi-structured interview at each of the research phases. Their satisfaction with the training, the relevance of course work and associated activities and their overall impressions of the pathway were explored.
Level 2 – Learning What skills and knowledge did participants learn? How has the training influenced attitudes, perceptions and confidence? (Reio et al., 2017)	In phase 1, the trainees were asked about what they were hoping to learn from the AHRGP. In phases 2, 3 and 4, trainees described the benefits they had experienced in terms of their learning and skill development. The trainees rated their confidence working as a rural generalist in phases 1, 2 and 3 and described a range of influences on their attitude and perceptions or rural practice.
Level 3 – Behaviour Explores whether the training has been put into practice and how it has been adopted into participants' work roles (Kirkpatrick & Kirkpatrick, 2016).	Throughout the research phases, trainees described the learning they had put into practice and the changes they had made to the way they worked. Service leaders described the behavioural changes in the trainees that they had observed and rated their confidence and competence across the research phases. They also described how they had individually been impacted by the pathway.
Level 4 – Results Explores organisational changes including benefits to consumers and staff (Yardley & Dornan, 2012).	Trainees and service leaders described how the AHRGP had impacted the organisation and consumers in phases 2 and 3. Consumer representatives described the elements of quality allied health services and how the AHRGP was contributing to meeting the needs of consumers in focus groups in phases 1 and 3. The project management team described the impact of the pathway on workforce, service delivery and access broadly across the regions. Workforce outcomes, costs and benefits were also measured to understand impacts for organisations in relation to retention and value for money.

Methods

The research was planned over four distinct phases to ensure it was comprehensive. Kirkpatrick's levels (Kirkpatrick & Kirkpatrick, 2016) were considered at each phase to ensure the pathway perceptions, learning, behavioural changes and organisational changes were considered throughout. It was also important to understand the contextual factors impacting the rural workforce in SA because providing a training pathway for clinicians is not the answer to all workforce problems, and a range of other factors impact on their satisfaction, intention to stay and skill and confidence development. Table 6 describes the methods used in each phase.

Table 6: Methods used in each research phase

Phase 1, 2019 Pre-Program	Trainee survey	Trainees completed an online survey once they had consented to participate which collected their demographic information, intentions for the training and rating of confidence as a rural generalist clinician in the early stages of the AHRGP. Participants also completed the Temperament and Character Inventory (Cloninger et al., 1994).
	Trainee interviews	Trainees were interviewed between September and November 2019 to explore their reasons for participating in the program, their perceptions of rural and remote practice and the support they required during the AHRGP.
	Service leader interviews	Service leaders were interviewed between September and November 2019 to explore their initial impressions of the AHRGP and their experience of working with early career allied health professionals.
	Project management team interview	The project management team were interviewed in November 2019 to give the research team a thorough insight into the AHRGP and to discuss costs, workforce patterns and long-term plans of the pathway.
	Consumer representative focus group	Six consumer representatives from four participating regional LHNs accepted an invitation to meet in November 2019 to discuss their perceptions of allied health services and to describe what quality service provision was from their perspective.
Phase 2, 2020 Midpoint	Trainee survey and interview	At the approximate midpoint of their progress through the AHRGP, the trainees participated in a survey and interview exploring their initial impressions of the training, their experience in the pathway and the impact it had had on their practice.

	Service leader interviews	When the trainees reached the midpoint of the AHRGP, their service leaders were interviewed to explore their impressions of the pathway to date, what it had been like supporting a trainee, what the challenges and opportunities had been and what impact it had had on their services.
	Project management team interview	The project management team were interviewed mid-2020 to discuss the AHRGP progress and to ascertain broadly what had been working well, what had been challenging and to explore the financial and workforce implications of the program.
Phase 3, 2020/2022 **End point**	Trainee survey and interview	Post training, trainees were surveyed and interviewed to explore their experience of the AHRGP, what outcomes they achieved and how the AHRGP impacted on their practice overall.
	Service leader interviews	Once trainees completed the AHRGP their service leaders were interviewed to discuss final perceptions and perceived outcomes of the pathway.
	Project management team interview	The project management team were interviewed late 2022 when most of the trainees had completed the pathway to review their perceptions of the AHRGP experiences and outcomes. The project team also provided the workforce data and costs associated with the pathway for analysis.
	Consumer representative focus group	In 2022 after most of the trainees completed the AHRGP, consumer representatives participated in a follow-up focus group to review and update the quality allied health factors developed in phase 1 and to discuss these in relation to the outcomes of the AHRGP.
Phase 4, 2020–2023 **Follow up**	Trainee survey	Six months after completion of the AHRGP, trainees were followed up via survey to explore where the training had led them and if they intended to continue working in a rural or remote area.

* Service leaders includes supervisors, managers and clinical leads.

Rationale for choices of methods

When designing the research methods, the project team who were introducing the rural generalist pathway for SA Health allied health professionals were consulted about what outputs and outcomes were important to be considered. As SA Health was funding the generalist pathway as part of a workforce strategy, it was important to the project team that the research was able to demonstrate the effectiveness of the pathway and make recommendations its sustainability and whether the government should invest in the pathway into the future. The SA Health project team

were involved in the design of the research to ensure the methods and intended outputs were appropriate and relevant to their needs. Several iterations of the research design were discussed and negotiated until a final plan was agreed.

Minkler and colleagues developed a guideline to reliably develop participatory research designs (Minkler et al., 2008). Using this guide assisted the team to ensure the research design process with SA Health project staff was authentic and purposeful. For example, the research questions were formulated through discussion about the purpose of the research, and the potential research participants were identified by the project team in consultation with the researchers. The interview and survey questions were developed through consideration of the Kirkpatrick levels and the ideas of the project team. At each research stage a report of the results was developed for the project team, with robust discussion about the presentation of findings, key concepts to highlight and recommendations that emerged from the data. This process facilitated mutual learning of both the project team and research team – results that were meaningful for the intended users (SA Health) and more likely to affect change (Minkler et al., 2008) than through producing an independent research plan without direct links to stakeholders. During the planning phase rural generalist training experts from Queensland Health were consulted on multiple occasions to discuss the research plan and identify gaps in current research and ways in which this new research could generate new knowledge and understanding for allied health.

Qualitative methods

Qualitative methods were used in this research to ensure the experience of all participants could be thoroughly explored. In order to understand what it is like working as an allied health professional in rural SA it was necessary for participants to be able to discuss and reflect on their experiences, perceptions, attitudes and personal and professional circumstances. To explore the impact of the rural generalist pathway comprehensively, Kirkpatrick's levels dictated that the research consider the reactions, learning, behavioural changes and broader impacts (Yardley & Dornan, 2012), and qualitative methods would help to explore these levels. In considering all four levels, it was important to not just involve the trainees who were undertaking the pathway but also

their supervisors, managers, clinical leaders, consumer representatives and the project team who was coordinating the pathway.

Interviews are a commonly used qualitative method of collecting data from individuals or groups, enabling researchers to gather in-depth information with a specific purpose or focus (Kumar, 2005). As this research was seeking to understand the experience of the participants, interviewing them was an appropriate method (Liamputtong & Schmied, 2013), as well as multiple other methods described in this chapter. Semi-structured interviews with open-ended questions allow the researcher to have a set of questions to focus the conversation but the freedom to ask additional questions that are relevant or delve more deeply into a given phenomenon (Kumar, 2005). Undertaking semi-structured interviews allows the researcher to use a variety of question types to deeply understand participant experiences and perceptions/attitudes; for example, direct and indirect, probing, clarifying and follow-up questions (Serry & Liamputtong, 2013). To gain an understanding of the experience of stakeholders engaged in the rural generalist pathway an interview guide was developed that used a range of these question types with follow-up questions used in phases 2 and 3 to build an in-depth and cumulative picture of the participants' experiences, perceptions and feelings. Participants were invited to be interviewed at the beginning, middle and end of the pathway. Trainees were also asked some brief follow-up questions six months after completing the pathway via survey.

Interview questions were developed based on the Kirkpatrick levels (Kirkpatrick & Kirkpatrick, 2016), through consultation of the study design with the SA Health project team and through discussion with the research team about the purpose of the research and the desired outcomes. Program logic modelling (WK Kellogg Foundation, 2004) was also used to guide the questions in terms of the various levels of impact and experience of stakeholders. Both frameworks guided the research to be undertaken over multiple phases with broad levels of engagement with stakeholders.

Multiple methods were explored in the design process to gain an understanding of the experience of consumers who were working with rural generalist trainees. It was important to identify how

consumer input would add value to the research findings while not burdening them with research requirements. There are a range of ways in which consumers can be engaged in evaluation research and methods dependent on context, resources, relationships and skills of the researchers and the consumers (Miller et al., 2017). The context for this research included the large geographically and clinical diverse workload of the allied health trainees as well as diversity in allied health roles and responsibilities. It was hoped the consumers would be able to describe their experience of working with a rural generalist trainee to develop an understanding of the impact of the pathway on consumers (Kirkpatrick & Kirkpatrick, 2016). Logistically and ethically, this was challenging; the SA Health project team felt that consumers would not necessarily know their allied health professional was undertaking the generalist training or be able to see how the pathway was directly impacting them. Some trainees were working with consumers over a short period (one to two encounters) while others were working with consumers over an extended period and as such the experience would be variable. Through consultation with the project team, the review of previous research and the human research ethics committee, it was determined that it was more feasible, appropriate and ethical to speak to consumer representatives who were already representing their community in a LHN board capacity and would be able to describe and reflect on the needs of their community in relation to allied health services and the impact the rural generalist pathway was having more broadly.

When working with consumers in research, it can be challenging to ensure they are reflecting the diversity of consumer experiences and there is a risk of bias to individual positive or negative attitudes (Miller et al., 2017). By involving consumers who were already in a representative role it was hoped that they would be able to represent the views of their regions and consider the outcomes of the AHRGP for their community broadly rather than just on them individually. A focus group format was designed to provide a supportive and collaborative environment for the consumer representatives. Focus groups are used in research to help explore and evaluate ideas, initiatives and services as well as to gather a range of views and opinions through group interactions (Davidson et al., 2013). Usually focus groups bring together people who have an experience or interest in common, and the researcher brings a basic format or plan for discussion

points but is flexible to allow group members to explore topics or opinions that emerge through discussion (Kumar, 2005). Undertaking focus groups using electronic means has become a more common method of bringing people together in recent years (Davidson et al., 2013) and was relevant to this research as the consumer representatives were located across vast geographical distances.

Quantitative methods

Quantitative data collected included workforce and trainee contextual factors, an economic analysis, and temperament and characteristic data.

Workforce and trainee contextual factors

The generalist pathway has been introduced in other states and territories in Australia since 2015, and evaluation processes used in Queensland and NSW guided the development of this research plan. Barker and colleagues also used mixed methods to evaluate the pathway in Queensland, and the quantitative components included trainee demographics, satisfaction with the pathway, completion rates and ratings related to the impact of the pathway on skills and service delivery (Barker et al., 2021). In NSW the evaluation focused on the improvement of workforce outcomes through retention of trainees, recruitment of allied health professionals, changes to workload capacity through service delivery outputs and perceptions relating impact of the pathway on practice (McMaster et al., 2021). Aspects of both of these studies were included in this research.

The AHRGP was introduced as a workforce strategy (Government of South Australia, 2022a), and there was a requirement of the funding that the pathway be evaluated to measure its effectiveness and impact in SA. While a significant aspect of the research focused on the experience of trainees, supervisors and managers, it was important in delivering a comprehensive research process that reactions, learning, behavioural changes and organisational results changes were also measured (Yardley & Dornan, 2012). Reactions were measured quantitatively through the rating the trainees' job and AHRPG satisfaction at each phase using a 10 point rating scale. Job satisfaction has been linked with productivity and turnover (Bhatnagar & Srivastava, 2011) which were relevant to this research. In order to measure behavioural changes, the trainees' confidence and competence to

work as a rural generalist was measured at each research phase via survey. The competence and confidence of the trainee from the perspective of their supervisor and manager was also measured at each phase during interviews. These ratings of behavioural change were derived through consultation with SA Health, the project managers requested that these ratings be used as the same ratings were being used in other states and territories introducing the AHRGP. The rating of confidence and competence also fit with Kirkpatrick's levels (Reio et al., 2017) and the use of a multiple Likert scale questions is a valid and reliable way of measuring behaviours and attitudes (Willits et al., 2016).

Utilising the convergent mixed methods approach, it was possible to use multiple methods of data collection at the same time to comprehensively answer the research questions in an efficient and logical way for participants (Creswell & Plano Clark, 2018). Longitudinal surveys were sent to trainees a couple of days before each interview to gather quantitative data across the phases. Quantitative data from managers and supervisors was collected during interviews at each phase as there was a small proportion of quantitative questions to ask this group and an additional survey was not warranted. Undertaking longitudinal surveys is a recognised method of measuring change over time effectively and efficiently (Watson & Coombes, 2009). It was also felt that by sending trainees the survey in advance they would have time to consider their responses, as they were being asked to record the number of hours spent studying, rate their confidence and satisfaction. The surveys were developed using an online survey tool (Qualtrics) which was available through the university and offered comprehensive question options and data reporting methods. Once collected the results were downloaded into an Excel spreadsheet for organising, cleaning and analysing. Quantitative survey and interview data was de-identified by assigning a code number and stored by phase and participant type to enable comparison of ratings by group over time.

Considering the previous research undertaken interstate, the needs of the SA Health project team and the Kirkpatrick levels (Kirkpatrick & Kirkpatrick, 2016), the following quantitative data was collected via **trainee survey**:

- Age range

- Profession
- Local health network and location
- Position title
- Contract type
- Employment fraction
- Mode of recruitment into the program (nominated by someone else or self-nominated)
- Clinical area
- Personal background (rural or metropolitan upbringing)
- Length of time working in rural area

The following data was collected at phase 1, 2 and 3:

- Length of time intending to work in a rural area
- Job satisfaction
- Confidence working as a rural generalist professional
    - Seeing patients/clients across the age spectrum (e.g., infants, children and adolescents, adults and older people)
    - Delivering a large variety of services (e.g., health promotion, early intervention, acute hospital-based services, subacute and ambulatory care services, chronic disease management, aged care, palliative care)
    - Working across a variety of health settings (e.g., hospitals, health centres and clinics, patient homes, community venues)
    - Overall confidence working as rural generalist

The following data was collected at phases 2 and 3:

- Satisfaction with the rural generalist pathway
- Number of hours per week spent receiving supervision, undertaking study, undertaking service development activities
- Satisfaction with the amount of support and time they were receiving during the pathway

The following quantitative information was collected from the **managers, supervisors** and **advanced clinical leads** at interview in relation to the trainee they were working with (where relevant):

- Professional background
- Local health network and location
- Position title
- Classification
- Personal background (rural or metropolitan upbringing)
- Length of time working in rural area
- Length of time planning to continue to work in a rural area
- Number of trainees supporting
- Level of program (1 or 2) trainee participating in
- Profession of trainee(s)

The following data was collected at phases 1, 2 and 3:

- Competence of the trainee working as a rural generalist professional
    - Seeing patients/clients across the age spectrum (e.g., infants, children and adolescents, adults and older people)
    - Delivering a large variety of services (e.g., health promotion, early intervention, acute hospital-based services, subacute and ambulatory care services, chronic disease management, aged care, palliative care)
    - Working across a variety of health settings (e.g., hospitals, health centres and clinics, patient homes, community venues)
- Overall confidence of the trainee working as rural generalist

The following data was collected at phases 2 and 3:

- Likelihood of recommending the pathway to others

- Willingness to supervise a trainee in the future

Workforce outcomes

Measuring the impact of the pathway on health services, staff and consumers was complemented with SA Health workforce data. Workforce data relating to retention (length of stay) and turnover was collected from the SA Health project team and the trainees and compared with SA regional LHN allied health data for the same time period. The project management team emailed the researcher workforce data, collected from the human resource database, on request at each phase, and the trainees' reported intention to stay was also considered in this section.

Economic analysis

Government-funded services face funding challenges as they attempt to meet budgets while also meeting the needs of the communities they serve. It is important for organisations to be able to justify how and why they are using funding and to show that resources are used in effective and efficient ways. Undertaking an economic analysis is an explicit way of measuring the outputs or outcomes of a program, initiative or process using systematic, quantifiable approaches (Drummond, 2015). When health services are clear about the economic value of the services they provide, it is easier to justify the cost to funding bodies or to make decisions about where resources should be spent (Mauskopf et al., 1998). Various methods of economic analysis are available, depending on the nature of the initiative and the desired presentation of results. Regardless of the method, the analysis will consider the costs and the consequences (anticipated benefits) of the activity (Drummond, 2015). Results are then presented in different ways, depending on how the analysis is done or what costs and consequences are considered. Traditional cost-benefit analyses compare the costs and benefits of an activity in dollar terms, while cost-effectiveness analysis compares the costs of an activity with a single consequence (Coast, 2004). Both require the consequences to be costed for analysis. When analysing the impact of a service development program or initiative, there are often a range of inputs and outputs which are not all easily quantifiable as a cost (Gage et al., 2006; Nguyen et al., 2019; Villar & Strong, 2007).

In this study the costs are quantifiable, but the consequences will have different impacts or benefits for the various stakeholders involved.

A cost-consequence analysis is an alternative approach to economic analysis that enables researchers to outline the costs and consequences in a table or balance sheet for the reader or decision-maker to consider, depending on their own context or values (Coast, 2004; Gage et al., 2006). In a cost-consequence analysis the consequences or benefits can relate to different stakeholders using a range of outcome measures (Gage et al., 2006). Researchers should include as many of the costs and consequences as feasible (Mauskopf et al., 1998). This may include qualitative and quantitative measures. The table or balance sheet clearly outlines what is included and how it has been calculated, which allows the reader to make an informed decision (Coast, 2004). When undertaking a cost-consequence analysis, it is important for researchers to explain how the costs and consequences were measured so that the reader can make informed decisions and judgements. It is also important to describe the context in which the analysis was done so that the reader can decide whether the research conditions were relevant or transferable to their setting or situation (Gage et al., 2006). They can also consider the costs and consequences that are most relevant to them (Mauskopf et al., 1998). Without a clear outline of method and analysis, the cost-consequence analysis will be open to bias and subjectivity.

For the purpose of this research the costs and consequences to be analysed were discussed with the project management team to ensure they were comprehensive and meaningful to the various stakeholders. As the state government was the funding body, the analysis needed to be presented in a way that would help make an informed decision about whether the AHRGP was value for money and an effective initiative.

The costs included in this analysis include tuition, cost of employing a project manager, quarantined study time and time required for supervision and support of the trainees. The consequences or benefits of the AHRGP were turnover of trainees including recruitment costs and intention to stay, progression in employment classification, time spent undertaking service development activities, confidence, competence and job satisfaction of trainees.

Costs

The costs were collected in the following ways:

- Tuition costs, wages and on-costs for project managers were provided by SA Health at each of the data phases. They also provided the employment start and end date for each of the trainees (where applicable) to calculate the total months employed and the pathway start and end date to calculate the months it took to complete the pathway.
- In phases 2 and 3, the trainees were asked to quantify how much time they were spending studying, undertaking service development projects and receiving supervision; managers and supervisors were asked to quantify how many hours they were spending supporting the trainees.
- The cost of the salaries were calculated using the South Australian public sector enterprise agreement which the staff were employed under (Chief Executive, 2021; Government of South Australia, 2017).

Consequences

It is challenging to capture the economic benefits of retention as the costs are wide-ranging, and many studies have explored retention strategies, but few have measured their effectiveness (Battye et al., 2019; Wakerman et al., 2019). Measuring the cost of recruitment rather than the benefit of retention is one way of quantifying these costs. Chisholm and colleagues measured the cost of turnover of allied health professionals in regional, rural and remote areas (Chisholm et al., 2011) and included the following costs in their analysis:

- Vacancy costs (cost of locums, overtime and expenses related to patients being unable to be seen)
- Recruitment costs (cost of advertising, searching, interviewing and relocating of new staff)
- Orientation and training costs for new allied health professionals

These cost calculations were used to measure the approximate costs associated with recruitment and turnover of staff in this research. By measuring the cost of recruiting new allied health

professionals, in conjunction with average regional LHN turnover data and the AHRGP trainee retention rates, it is possible to approximate the benefits of the AHRGP in SA.

The average total costs for recruiting a new allied health professional based on these cost factors are outlined in Table 7. Key economic statistics from the Australian Bureau of Statistics (Statistics, 2020) have been used to adjust costs from the 2011 Chisholm study to current prices.

Table 7: Average turnover costs

	Average total cost of recruiting a new allied health professional	**Average total cost of recruiting a new allied health professional (2020 adjusted)**
All health services	$26,721	$32,867
Regional health services	$23,010	$28,302
Rural health services	$26,721	$32,867
Remote health services	$45,781	$56,311

(Adapted from Chisholm et al., 2011)

Chisholm et al. (2011) used the following categories in their analysis: regional (less than 200 km from metro with a population of more than 10,000), rural (more than 200 km from metro with a population of more than 5000) and remote (more than 200 km from metro with a population of less than 5000). According to this classification, the trainees were based in rural areas except for Murray Bridge and Victor Harbour, which are regional. For the purpose of the calculations the ‘all health services’ category was used.

Secondary benefits relating to how long the trainees were intending to stay beyond the pathway completion, career progression, time spent undertaking service development projects, confidence, competence and job satisfaction were also collected via survey in phases 2 and 3 from the trainees and were reported descriptively for the reader to consider in terms of the impact and benefit from the organisations, trainees and communities as relevant.

Temperament and characteristics methodology

Individuals are attracted to working in rural areas for a range of reasons. Some move to be closer to family or friends, for the job opportunities, for broad clinical experiences or for the opportunity to advance their career (Devine, 2006; Keane et al., 2011; Lee & Mackenzie, 2003). Several studies have investigated the personal characteristics and temperaments of individuals that are attracted to rural and remote practice (Campbell et al., 2013; Eley et al., 2011; Eley et al., 2015; Eley, Young, & Shrapnel, 2008). The Temperament and Character Inventory (TCI) (Cloninger, 1994) is a 140-question Likert-scale survey that is designed to describe individual personal traits against seven categories. The TCI uses a biopsychosocial model with four temperament and three character traits. Temperament traits are associated with genetic inheritance and not easily modified. Character traits are influenced by environment and life experiences and may therefore modify over time. Although each individual's personality is the result of the seven traits interacting to influence behaviour and actions, the TCI does provide individuals with a score, or level, for each trait of very low through to very high (Cloninger, 1994). Table 8 outlines the seven traits and associated descriptions of high and low scorers.

Table 8: TCI traits and descriptions of high and low scorers

Temperament traits	High scorers	Low scorers
Harm avoidance	Worrying and pessimistic Fearful and doubtful Shy, fatigable	Relaxed and optimistic Bold and confident Outgoing, vigorous
Novelty seeking	Exploratory and curious Impulsive, disorderly Extravagant and enthusiastic	Indifferent, reflective Frugal and detached Orderly and regimented
Reward dependence	Sentimental and warm Dedicated and attached Dependent	Practical and cold Withdrawn and detached Independent
Persistence	Industrious and diligent Hard-working Ambitious and overachiever Perseverant and perfectionist	Inactive and indolent Gives up easily Modest and underachiever Quitting and pragmatist

Temperament traits	High scorers	Low scorers
Character traits		
Self-directedness	Mature and strong Responsible and reliable Purposeful, self-accepted Resourceful and effective Habits congruent with long-term goal	Immature and fragile Blaming and unreliable Purposeless, self-striving Inert and ineffective Habits congruent with short-term goals
Cooperativeness	Socially tolerant Empathic, helpful Compassionate and constructive Ethical and principled	Socially intolerant Critical, unhelpful Revengeful and destructive Opportunistic
Self-transcendence	Patient Creative and self-forgetful United with universe	Impatient Pride and lack of humility Scientific/objective

(Eley et al., 2011) (Adapted from Cloninger et al., 1994)

Various Australian studies have utilised the TCI to explore the personal attributes of health professionals and students working in rural and remote areas to better understand possible influences of personality on workforce recruitment and retention (Campbell et al., 2013; Eley et al., 2011; Eley et al., 2015; Eley, Young, & Shrapnel, 2008). For this reason, the research design in phase 1 included the TCI in order to provide trainees with insight into their personal traits and how this might influence their decisions around work location choices. It also facilitated the research team to explore any patterns or trends in this first SA trainee cohort.

Participant recruitment - inclusion and exclusion criteria

Purposeful sampling was used throughout the research. Twelve AHRGP training positions were funded by SA Health, and it was anticipated that all trainees would participate in the research as well as their supervisors, managers and clinical leads. The number of consumer representatives was projected to be one person per region in which a trainee was working. Previous AHRGP studies had included various sample sizes (Barker et al. 2021, McMaster et al. 2021, Nancarrow et al. 2015) and the sample size for this study was set by SA Health. The use of multiple methods

over four phases enabled the development of deep and comprehensive understanding of the research questions despite a relatively small sample. All early career allied health professional participants were employees of SA Health and were either self-nominated or nominated by a supervisor, manager or clinical lead to participate in the rural generalist pathway. They needed to be sponsored by SA Health to access the pathway, which included a study time allocation at work, enrolment in the James Cook University rural generalist training program, discipline-specific supervision, line manager support, central support from the Rural Support Service (RSS) rural generalist project coordination team and encouragement to undertake service development or quality improvement activities.

Discipline-specific supervisors and non-discipline-specific line managers were working directly with a rural generalist trainee and had knowledge of their workload, involvement in the generalist pathway and time off for study.

Clinical leads representing occupational therapy, physiotherapy, podiatry and speech pathology were responsible for the clinical governance of their profession and were more indirectly responsible for the trainees themselves. Three of the four clinical leads were also directly supervising a trainee and answered questions in the interviews for both roles.

Consumer representatives were members of their LHN board and in a consumer advisory position; all regional LHNs were invited to nominate a consumer representative to participate.

The project coordinators of the program were centrally coordinating the rural generalist pathway and supporting trainees, managers and supervisors indirectly through advocacy and regular teleconferences. They also coordinated the funding and ensured each trainee had a designated supervisor and manager.

Participant recruitment strategies

The project coordinator provided the research team with a list of potential participants (trainees enrolled in the pathway, their supervisors, managers, clinical leads and consumer representatives),

and the researcher invited them to participate via email along with sharing the approved information sheets and consent form. This strategy aimed to avoid potential participants from feeling obliged to participate and to protect their anonymity. Participants details were de-identified for reporting purposes and from SA Health project coordinators. When there were changes in staffing between phases, new managers, supervisors and clinical leads were invited to participate in phases 2 and 3 via the same method.

Trainees who discontinued the pathway before finishing the training were invited for interview when they left to ensure their experience and perceptions were included in the results. The collection of their data discontinued after this time and is clearly outlined in the results.

Data analysis

Qualitative analysis

Interviews and focus groups were transcribed by a professional transcription service; two transcripts were reviewed against the audio for accuracy and were found to be highly accurate. Any wording that could not be understood by the transcribers were time-stamped, and the researcher listened to the recordings to identify the misunderstood words (often context specific or relating to specific allied health or SA Health terminology).

For coding purposes, participants were to assigned groups (trainees, supervisors, managers, advanced clinical leads, project managers and consumer representatives); separate files were kept for each group at each stage of the research (pre, mid and post pathway). The transcripts were coded using NVivo to assign quotes to individual statements relating to their meaning. Codes are the smallest pieces of analysis describing a noteworthy aspect of the data that help to answer the research questions (Clarke & Braun, 2017). Codes were named as close to the actual quote as possible to ensure they were attributed to the actual statements and not misinterpreted later during analysis. The first two interview transcripts were coded by a second researcher and codes were compared for consistency. A high level of consistency in coding and naming was found and subsequently the remaining transcripts were coded by the primary researcher.

Once the codes were completed, each group was analysed by phase and the codes were searched for meaning to find similar codes that could form categories. The categories were reported in tables with the associated findings and quotes. This process of analysing codes for meaning and grouping them by similarity of meaning is known as thematic analysis (Bazeley 2009). Using thematic analysis gives qualitative analysis a structure and ensures the process is transparent and rigorous (Clarke & Braun, 2017).

Once the codes and categories were identified for each group they were compared at each phase for further analysis to identify themes, similarities and differences across participant groups (Bazeley, 2009). The phases were analysed separately and reported to SA Health via formal research reports. This analysis at a phase level enabled the researchers to examine the themes that emerged over time as the AHRGP was established to explore experiences at different time points and stages of engagement with the pathway. At the end of the fourth phase, the themes, categories, findings and quotes from all four phases were brought together to identify patterns and overarching themes. The categories were compared and changes over time were considered for meaning. Emerging themes across the phases were discussed amongst the researchers to ensure a rigorous process.

Quantitative analysis

The quantitative data was analysed according to the methods relevant to the data being collected. The economic and workforce data was analysed using a cost-consequence approach, which involves presenting the data in a descriptive table outlining the estimated costs and consequences or benefits for the reader to assign meaning to, based on their perspectives and relative importance of factors (Drummond, 2015). This method has been used in clinical settings where the consequences are diverse, with benefits impacting a range of stakeholders, and limitations exist in terms of generating concise or conclusive recommendations (Gage et al., 2006; Webb et al., 2019) but were relevant for the multiple stakeholders and benefits relevant to this research. The costs and consequences outlined in the descriptive table were then described and discussed in context to assist the reader to draw their own conclusions about the economic implications of the pathway.

Studies with a small sample size but with quantitative data about the sample are often reported using descriptive statistics as there are not enough participants to warrant more sophisticated statistical tests while still capturing the characteristics of the participants. This might include measuring the mean, median, range and standard deviation (Ross & Willson, 2017). The workforce data was analysed by calculating the means, medians, range and standard deviation where applicable of the quantitative data captured at each of the research phases. For some data collected it was more appropriate to describe the findings: that is, demographic information and personal and professional factors.

Data collected about satisfaction, confidence and competence was reported at each phase and compared across phases to identify changes and trends descriptively. This data was also included in the economic analysis for consideration of the overall impact of the pathway. For the purpose of tracking changes in satisfaction, confidence and competence from phase 1 to 3, mean and standard deviation scores were calculated and compared over time; these were presented in a table and graph to demonstrate the changes.

The TCI trait scores were exported from the online portal (Cloninger, 2013) into Excel for analysis. This data included individuals' average raw scores, t scores and percentiles for each characteristic or trait. These scores were then analysed in the spreadsheet for any similarities and differences across the group to determine whether any particular characteristics or traits were associated completion or non-completion of the generalist pathway. In phase 3, the trainees also reflected on their TCI scores and how these traits and characteristics may have impacted on their decision to live and work in a rural area and undertake the generalist pathway. This reflection activity explored the trainees' personal factors more deeply than in previous interviews and allowed for consideration of factors beyond the workplace that impacted on their experience.

Convergent mixed methods analysis

In a convergent mixed methods approach the qualitative and quantitative data are analysed separately and then brought together for further analysis. Side-by-side analysis involves presenting both sets of data and exploring the meaning and understanding that emerges from combining them

in the discussion to describe and interpret where the various findings converged or diverged (Creswell & Creswell, 2018). This side-by-side approach is relevant to particular aspects of this research when considering the contextual factors and outcomes of the AHRGP; for example, the economic evaluation will consider quantitative outcomes of the pathway, but it will be important to also consider the experiences and contextual factors emerging from qualitative findings when making recommendations for the future. Aspects of weaving of qualitative and quantitative findings together will also be relevant where findings are analysed for interpretation (Fetters et al., 2013). For example, when considering the personal attributes of trainees, it will be important to consider the quantitative and qualitative findings at the same time to generate robust and comprehensive recommendations. This converging of data through analysis can be presented through narrative discussion (Fetters et al., 2013) or visually in a table outlining the qualitative and quantitative and demonstrating how the data came together and was interpreted (Creswell & Creswell, 2018). In this research, the findings will be separated into chapters relevant to the various research aims. Qualitative and quantitative data will be reported separately and analysed and interpreted in a discussion in each chapter to demonstrate the side-by-side nature and weaving of findings. At the conclusion of the results chapters, the findings will be synthesised into a table to visually represent the interpretation of findings, and then all of the synthesised findings will be discussed in a combined overall discussion.

Ethical considerations

The research was conducted in rural SA public health sites where allied health rural generalist trainees were based (**Whyalla, Wallaroo, Kadina, Port Pirie, Berri, Mount Gambier, Port Lincoln, Port Augusta, Murray Bridge**). Ethics was approved by Southern Adelaide Clinical Human Research Ethics Committee on 21 August 2019 HREC reference number: HREC/19/SAC/170. Site-specific assessments were also approved by the six regional LHNs at this time.

Reflexivity

Reflexivity is an important aspect of qualitative analysis where researchers acknowledge their attitudes and biases in the research process and reflect on what is emerging from the data and how they are influencing the meaning that is emerging (Sundler et al., 2019). Qualitative research is inherently subjective and the role of the researcher plays an important role in shaping the process and outcomes (McGrath, 2021). It is imperative that researchers question the data and reflect on the influence they are having on the findings; analysing as part of a team helps to reduce misinterpretation and misunderstanding (McGrath, 2021; Sundler et al., 2019).

It was important for the researcher to acknowledge that SA Health commissioned the researcher to undertake this work because of the professional relationship the project team had established in previous projects and work roles. Rapport and trust had already been established and the researcher had worked with the team extensively in the past. The researcher brought knowledge, values, beliefs and experiences that were relevant to the project but also had the potential to bias the results. Some of these include a background living and working in rural areas, a desire for rural populations to have appropriate, accessible, quality health services and outcomes and an aim to find ways of improving retention of allied health professionals in rural areas. It was important for the researcher to acknowledge and identify the impact this was having on the research findings at all stages of the project. The background knowledge and experience of the researcher was also a source of strength for this study. A constructivist approach enabled the researcher to consider the impact they had and also helped to consider the multiple perspectives, ideas, values and views of the various stakeholders. A range of strategies were used by the research team to both acknowledge the inherent bias but also identify the strengths of the team in the design of the research and the analysis of the findings. The researcher wrote a reflection immediately after each interview to explore feelings, perceptions and reactions to the conversation, and these were reviewed during the analysis of the interviews. At each stage of the research, the team discussed the findings and categories and any personal experiences or knowledge that were impacting on the results; these conversations brought together the various experiences and perceptions of the

research team that both challenged and supported the research findings. The results were compiled into research reports at each phase and reported to the SA Health project team for scrutiny. This process brought different perspectives to the findings that were discussed thoroughly. While the SA Health team did not have access to the raw or identifiable data, they were involved in the planning of the research design and were invested in the outcomes. While not challenging what was found in the phases of research, the SA Health team reviewed the reports to ensure the content was logical and presented in a way that was accessible for their stakeholders. They also gave advice about how results could be presented to ensure they were relevant and translatable for SA Health staff.

Validity and reliability

Research can demonstrate validity through measuring what it set out to measure (Imms & Greaves, 2013). Reliability is demonstrated through collecting consistent data over time and across sources (Schofield & Forrester-Knaus, 2017). In mixed method studies the reliability and validity needs to consider both the qualitative and quantitative aspects. Using mixed methods helps to increase the strength of the results by using the methods that best represent the phenomena (Maarouf, 2019). The reliability of this study was strengthened by using the same sample for both the qualitative and quantitative methods, although within the economic analysis, some comparison with the whole allied health population across regional LHNs was necessary to quantify the cost benefits.

In terms of the quantitative validity, it is important to consider the ability of the tools used to collect data being able to accurately measure the behaviour or outputs that are being investigated (Imms & Greaves, 2013). The design of the quantitative methods have been outlined and were based on evidence-based approaches to measuring the impact of training (Yardley & Dornan, 2012) and the economic evaluation of programs (Drummond, 2015). The methods were also designed on previous methods of costing workforce turnover (Chisholm et al., 2011).

In contrast, qualitative validity is more about the credibility of findings and concerns the accuracy of the findings and transparency of how they were identified. In order for research to be valid and credible the research methodology and methods must be transparent to the reader. It should be clear how the analysis was undertaken, how the meaning was derived from the data and how themes were identified and these need to be logical, clearly presented and illustrated with quotes to ensure meaning is transparent and consistent (Sundler et al., 2019). Qualitative validity can be strengthened through deep illustration of findings, the use of multiple sources of data and revisiting or reflecting on findings with participants (Tracy 2010, Creswell & Creswell 2018). In this study the following strategies suggested by Creswell and Creswell (2018) were used.

Triangulation – stakeholders were sourced across the regional LHNs that were impacted by the rural generalist pathway, including the trainees themselves, their managers and supervisors who were deeply involved and impacted by the training as well as the advanced clinical leads and the SA Health project managers who brought a broader more strategic perspective to the pathway. Consumer representatives were also involved to explore their perceptions and experiences. This multilevel sampling ensured the findings brought multiple perspectives, experiences and views to present accurate, trustworthy results.

Member checking – checking the validity of the results with stakeholders was done at multiple points throughout the research. The project managers were involved in reviewing and checking the synthesised findings at each of the four research phases to ensure the results were consistent with their experiences and understanding. The participants were also followed up on multiple occasions to continue to explore their experiences and build on their findings. After the first data collection round, participants were reminded of what they reported in the previous round and encouraged to continue to reflect on and describe their experiences as they evolved over time. The consumer representatives were provided with a copy of the synthesised findings and given the opportunity to make comment or changes to the findings to ensure they were a true representation of the focus group conversations.

Presenting rich descriptions of the findings and describing all findings, not just those that fit with a theme – rich descriptions of the findings and associated quotes from participants were collected and described in tables throughout the results section. Discrepancies in findings were described to represent the data accurately; it was inevitable that these would arise with the wide variety of participants sampled.

Debriefing and sharing of findings – as this study was done as part of a higher research degree, a high level of supervision was provided by three primary supervisors. Debriefing and sharing of findings were carried out fortnightly throughout the study to discuss the results, processes and ideas for the presentation of findings.

Clarifying bias – through reflexivity the research team identified potential biases and discussed the data analysis process together to acknowledge and address personal perspectives and experiences impacting the results and discussion. For example, the researcher had worked with a range of the participants in the past and through reflection after each interview and debriefing with the team was able to identify the impact these professional relationships may have had on the answers participants gave and the way their responses were interpreted during coding and analysis.

Limitations

Limitations of the methodology relate to the participant recruitment and learning throughout the process. It was not possible to get in contact with some of the managers of trainees; the ethics approval stated that potential participants would be invited by email with a follow-up reminder sent if no response was received. Some of the managers did not respond to the email invitations or reminders and so were not included in the study. This results in some LHN experiences of the pathway having a stronger impact on the results than others.

In terms of exploring the experience of working in rural and remote areas as an allied health professional, it must be acknowledged that the participants exploring this phenomenon were all engaged in the AHRGP either directly or indirectly and so may not be a true reflection of the

experience of allied health professionals more broadly. The results for this area should be viewed with caution as the sampling may have been biased towards clinicians who were invested in training to become a rural generalist or supporting someone who was. To eliminate this limitation a broad range of stakeholders were interviewed, and trainees who did not complete the pathway were also interviewed to explore their experiences and reasons for discontinuing. Early career allied health professionals who were not given the opportunity to do the pathway were not involved in this research, and it should be noted that their voice is also important in understanding the experience of living and working in rural and remote SA.

As the researcher was learning how to conduct a mixed methods study, learnings throughout the process were adopted and modified throughout the phases of the study. For example, interviews were more in-depth and considered in later stages of the study, more comprehensive information was sought and through reflection and experience the researcher became more confident in analysing and reporting on data. To overcome this limitation the researcher reviewed early findings and codes for further analysis and consideration and rigorously questioned findings and meaning with the research team to uncover any hidden meanings and new findings.

Chapter summary

This chapter has outlined the methodology and methods used throughout this research. Mixed methods have been utilised to undertake a comprehensive exploration of the impact and experience of the AHRGP introduction in SA. The qualitative and quantitative aspects of the methodology were outlined as well as how the various approaches would come together for analysis and discussion. A pragmatic approach to analysis was used with a focus on what works throughout the study. Kirkpatrick's four levels of evaluation (Kirkpatrick & Kirkpatrick, 2016) were used throughout the design process to ensure the analysis of the implementation of the rural generalist pathway was comprehensive and robust.

CHAPTER 5: RESULTS OVERVIEW

Chapter overview

A convergent mixed methods study was conducted in four phases between 2019 and 2023. Each phase involved concurrent qualitative and quantitative methods that were analysed separately and are reported together over eight chapters to explore consistencies and inconsistencies and extension of the findings. At the beginning of this chapter the program logic framework and Kirkpatrick model that were used to shape the data collection methods will be revisited, and then the demographics of the research participants will be described to set the context. The remainder of the results will outline the findings according to each of the seven research questions. All four research phases will be included in reporting and analysis of data as appropriate.

Table 9: Chapter outline

Chapter heading	Research questions addressed
Results overview (see Participant demographics)	This information is relevant to all of the research questions and sets the scene.
Opportunities and challenges of working in rural and remote areas	1. What are the workforce opportunities and challenges for allied health professionals in rural and remote SA?
Allied health professional experiences of the allied health rural generalist pathway	2. What is the experience of allied health professionals participating in the AHRGP and the impact on their skills, abilities and knowledge for practice?
Service leader experiences of the allied health rural generalist pathway	3. What are the experiences and perceptions of the AHRGP for managers, supervisors and clinical leads?
Consumer impacts of the allied health rural generalist pathway	4. What impact has the AHRGP had on consumers?
Organisational impacts of the allied health rural generalist pathway	5. What impact has the AHRGP had on health services and workforce outcomes?
Contextual factors for success	6. Where does the rural generalist pathway work? Which professions and individual characteristics are particularly suited to the AHRGP?
Economic analysis	7. Is the AHRGP a cost-effective workforce strategy for the rural regions in SA?

Program logic

A program logic approach has underpinned this research design; this has enabled the clear demonstration of the context, inputs, activities, outputs, outcomes and impacts of the AHRGP implementation in SA. Using a program logic approach helped to identify what the focus of the research would be in measuring the experience of participants and the effectiveness of the pathway overall. The way in which the framework is captured in the results is outlined in Table 10.

Table 10: Program logic approach to results

Program logic elements	Demonstration of elements in results
Influences	Chapter 6 explores influences including the benefits and challenges of working in rural areas from the perspective of the trainees and the service leaders. This also gives context to the environment in which the pathway was undertaken. Additional contextual factors are described in this overview chapter.
Resources/inputs	Chapter 12 describes the inputs in terms of the costs of the program for the individuals and the employing organisation.
Activities	This results overview as well as chapters 7, 8, 9 and 10 explore study-related activities, supervision, quality improvement projects and application of learning to practice from the perspectives of all stakeholders.
Outputs	This results overview chapter describes the training outputs in terms of number of trainees who participated, discontinued and completed the pathway.
Outcomes: individual	Chapters 7 and 8 describe the individual outcomes for participants, supervisors, managers and clinical leads. Chapters 7 and 8 also explore the benefits, challenges, enablers and barriers influencing trainee experiences of the pathway. Chapter 11 outlines the context in terms of the factors that influence the experience and effectiveness of the pathway.
Outcomes: organisational/ community	Chapters 9 and 10 explore the outcomes of the pathway for organisations and consumers. Chapter 12 describes the costs and benefits.

(WK Kellogg Foundation, 2004)

Kirkpatrick levels of evaluation

While program logic helped guide what would be the focus of the research, Kirkpatrick's four levels of training evaluation guided how the AHRGP would be evaluated/researched. This framework gave a structure to the research questions, methods and presentation of findings. Table 11 outlines how the results will be presented in relation to Kirkpatrick's levels.

Table 11: Kirkpatrick levels and results

Kirkpatrick level	Description	Representation in results
1. Reaction	Perspectives of the training, satisfaction, relevance, quality and overall impressions (Yardley & Dornan, 2012).	The trainees' experience and perceptions are covered in Chapter 7. • Perceived personal/professional benefits and challenges of the pathway • Satisfaction with the pathway • Relevance of coursework • Relevance of work-based projects
2. Learning	What did the participants learn in terms of knowledge and skills? (Reio et al., 2017) How did the training impact confidence and attitudes? (Kirkpatrick & Kirkpatrick, 2016)	Trainees' learning is reported in Chapter 7. • Initial goals reported against actual learning acquired • Trainees' perceived confidence working as a rural generalist over the phases
3. Behaviour	What have the participants applied from their training to their work? How are they using their learnings? (Kirkpatrick & Kirkpatrick, 2016)	Behavioural changes are reported in chapters 7 and 8. • Supervisor and manager perceptions of trainee behavioural changes that were observed during the pathway are reported in research question3. • Supervisor and manager perceptions of trainee confidence and competence changes are reported in research question 3. • Service development projects initiated by trainees and the enablers and barriers to implementing them in their practice are discussed in Chapter 7.
4. Results	Organisational changes including benefits to	Organisational, consumer and staff impacts are reported in chapters 8, 9 and 10.

Kirkpatrick level	Description	Representation in results
	consumers and staff (Yardley & Dornan, 2012).	• Consumer representatives' perspectives of quality allied health services and a review of these factors against the outcomes of the AHRGP are described in Chapter 9. • Supervisor, manager, clinical lead and project manager perceptions of the impact of the pathway on the organisation/teams/profession and themselves and consumers is also reported in chapters 8, 9 and 10. Trainee perceptions of these broader impacts are also included. • Trainee workforce outcomes and completion rates were also reported in Chapter 5 and in chapters 10 and 12 to explore the direct organisational impacts. • The suitability of the pathway for different demographics and circumstances is discussed in Chapter 11. • The cost-effectiveness of the pathway is reported in Chapter 12.

Participant demographics

Trainees

A total of 15 trainees participated in the research across all six rural regions. Initially 13 trainees commenced the training in 2019, but as some discontinued in 2019 and 2020, an additional two trainees were recruited to undertake the pathway. All trainees consented to participate in the research.

Managers

In phase 1, seven managers consented to participate; during phases 2 and 3 an additional six managers were recruited to participate due to staffing and operational reporting changes. As a result, not all managers participated in all three phases of the study. Some managers of trainees did not consent to participate in the research, and as a result the results sections relating to

manager perspectives are not representative of all managers who were responsible for trainees. It is important to note that between 2019 and 2022, the regional LHNs were working through significant restructuring processes which may have impacted on who was operationally responsible for allied health professionals undertaking the AHRGP; in some instances, the operational support was assigned to a clinical senior allied health professional rather than an operational manager. For the purpose of this research, the term ‘manager’ encompasses participants who were in team leader, manager and director roles who were responsible for at least one trainee in their organisation; in most circumstances they were working with more than one trainee in their region. Clinical senior allied health professionals were not included in this group; however, several were included as trainee supervisors.

Supervisors and clinical leads

Nine supervisors and six clinical leads participated in the research. Four of the clinical leads were also supervisors of trainees in the level 2 pathway, and as a result, their perceptions and experiences were reported as lead clinicians and supervisors. There were also a range of changes to supervision arrangements during the research phases, mostly when trainees were promoted or changed positions. The supervisors supported one trainee each; however, one clinical lead was supervising two concurrently and reported on the experience of supporting both. The supervisors of four of the trainees who participated in the pathway for a short time did not participate in the research although the relevant clinical lead was able to give some insights into their experience before discontinuing where relevant. Otherwise, all trainees had at least one supervisor who participated in the research.

Project managers

Four project managers consented to participate, three of whom participated in all three phases. This group included two AHRGP project managers, one allied health project manager and one allied health principal consultant. The AHRGP project managers were responsible for coordinating the AHRGP across all regions, for being the conduit with the education provider, for ensuring all trainees had a designated supervisor and for guiding and supporting the trainees within the

pathway as needed. The allied health project manager and principal consultant worked at a strategic level, not directly with the trainees. The RSS employed all of the clinical leads and project managers which operationally report to region 5 but supports all public health services across rural and remote regions in the state.

Collectively this group of managers, supervisors, clinical leads and project managers where appropriate will be referred to as service leaders.

Consumer representatives

Seven consumer representatives consented to participate; however, due to personal unforeseen circumstances on the day of the focus groups, five participated in phase 1 and five in phase 3 (see Figure 2 for timing). Consumer representatives from each of the six regional LHN boards were invited to participate. In phase 1, six agreed to participate, and then in phase 3 the boards were contacted again to identify any changes to the representatives. As a result, one additional person agreed to participate, and one was no longer available.

Tables 12 and 13 outline the research participants by region and research phase.

Table 12: Research participants and their associated regions

Region	Trainees	Managers	Supervisors*	Clinical leads*	Project managers	Consumer representatives
Region 1	1	2	0			
Region 2	4	7	2			1
Region 3	4	0	2			3
Region 4	4	1	3			2
Region 5**	1	0	1	6	4	
Region 6	1	3	1			1
Total	**15**	**13**	**9**	**6**	**4**	**7**

* Four of the six clinical leads were also directly supervising trainees.
** Region 5 includes the centrally coordinating RSS.

Table 13: Participants involved in each research phase

	Phase 1	Phase 2	Phase 3	Phase 4	Total number of participants
Level 1 trainees	9	8	4*	3	10
Level 2 trainees	4	5	5*	4	5
Supervisors	9	9	7		9
Managers	7	6	9		13
Clinical leads	4	4	5		7
Consumer representatives	5		4		7
Project managers	3	3	4		4
Total participants	**41**	**35**	**38**	**7**	**55**

* Two of the trainees in phase 3 had not completed the pathway but participated in phase 3 as they left between midway and the end.

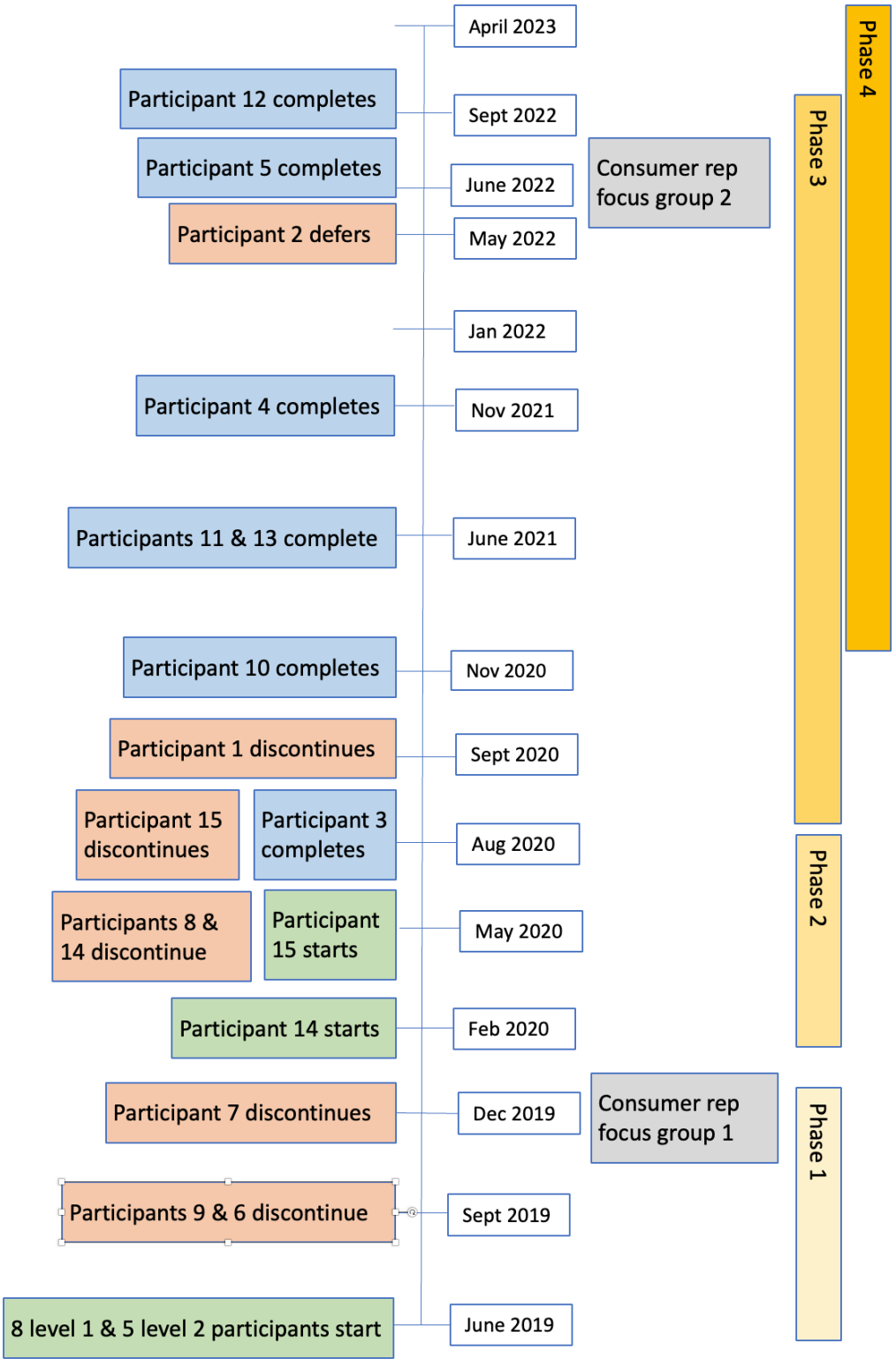
Research phases

AHRGP trainees commenced the pathway between June 2019 and May 2020 and finished between August 2020 and September 2022. Phase 2 was conducted in 2020 when most of the trainees had participated in two semesters of the AHRGP but had not necessarily completed half of the education modules. In order to understand the experience and impact of the pathway overall, the trainees and their associated service leaders were invited to participate in phase 3 once they had completed the pathway; the timing of this was highly variable. When trainees chose to discontinue, they were contacted to participate in a final interview to conclude their involvement in the research. Data was collected by interview and survey between 2019 and 2022:

- Phase 1 – pre-program interviews and surveys were completed between September and November 2019
- Phase 2 – mid-program interviews and surveys were completed between April and June 2020
- Phase 3 – post-program interviews and survey were completed between August 2020 and June 2022

Figure 3 outlines the timeline for trainees and the research phases.

Figure 3: Research phases and timeline



Allied health rural generalist trainee outputs

In the first half of the AHRGP, six level 1 trainees discontinued the pathway. Between the midway and final evaluation, one trainee discontinued, and another deferred from the AHRGP to pursue a career opportunity interstate. This indicates relative stability in the second half of the pathway, with seven trainees completing. For the purpose of this research the trainee who deferred will be counted as completing as they had not withdrawn from the program or resigned from their job. All trainees who discontinued were in the level 1 pathway. Table 14 outlines the number of trainees completing and discontinuing the AHRGP.

Table 14: Trainee distribution by pathway level

	Commenced in 2019/20	Discontinued pathway	Completed pathway	Continuing pathway beyond 2022
Level 1 trainees	10	7	3*	0
Level 2 trainees	5*	0	4	1
Total	**15**	**7**	**7**	**1**

* One trainee moved from level 1 to level 2 in 2020.

Employment type

All seven trainees who completed the AHRGP were employed on a permanent basis. Since beginning the pathway until June 2022, all of the trainees had either been promoted to a higher allied health classification level or participated in temporary higher duties with leadership or senior-level responsibilities. Of the eight trainees who discontinued or were continuing beyond phase 4, five were employed on a permanent basis and three were employed in time-limited contractual positions.

Allied health profession and region distribution

AHRGP trainees were distributed across five allied health professions (occupational therapy, physiotherapy, podiatry, social work and speech pathology) and all six regions. The trainees who

completed the pathway by the end of 2022 were distributed across four allied health professions and two regions.

Three of the completing trainees moved to another region or to another town within their region during or directly after the pathway for career advancement opportunities. This is a positive retention outcome, with allied health professionals moving within rural areas to progress their career and pursue leadership opportunities without feeling the need to move to a metropolitan centre to do so. The distribution of trainees by profession and region is outlined in tables 15 and 16.

Table 15: Trainee distribution by profession

	Commenced in 2019/20	Discontinued pathway	Completed pathway	Continuing pathway beyond 2022
Occupational therapists	4	1	3	
Physiotherapists	3	1	2	
Podiatrists	4	2	1	1
Speech pathologists	3	2	1	
Social workers	1	1	0	

Table 16: Trainee distribution by region

	Commenced in 2019/20	Discontinued pathway	Completed pathway	Continuing pathway beyond 2022
Region 1	1	0	0	1
Region 2	4	0	4	
Region 3	4	4	0	
Region 4	4	1	3	
Region 5	1	1	0	
Region 6	1	1	0	

Chapter summary

This overview has outlined the way in which the results will be presented and how the evaluation frameworks will be incorporated across the research chapters. The demographics of participants have also been outlined, including the number of trainees, supervisors, managers, clinical leads, project managers and consumer representatives, along with contextual factors specifically related to the trainees. In the next chapter a broad exploration of the experience of working in rural and remote areas will be described to give context to the remaining chapters that will outline the experiences and outcomes of the rural generalist pathway specifically.

CHAPTER 6: OPPORTUNITIES AND CHALLENGES OF WORKING IN RURAL AND REMOTE AREAS

Chapter overview

In developing an understanding of the context in which this research was undertaken, participants were asked to describe the opportunities and challenges of working as allied health professionals in rural and remote areas. This data was collected in phase 1 of the research as the trainees were beginning the AHRGP. The trainees' own perspectives will be outlined in this chapter and then those of the managers, supervisors and clinical leads (service leaders). To further explore working in rural and remote areas more broadly, the factors contributing trainees leaving or staying in a rural or remote area will also be outlined. At the end of the chapter a discussion will analyse these findings collectively. The findings in this chapter intentionally build on the findings from the systematic review; these will be synthesised in the discussion in Chapter 14.

Table 17: Chapter outline

Trainee perspectives of working in rural and remote areas
Service leader perspectives of early career allied health professionals experience working in rural and remote areas
Discontinuing trainees' reasons for leaving
Trainees' intention to stay in a rural or remote area
Factors impacting trainees' intention to stay in a rural or remote area
Discussion

Trainee perspectives of working in rural and remote areas

Trainees described a range of opportunities and challenges. These emerged in six themes, which are listed here and then discussed in the next sections.

1. Feeling welcome and connected is important – those sorts of things keep you around.
2. Rural locations influence allied health professional experiences – it's great but what's the incentive?
3. Broad clinical experiences are unique to rural practice, but it's like being thrown in the deep end.
4. There are great learning opportunities in rural and remote areas – the skills we've built, you can't get anywhere else.
5. Good support structures make all the difference – you can thrive on it.
6. Retention – you make new friends and six months later they are gone.

1. Feeling welcomed and connected is important

Feeling welcomed into a new work environment and community was highly valued by trainees. They reported it was nice to be working with other young, allied health professionals who were also new to rural practice and that the teams were supportive and looking out for each other. They also reported building friendships with colleagues as a significant support at work and outside of work in reducing the feelings of isolation.

> I think making my own support network here. I've got some really good friends that I've made that all started at a similar time to me, so I was really fortunate in that way, that we all started within a week or two of each other so being able to make our own network. [10]

Some trainees connected to the local community through playing sport, which helped them get to know people, while others found it difficult to integrate into the community or to find things to do outside of work. Towns that had more stable populations appeared to be more difficult to integrate into while towns that had more of a transient population had more to offer new allied health

professionals. Two trainees who had worked in their town for an extended period of time reported on the challenge of the constant turnover of allied health professionals, the implied expectation to invest socially in new allied health professionals and their reluctance to do this.

> Yes, particularly through sports, which most country towns it's the easiest way in, I guess. I think that's probably the biggest one … So, I play footy. [11]

> This probably sounds really bad but sometimes I just can't be bothered wanting to put that effort in to make those connections when so many times I've had the experience of people leaving. [13]

2. Rural locations influence allied health professional experiences – it's great but what's the incentive?

Some trainees moved to a rural location as an opportunity to move closer to family or friends, or they had lived rurally before. For two allied health professionals, the location was close enough to commute each day while living in a metropolitan area, which they saw as a significant advantage.

> Well, if I compare it to other places I'd be applying, like work at the Royal Adelaide, the commute's probably longer trying to get through the city from my place … I think the travel, it's not a huge defining factor about where I'll be working [3]

Being away from family and friends was a significant issue for trainees, especially being geographically isolated from their main support network. Travelling to Adelaide for social engagements, medical appointments, professional development and meetings was time intensive and cut into their own time. Some trainees felt that rural allied health professionals should be remunerated for living in a rural area, considering the challenges they faced, while others described the conundrum of enjoying their job but envisaging they would need to leave eventually when they wanted to have children or for family reasons.

> Yeah, which is really hard because this is, I love, I really like my job. Like it's amazing and it's definitely – I can see myself being able to progress in my job but it's just the

kind of social aspects and like, you know, being a woman and knowing that I want to settle down and have kids and it's like could I do that here? [8]

I think it's challenging that there's no rural living allowance, so there's no – like allied health get – compared to other undergraduate educated people like teachers or things like that, we get paid comparatively less and I think that's really challenging. [12]

3. Broad clinical experiences are unique to rural practice, but it's like being thrown in the deep end

The broad nature of rural experiences was a consistent theme with all trainees and related to the varied case load that rural clinical practice offers. Trainees described being able to work with clients of all ages, with broad clinical presentations. There were reports of having opportunities to try new clinical areas, working across service types and having some choice over the case load they held. They also reported the multidisciplinary nature of working was a significant benefit of rural practice. Trainees appreciated the opportunity to participate in outreach visits to small communities as part of their workload.

I think in the work, I really liked the fact that it was very broad so you could see a two-year-old in the morning with late talking and a 95-year-old with dysphasia in the afternoon, so I really liked that in a lot of ways because I think as a new clinician it was really good to see sort of the whole broad spectrum and get a lot of different experiences. [9]

I think it's a really nice team feel. Like you really get to know the people you work with and across all the disciplines as well. You're not just stuck in your little OT bubble, you are actually getting to know lots of different people. [10]

While the trainees appreciated the opportunity of the broad experiences, they also found this demanding in terms of managing a broad case load across multiple programs and funding streams. They sometimes felt they were being thrown in the deep end. Being expected to work with consumers across all ages and demographics is challenging as allied health professionals are

constantly having to adjust their practice to very different situations. Trainees reported feeling like there was a lot expected of them clinically in rural areas. The case load is often complex, with allied health professionals expected to be responsive to unpredictable clinical demands, long waitlists, small clinical teams and large geographical areas to cover. The administrative workload was also discussed by several trainees, who reported working with multiple funding streams, systems and processes was time-consuming with limited administrative support available.

> Yeah, and it's tiring. Like we're just on the road all the time and overnight stuff, like we're definitely getting burnt out from it … a significant challenge, of only having a team of two but servicing the whole region … you know, massive waitlists and everyone complains about. [2]

> I think it was – it's tricky having so many funding sources because you sort of have like your child work, your child health and development, and then you've got your adult work and there's about six different funding sources so in terms of knowing what your FTE is in each space and like knowing really clearly like targets and stuff like that, it would probably be good to know that more clearly I think. [9]

4. There are great learning opportunities in rural and remote areas – the skills we've built, you can't get anywhere else

The majority of trainees reported working in the country offered good learning opportunities and a supportive transition to clinical work and opportunities for professional growth. A generous training budget and the commitment of organisations to support allied health professionals' access professional development is a benefit of working in rural SA. Trainees reported they had developed skills that they would not have done anywhere else, with opportunities to get to know consumers well, do independent research to determine a course of action and thinking outside the box when working with consumers who are geographically isolated.

> I'm sure there's heaps but, yeah, I just really think the growth aspect to clinicians is really pushed here, allowing people to sort of upskill and to be a part of decision-making, to an extent. [5]

5. Good support structures make all the difference – you can thrive on it

All trainees raised support structures as an important aspect of rural practice. Most reported they had a good relationship with their supervisor and the supervision enabled them to learn, grow, develop new skills, problem-solve and discuss challenges. Some trainees also reported access to supportive managers as being a positive of rural work offering work opportunities and support as needed.

> The support I think is really valuable for me just because I don't really like being – sort of not really knowing what I'm doing, which I think's pretty general for a new graduate [1]

> I feel like the exposure we have to, yeah, our team leaders and our community manager is quite high, so I don't think you'd get that as much in a metro place, metro hospital or something, but I suppose that just comes down to the experience that I've had. [5]

In contrast, many trainees felt like they were not receiving enough support clinically. Some felt that the remote supervision they received was inadequate, and they would have preferred face-to-face support. Some trainees were facing difficulties working with their supervisor or accessing enough support and felt they had limited options for improving the situation, while others were reaching out to other senior allied health professionals for support as needed. A number of trainees reported feeling professionally isolated, with too much autonomy and not enough support to make clinical decisions so early in their career.

> It actually took about six months for my supervision to get set up so for the first six months I was feeling very isolated over there … I would definitely say yes. I feel like

> I've probably struggled my way through this year, and I keep coming back to the reduced level of support. [7]

Trainees found management support to be an imperative aspect of their job satisfaction. Trainees who had good working relationships with their managers reported feeling supported, trusted and involved in decision-making. A range of trainees also reported challenges receiving support from a manager. It was challenging to access a manager, to feel heard or to have their needs met. Reports of managers being reactive rather than proactive and focused on meeting key performance indicators rather than clinical priorities were sources of frustration for trainees. Some early career allied health professionals found the management culture at their workplace to be challenging in terms of innovation and making change. They experienced resistance to change from management, which was frustrating.

> I think a lot of the times low level clinicians like myself feel like higher management don't take into account a lot of our issues around staff retention and recruitment. So, whilst we're kind of saying 'this would help, and this would help' it doesn't really feel like it's translated and listened to sometimes in higher management. [13]

> I didn't have then any support and the team leader wasn't replying to my emails and didn't have time to meet up with me even though I was having to sort everything out and that was a bit disheartening. [6]

6. Retention – you make new friends and six months later they are gone

Retention of allied health professionals and the filling of vacancies was raised by several trainees. Retention of allied health professionals was reported to be a considerable issue, and this had significant repercussions on the remaining team members and the consumers they work with. Trainees reported constantly saying goodbye to new friends was challenging. New staff need to be trained before they can take on a case load, which impacts the workload of others and the services available for consumers. Trainees also identified that vacancies in their team and small staffing allocations were having a significant impact on their own workload and experience of working in a

rural area. Some trainees also reported the challenge of short contracts and a desire for permanency.

> Yeah, it's probably one of the biggest challenges I've found because you make – you know, you make these connections. You make friendships and then, you know, six months later they're gone so I feel like I'm always starting from scratch … I've only been here for three years so I think that has a big impact, I guess, on just consistency in the team and continuity of care and those types of things. [13]

Service leader perspectives of early career allied health professional experiences working in rural and remote areas

Trainees' managers, supervisors and clinical leads explored the benefits, opportunities and challenges they perceived early career allied health professionals were facing working in rural and remote areas. A variety of factors were considered within the following seven emerging themes:

1. Welcoming, friendly teams and towns
2. Moving to a rural area as an early career allied health professional is challenging
3. Rural and remote areas offer unique work opportunities
4. Working in rural and remote areas is complex and demanding
5. Autonomous practice so early in a career either makes or breaks you
6. Clinical governance is vital
7. Commitment to professional development and learning

1. Welcoming, friendly teams and towns

The managers specifically reported their teams were welcoming, inclusive and friendly. This was seen to be imperative for early career allied health professionals. They felt teams were providing good support to new staff as they transitioned into their work roles. Supervisors and managers had found their community to be welcoming of new allied health professionals and described how they had settled into the community themselves. Some managers thought their towns were particularly

picturesque, with interesting leisure options for young allied health professionals. Young allied health professionals tend to socialise together outside of work, which enabled them to build relationships and feel connected.

> I think there's a really good, inclusive, welcoming context from the other multidisciplinary professionals as well where, you know, somebody is welcomed and cared for, it's not just 'oh, here's a new person' and, you know, even the meet and greet in the corridors, people don't seem to take one another for granted; it's kind of nice from that perspective. [46]

> "I think they love the township, per se. I think they love the access to beaches, the access to – and even other townships on the (region), they each have their uniqueness about them which I think if you asked a clinician, they would say each of those little places are wonderful. [18]

2. Moving to a rural area as an early career allied health professional is challenging

Managers and supervisors had supported new allied health professionals experiencing challenges adjusting to living in a rural or remote area away from family or a partner. This was reported to be tough while also transitioning to a demanding new work role. Some early new allied health professionals have a desire to maintain their social lives at home while working in a rural location, which prevents them from integrating into the community. The tiring nature of working five days a week in a new environment and then travelling several hours each weekend to go home was reported to be unsustainable long term. More remote locations reported the weekend travel was very expensive for new clinicians. One supervisor also raised the issue of needing to travel long distances to access specialist health appointments, which required accessing personal leave to do. Limited entertainment options in rural and remote areas can also make it challenging to settle into a new area. Managers discussed significant challenges finding rental accommodation in their towns, which has a negative impact on new allied health professionals who cannot find somewhere

suitable to stay. Usually, tenancies are not available for less than 12 months and some allied health professionals arrive on short contracts, which is an additional hurdle.

> So, probably one of the bigger challenges is being away from family and friends so some want to travel back and forwards, you know, to be with family and friends a lot and I think that can cause issues in terms of fatigue and lots of travel and then having to work a full, busy week and it's not an easy job to do. It is very busy and fast paced, depending on what area they're working in, so if they've then got very busy social life on weekends that can be taxing and exhausting for people. [28]

Service leaders explored the challenge for early career allied health professionals to manage professional and personal boundaries. This can be especially difficult when they are recognised in the community in their own time. The challenge of boundaries between peer friendships and working relationships can also be a challenge when allied health professionals' only social connections were also work colleagues and conflict arises.

> They're like working together, living together, like partying together and it boiled over into quite a bit of like unprofessional behaviour and disrespectful behaviour, which has caused problems. I think part of that is because they're just together and often they can be friends out of consequence. [24]

3. Rural and remote areas offer unique clinical opportunities

Broad clinical experiences are a significant benefit of working in rural areas. Allied health professionals can develop generalist skills through working across clinical settings, service types and funding streams. Managers perceived this benefit as a drawcard for recruitment as it is a point of difference to metropolitan-based work. Allied health professionals have the opportunity to work with a broad range of people, cultures and social and geographical demographics while working in rural areas. This opportunity was seen to be a great learning opportunity for allied health professionals early in their career. In addition, early career allied health professionals can work in multidisciplinary teams providing holistic care to consumers through working in the community and

in hospitals, which makes a real difference. They also have access to innovative service models including telehealth and outreach work, which they may not be able to do in metropolitan centres.

> So, if you think about our therapists, they look at people as a whole, not just as one particular single domain, and then they're able to affect their entire health life and wellbeing and then making sure they have the connections that support that, and I don't think you get that anywhere else bar being in a rural community. [19]

Participants described the opportunities early career allied health professionals have in terms of career advancement and quality improvement. Allied health professionals are encouraged to get involved in quality improvement activities, their ideas are valued, and innovation is encouraged. They can apply for senior positions and participate in other leadership roles early in their career, which is often highly valued by early career health professionals.

> I reckon country is fantastic because I think that as an AHP first of all in country we have our clinical governance framework, so organisationally and within clinical governance there is so much space to grow and to, I guess, step up in your career when the time is right. [23]

4. Working in rural and remote areas is complex and demanding

A consistent theme raised by participants revolved around the complexity and quantity of work in rural and remote areas. Early career allied health professionals are expected to work across a broad range of clinical areas with a large scope of practice. They also need to learn how to work effectively and respectfully with different cultures and with a wide variety of complex clinical needs.

> I also need to be good at rural generalist practice and be able to just switch, to actually switch from, you know, I'm seeing a 70-year-old gentleman for his tablets, I'm seeing the 18-month-old who's not talking. I'm seeing the child with autism at school. I've got to be able to shift my brain. Does that make sense? [26]

Supervisors and managers discussed the challenge for allied health professionals working in generalist roles where their consumers are funded by broad service types with varying reporting requirements and stipulations. It is a lot for new graduates to manage; some services reported deliberately rostering new allied health professionals a reduced number of service types to avoid burnout, but this was not always possible in small teams. High workloads and challenges in meeting funding requirements impacting the experience of early career allied health professionals was described by several participants. The complexity and quantity of clinical work has increased over time. Rural health services now have a variety of key performance indicators they are required to meet to maintain their funding, which is very difficult when the team is carrying significant staff vacancies.

> But there's also now we're not just a core funded, state funded service, we've actually got the revenue in the consumer directed care package areas like NDIS and all of the community aged care, My Aged Care, and it creates different – there's priorities. There's clinical priorities but there's also the program demands around needing to have throughput … and not just for clinical priority and I guess that must add another level of consideration for the allied health professional, including – that's another whole layer to take on board, I guess, for an early professional career or someone, no matter what stage of their career. [46]

5. Autonomous practice so early in a career either makes or breaks you

Managers and clinical leads reported new allied health professionals experience a steep learning curve when starting in rural areas, with high levels of autonomy in clinical practice experienced early in their career. This can be stressful or overwhelming and have negative impacts on retention.

Rural allied health professionals undertake outreach visits to remote communities early in their career. Service leaders reflected on the unpredictable nature of the work, the complexity of the cases and the limited resources available to manage the complexity. There is not necessarily support available when clinicians do not know what to do, so they need to be flexible to know how

to manage challenging situations on their own. Allied health professionals on outreach also need to be highly flexible in their thinking to be able to look outside the box in terms of how they will manage clinical needs with limited resources.

Supervisors and clinical leads discussed the challenge early career allied health professionals face covering large geographical areas or heavy case loads with very limited staffing resources. This was either due to recruitment challenges or the resource that had been allocated to that location. Entry level allied health professionals are expected to manage case loads early in their career that their metropolitan counterparts would not be expected to do.

> Yeah, so I think we – there is the risk that people will be thrown in the deep end and we do have high expectations for people to manage multiple different areas of work at one time, so not necessarily recognising how difficult it is just to get your head around doing things, like stats and, you know, how do I talk with nursing staff on the wards, let alone being able to do that with multiple different areas of practice at the one time. [22]

> "I can see how when you come out and you have – you need a very prescriptive approach to how you do things and you need things to be kind of at that early learner stage and you want to know that if I do this assessment then I can provide this therapy and I'll see this outcome in this particular area, to do that on one clinical area one day and then change to I'm now doing an outreach clinic where I might see five different types of communication or swallowing clients, it would be – it can be quite confronting. [27]

6. Clinical governance is vital

Considering the complexity of the work in rural SA, clinical support is imperative. Several managers reported the governance and supervision structures in place in rural health services ensured early career allied health professionals received the support they needed. Multiple service leaders described the challenge of inconsistent clinical support across rural and remote areas and the need for clearer clinical governance structures. Supervisors also discussed the challenge of

early career allied health professionals asking for help when they are out of their depth. It can be challenging for allied health professionals to recognise that they need help in a clinical situation, to know how to access assistance and to know what to do with the client while they wait for help.

> I think the governance in country is – the clinical governance that is – is still an area that needs development, in particular now that we've changed from what was country health now into SA Local Health Networks. I think although we do have some sort of governance over our more junior staff, I think that that still needs strengthening; [33]

> "The one that baulked at the adult stuff, she would then ring five people and spend, you know, many hours sort of – and it was sort of a bit like a scatter bomb. You know, if she had have called me and then waited until I got back to her then we could've dealt with the issue but then she's spoken to five different people and they've all said five slightly different things and then she's even more confused … to actually just go 'well, no, I can't do that until I speak to a senior and the senior's not available today so I'm going to come back and do that next week' but they tend not to do that. They tend to just think that the senior wasn't available. [26]

7. Commitment to professional development and learning

The commitment regional LHNs have to professional development was raised by several service leaders. Allied health professionals have funding and support to access professional development and training that they require. There are also work-shadowing opportunities and regular internal training sessions offered. Although it had been noted that there was good access to professional development, some participants reported the travel to get to training was an additional cost to be factored and that the high cost of some training was difficult to accommodate. There was a perception that access to professional development was much easier for metropolitan allied health professionals.

Supervisors discussed the new graduate programs for allied health professionals transitioning into rural practice as an important aspect of supporting the first year of practice. They described the

multidisciplinary and discipline-specific transition to professional practice programs, which involves regular peer support meetings and training across the regional LHNs. Supervisors felt these programs were increasing the amount of support allied health professionals were receiving on top of their regular supervision and training, and it also allowed them to build networks across the regions.

> I think we try and provide lots of opportunities for upskilling and for training and professional development where we can within our limitations. [22]

> I guess the other challenge is continuing professional development as well and I guess we are a bit disadvantaged in that a lot of the training and, especially for some disciplines, like physio and podiatry, it's even more limited so it's expensive. It's costly to support people to access good, professional development whereas if they were in a metro area, they could access things a lot easier. [28]

Participants described the various on-the-job learning opportunities that working in rural areas offers; they are required to research, problem-solve and build networks to manage the wide variety of clinical presentations they encounter, and there is the opportunity to work quite autonomously, build transferable skills and develop flexible thinking as they manage multiple clinical areas, systems and processes.

> Opportunity to develop that flexibility of thinking I think is a huge asset because I think then you don't see things in black and white. You don't go in, you know, and see a problem and think you've got to go and solve it. You've got that sort of raft of skills and experiences and yeah. [26]

Trainees' intention to stay in a rural or remote area

In phases 1, 3 and 4, the trainees were asked how long they intended to remain working in a rural area; these intentions are outlined in Table 18. In phase 1, intention to stay ranged from less than a year to more than 10 years. On average the level 2s intended to remain longer (8.8 years) than

the level 1s (3.8 years). In phase 3, the completed trainees indicated they were planning to stay at least another year and two intended to stay more than 10 years or indefinitely; the continuing trainee and the trainee who left during phase 3 are not included in these phase 3 figures. At the six-month follow up (phase 4) the trainees' intention to stay was consistent with their intentions in phase 3. Discounting the two trainees who planned to remain in a rural or remote location indefinitely, considering the original intention to stay with the plans at the end of the pathway, the completing trainees intend to stay on average an additional 1.3 years each. This is a positive outcome of the pathway, with trainees planning to stay longer than originally intended. It should be noted that these intentions relate to a range of factors and cannot be solely attributed to the AHRGP.

Table 18: Intention to stay comparison, phases 1, 3 and 4

	Phase 1 intention to stay in rural or remote location	Phase 3 intention to stay in rural or remote location	Phase 4 intention to stay in rural or remote location
Less than a year	7.6%		
1–2 years	23.0%	28.5%	28.5%
2–3 years	7.6%		14.3%
3–5 years	15.3%	42.8%	28.5%
5–10 years	23.0%		
More than 10 years	23.0%	28.5%	28.5%

In the phase 4 follow up, trainees were asked if and how the AHRP had impacted on their intention to stay. Four of the seven reported the pathway had had a positive impact on their intention to stay. The following influences were described:

- The pathway helped secure permanent positions within the organisation.
- The support received from the workplace while undertaking the pathway encourages allied health professionals to remain working in the region.

- Broadening of skills, knowledge and scope of practice throughout the AHRPG gives trainees a reason to stay.
- The AHRGP can positively impact career prospects though developing new skills, knowledge and networks.

Factors impacting trainees' intention to stay in a rural or remote area

In phases 1, 3 and 4, trainees discussed factors that were impacting on their intention to continue working in a rural or remote area. In phase 4, three graduates reported the AHRGP had not influenced their choice to continue working in a rural or remote area; they described their desire to work in a rural area long term had not changed and their personal circumstances were the main impacting factor. Two graduates had local family/partner and the other had planned to stay in their role before commencing the pathway. Various factors were impacting trainees' intention to remain working rurally. In Table 19, these are mapped against factors discussed in phases 1 and 3.

Comparing these intention to stay factors across the research phases, similar factors were described by trainees. At the six-month follow up trainees were more focused on the factors that would encourage them to stay longer, while in phases 1 and 3 more factors were raised that would encourage them to leave. In phase 4, trainees discussed lifestyle factors that were encouraging them to stay, including having established community links, family and friends nearby, the availability of housing and the cost of living; these were not as strongly reported in the other phases. Positive workplace factors that made working in the rural or remote area favourable featuring in phase 4 included the positive culture, approachability and positive attitude of service leaders and the broad nature of work. Across all phases, trainees reported the opportunity for career advancement was a significant factor impacting their intention to stay although in phase 4 they spoke about this more positively in terms of being aware of the opportunities. Additionally in phase 3, intention factors related to clinical opportunities, workplace flexibility, support structures and integration into the community. In comparison, in phase 1 trainees' intention to stay related to clinical opportunities and support structures but also included long-term employment opportunities, team dynamics, consistent staff vacancies and location of family and friends.

Table 19: Intention to stay factors

Intention to stay factors	Phase 1	Phase 3	Phase 4
Opportunities for career growth	Job opportunities with the region	To develop skills and grow professionally	Senior positions available to apply strive for
	Career advancement opportunities locally	To be able to progress career	Career advancement opportunities
		To develop leadership skills/undertake leadership roles	Opportunity for leadership roles
	Opportunity to participate in leadership roles	To apply for a reclassification	Opportunity to reclassify
		To engage in project work	
Clinical opportunities	To work in desired clinical areas	To do diverse and interesting work	To do diverse work, variety of work opportunities
	To undertake broad clinical work	To have choice of case load	To try new areas of practice
	To develop specialised skills	To be able to contribute to making the service better for consumers	To implement service development changes
		Option to specialise in rural generalism rather than having to move into management roles for advancement	To participated in more remote work
		Opportunity to manage own case load and schedule	
Support structures	Supportive leadership/ management	Supportive leadership/ management	Supportive leadership/ management
	Access to regular, onsite supervision	Access to supervision	Approachability of managers and seniors when needed
	Team dynamics	Access to professional development	Team dynamics and work culture
	Supportive colleagues	Supportive colleagues/friends	Attitude of organisational leaders

Intention to stay factors	Phase 1	Phase 3	Phase 4
Personal factors	Being far away from family or partner, wanting to be closer to family long term	Being integrated into the community	Being integrated into the community
		Having a partner who wants to stay	Having friendships locally
			Lifestyle factors and opportunities
			Cost of living lower in rural area
			Availability of housing
Human resources	Staff vacancies and limited cover arrangement	Flexibility to move between towns in with job role	Having adequate staffing to support service provision
	Permanent contract in public health setting	Opportunity to work flexible hours	Permanent role and job security available during pandemic
	Challenging recruitment contract extension processes		Incentives to work in rural areas for allied health professionals

Discontinuing trainees' reasons for leaving rural or remote area

The trainees who had left the pathway were asked about their reasons for leaving in their final interview. In phase 3, trainees who had not left were asked about why they might leave the rural or remote area in the future. Trainees who had left cited access to support at work as a significant reason for leaving. They also reported other job opportunities, workload pressures and changes to their personal circumstances as contributing to their decision to leave. For trainees who were considering moving in the future, travel was consistently raised as a reason that they may leave. For some the distance they needed to travel to see family and friends was a factor, and for others they had a desire to leave town to travel. Trainees also reported that if they were not receiving enough support from their supervisor or manager they would probably leave. Across the two phases the reasons for leaving were similar although in phase 2 trainees reported job opportunities elsewhere and workload pressures were factors while in phase 3 a lack of opportunities to

contribute to operational decisions and a desire to travel were raised. Some trainees who were continuing to work in a rural area at the end of the pathway thought they would need to leave for family reasons eventually.

Table 20: Trainee reasons for leaving rural location

	Phase 2 reasons for leaving	Phase 3 reasons for leaving
Access to support	Limited clinical support	Limited clinical support
	Feeling professionally isolated	Feeling professionally isolated
	Limited support from management	Limited support from management
		Lack of opportunity to be involved in operational decisions
Job opportunities	Better job opportunities offered in metropolitan areas	
Workload	High workload pressures	
Personal	A desire to be closer to family/partner	A desire to be closer to family
	Changing personal circumstances	
		A desire to travel (across Australia or overseas)
		Long commute times to work

Chapter key findings

In phase 1, trainees working as early career allied health professionals and their supervisors, managers and clinical leads were asked to reflect on the benefits, opportunities and challenges of working in rural SA. The results of this analysis were presented separately to identify any differences and similarities between the trainees and the senior staff who were supporting them. Six themes emerged from the trainee data and seven from the service leaders. Although similar in terms of areas discussed, a range of differences in perceptions were identified. It is important to note that the service leaders reflected on their experiences of working with many new graduates over the years and the types of benefits and challenges that arose whereas the trainees were reflecting on their own experience, which may account for some of the differences described.

In terms of **personal and social influences**, both the trainees and the service leaders described the rural allied health teams as being particularly **welcoming**. Most found the teams to also be very social and facilitating connections and friendships quickly. Participants across all groups discussed different experiences in terms of integrating into the community; this appeared to be dependent on the demographics of the town and the interests of the allied health professionals. Towns with more transient populations were particularly welcoming and involved allied health professionals in sport and social activities early on. In contrast, towns with more stable populations appeared to have more established social networks, and while they were friendly, they weren't investing in new friendships every time a new allied health professional arrived. Managers often described the leisure pursuits in their towns as being favourable while trainees and supervisors were more likely to perceive the entertainment options as limited.

Participants from each group also described the challenge of **being away from family and friends** and moving to a rural area. They also felt travel back and forth to Adelaide was an issue in terms of fatigue and feeling settled. Some trainees reported they travelled back regularly to see loved ones and for sport or recreation, while others appeared to intentionally spend time in the rural area on the weekends to assist in integrating into the community. Service leaders reported that other challenges around moving to a rural area included living in a shared house for the first time, missing out on their usual social activities or celebrations at home and making new friends simultaneously while also transitioning into professional practice.

Managers raised significant concerns around allied health professionals securing appropriate **accommodation** in rural and remote SA. The trainees did not raise this as a problem but more broadly the managers recognised that it was difficult to secure rentals, especially if the new allied health professional was on a short contract or was unable to commit to a 12-month lease. The trainees did raise the challenge of moving costs and living in a rural area and felt there should be incentives or remuneration for this, similar to what is provided to other government-funded services.

Professional and personal boundaries was described by service leaders in terms of encountering consumers in the community after hours and the challenge of having all of your social network at work. The trainees, however, did not report this challenge. Again, it is important to note the service leaders are supporting many allied health professionals in their teams, not just the trainees in the pathway.

Participants in each group also discussed the **broad clinical experiences** early career allied health professionals are exposed to as a benefit, but it is also a source of stress and overwhelm. Managers and supervisors also described the diverse social and cultural populations and innovative practice opportunities that early career allied health professionals have the opportunity to work with. This was not highlighted by the trainees themselves although they did describe the multidisciplinary team and the outreach opportunities as great benefits of rural work.

Both the trainees and the service leaders described the challenge of being **thrown in the deep end** and the generalist case load as being particularly challenging as a new allied health professional. Early career allied health professionals experience demanding and complex workloads and at times feel professionally isolated. Limited staffing and retention issues was a significant issue for all groups, and trainees reported it was particularly stressful when they are left to manage the workloads of staff who have vacated.

The positive learning environment and the autonomy early in career were raised consistently by all groups. Trainees and service leaders reported autonomy could be both positive and negative. The hands-on learning opportunities were great, but too much autonomy was also stressful when allied health professionals felt professionally isolated. Service leaders also discussed the challenge of early career allied health professionals visiting remote settings with limited support as a particular challenge in rural SA; however, they also reported this was something new allied health professionals valued and was a point of difference in recruitment.

Both trainees and the service leaders described the challenge of working across **multiple systems and funding arrangements** as being particularly challenging in rural areas. Trainees described

the additional administrative load this involved, and managers described the pressure they faced to meet different service agreements and funding commitments with the limited allied health staff in their teams.

When discussing **clinical governance**, some trainees and service leaders felt that early career allied health professionals in rural areas were afforded appropriate levels of support while others felt it was inadequate. Participants from each of the groups fell in each category. This appeared to be dependent on individual circumstances and experience. The trainees who received limited clinical support reported significant levels of stress and dissatisfaction.

When describing the benefits of rural practice, some trainees described the **manager support** as a positive aspect, while others had had trouble accessing the support they needed from a manager. While the managers did not identify management support as a benefit or challenge, they did describe it as highly variable. The managers and clinical leads thought rural teams were undertaking innovative work and were responsive to allied health professionals' needs, while some of the trainees found the management style in their health services to be reactive or dismissive at times.

The findings in terms of **professional development** and training were consistent across participant groups. The funding available for professional development activities and the commitment of the organisation in terms of training were advantages of working for the public health system in rural SA. Consistent reports of challenges in terms of travel and the high cost of training were also reported. It was acknowledged that rural allied health professionals face more barriers in accessing professional development than their metropolitan counterparts.

Intention to stay and reasons for leaving were explored with trainees. Reasons for leaving were comparable for those who had left and those who may leave in the future and were multifaceted. These varying reasons demonstrate it is important to take an individualised approach to retaining allied health professionals. It was interesting to note that some service leaders reported in phase 2 that they did not know why the trainees had left; however, in the interviews in this research, the

trainees were quite clear about what led them to leave. Potentially if the service leaders were more aware of allied health professionals' concerns as they arose, they may be able to prevent them from leaving.

Chapter summary

In summary, trainee and service leader themes relating to the experience of allied health professionals working in rural and remote areas were relatively consistent, with some minor differences. This consistency may indicate that trainees are communicating their needs to their managers, supervisors and clinical leads and that in most cases their experiences and concerns are being heard. A range of challenges that were experienced by early career allied health professionals are known by the service leaders but appear to be difficult to manage. These include the complex funding and administrative processes, the small teams with large geographical catchments and the distance required to travel to the closest metropolitan centre. Some of the challenges described may be able be addressed more easily; these include providing adequate clinical supervision and management support for early career allied health professionals and appropriately remunerating workers who live in rural and remote areas through salary and travel allowances. The findings from this chapter have given context to the workforce opportunities and challenges in rural and remote areas. In the following chapters, the AHRGP will be explored as a workforce strategy to build on the opportunities that rural and remote work offers and to address some of these challenges early career allied health professionals face.

CHAPTER 7: TRAINEE EXPERIENCES OF PARTICIPATING IN THE ALLIED HEALTH RURAL GENERALIST PATHWAY

Chapter overview

Trainees wide-ranging experiences and perceptions of the AHRGP were explored throughout their time in the AHRGP. The collection and analysis of this data relates to the first three of the Kirkpatrick evaluation levels (reaction, learning and behaviour) (Kirkpatrick & Kirkpatrick, 2016) and the individual outcomes, activities and resources/inputs in the program logic framework (WK Kellogg Foundation, 2004). In this chapter, the trainees' initial goals for the AHRGP and the degree to which they were attained will be outlined; this will set the scene in describing the trainees' experience of participating in the pathway. Job and pathway satisfaction will be described, and the trainees emerging confidence will also be mapped across phases 1 to 3. In phases 2 and 3, trainees explored the benefits and challenges of undertaking the pathway; the findings of these discussions will be thematically analysed and outlined. The trainees' experience of dedicated supervision, study time and project work will also be explored. Finally, the findings from the trainees will be discussed in a summary to comprehensively paint a picture of the trainees' experience of the AHRGP. Table 21 outlines the findings included in this chapter and how they relate to Kirkpatrick's levels and the program logic model.

Table 21: Chapter inclusions and associated links to methodology

	Kirkpatrick level	Program logic mechanism
All phases		
Trainee goals and goal attainment	Level 2 learning	Individual outcomes
Trainee job and AHRGP satisfaction	Level 1 reaction	Individual outcomes
Trainee confidence working as a rural generalist	Level 2 learning	Individual outcomes
Trainee description of supervision and study time		Resources/inputs
Phase 1		
Challenges of AHRGP experienced by trainees – phase 1	Level 1 reaction	Individual outcomes
Phase 2		
Trainee perceptions of the benefits of undertaking the AHRGP – phase 2	Level 1 reaction / level 2 learning	Individual outcomes
Challenges of AHRGP experienced by trainees – phase 2	Level 1 reaction	Influences
COVID impacts – phase 2	Level 1 reaction	Influences
Phase 3		
Trainee perceptions of the benefits of undertaking the AHRGP – phase 3	Level 1 reaction / level 2 learning	Individual outcomes
Challenges of AHRGP experienced by trainees – phase 3	Level 1 reaction	Individual outcomes
Trainee perception of the AHRGP enablers	Level 1 reaction	Influences
Service development project experiences undertaken by trainees including enablers and barriers	Level 3 behaviour	Activities
Phase 4		
Trainee reflections post pathway	Level 1 reactions / level 2 learning	Individual outcomes

Trainee goals and goal attainment

In phase 1, the trainees described the professional and service development goals they were aiming to achieve. The degree to which goals were attained was variable, depending on the types of goals set, and the topics undertaken by the trainees. Some trainees had set professional goals relating to the development of confidence and skills to work as a rural generalist, and in phase 3 they reported gains in these areas. Others had focused their goals on making positive changes to their community and organisation and these goals were largely attained by the end of phase 3. Trainees who had set specific clinical goals, were less likely to feel they had attained these, as they felt the topics were not always relevant to their particular learning needs and the local context. Topic choices appeared to impact goal attainment, for example, some trainees chose clinical topics that did not meet their expectations, while others found content to be highly relevant to their practice. Details of trainees' goals and attainment can be found in appendix 2.

Trainee job satisfaction

Trainees were asked to rate their overall job satisfaction at each phase of the evaluation via survey. They rated their satisfaction from extremely dissatisfied (0/100) to extremely satisfied (100/100). On average job satisfaction was at its highest at the beginning of the pathway and its lowest mid pathway. In discussion with the trainees, at the beginning of the pathway they were excited about starting the training and their job satisfaction was high. By the midpoint of the pathway the trainees had completed half of the modules and they were juggling demands related to clinical work and study time; at this point their satisfaction was lower. In the final phase while reflecting on their time in the AHRGP, the trainees had completed the study and were beginning to regain a sense of balance in their lives; at this point job satisfaction returned to levels closer to the beginning. It is also important to note that trainees completed the pathway between 2020 and 2022 during unprecedented and challenging times relating to COVID-19, staff shortages and organisational restructures, which may have also impacted on the mid and final satisfaction ratings. Table 22 and Figure 4 outline the job satisfaction of all trainees and those who completed the pathway. When this data was analysed separately, the trainees who completed had on average

slightly higher job satisfaction in phase 1 than those who did not continue. Considering most of the level 1s who discontinued did so in the first half of the pathway, it would appear that those who had a lower job satisfaction were more likely to leave before completing.

Table 22: Average trainee job satisfaction (standard deviation)

	Average job satisfaction (out of 100)		
	Level 1 all trainees	**Level 1 completed trainees**	**Level 2 all trainees**
Phase 1	71.7 (22.5)	85.0 (5.0)	77.8 (7.7)
Phase 2	66.3 (14.9)	68.3 (17.6)	62.0 (13.0)
Phase 3	70.0 (8.2)	66.7 (5.8)	70.0 (17.3)

Figure 4: Trainee job satisfaction

Trainee AHRGP satisfaction

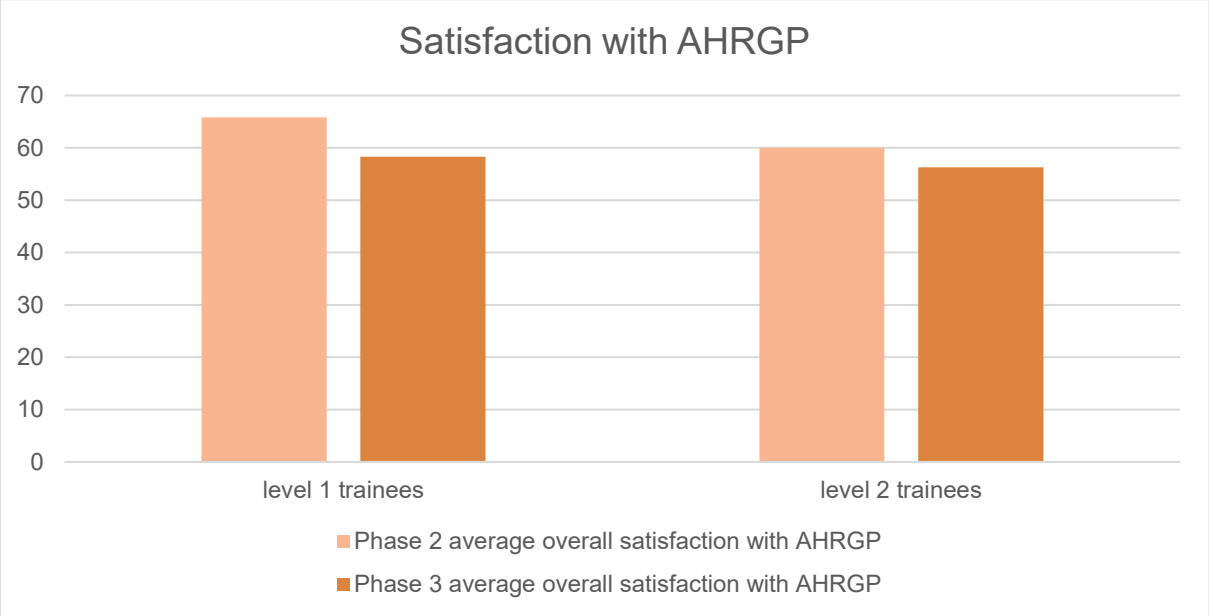
In phases 2 and 3, the trainees were asked to rate how satisfied they were with the AHRGP overall from 0 (extremely unsatisfied) to 100 (extremely satisfied). Trainees who did not complete the pathway in phase 3 were not included in the final ratings, and trainees who left the pathway before the midpoint were not asked to rate their satisfaction at all. Level 1 and 2 trainee ratings were relatively consistent and both groups were somewhat satisfied at the middle and end of the

pathway although this did drop by 6%, as shown in Table 23. It is important to note that the standard deviation was between 12.4 and 28.9, indicating significant variances in ratings between trainees. These quantitative findings can be further explained through the consideration of contributing factors outlined in the AHRGP benefits and challenges section below.

Table 23: Trainee satisfaction with the AHRGP

	Average satisfaction with AHRGP (out of 100)	
	Level 1	**Level 2 all trainees**
Phase 2	65.8 (12.4)	60.0 (22.4)
Phase 3	58.3 (28.9)	56.3 (25)

Figure 5: Trainee satisfaction with the AHRGP



Confidence working as a rural generalist allied health professional

When measuring a training program's measure of success, Kirkpatrick's second level (learning) includes participant changes in confidence relevant to the learning from the training (Kirkpatrick & Kirkpatrick, 2016). Rural generalist allied health professionals work across geographically large areas over multiple service types and roles (Keane et al., 2013; O'Sullivan & Worley, 2020). They may work across age groups, across service types or settings but not necessarily across all

domains. For example, a generalist may work across community and inpatient settings but not work with children. In order to measure the change in confidence, it was helpful to break down the different domains of practice that would be relevant for the trainees. Project managers were consulted to determine the different service scope, types and settings that were relevant for allied health practice in SA. The following domains were identified:

- Confidence across the age spectrum (infants, children and adolescents, older people)
- Confidence across a large variety of services (health promotion, early intervention, acute, subacute, chronic disease)
- Confidence across a large variety of service settings (hospitals, health centres and clinics, patient homes, community venues)
- Overall confidence working as a rural generalist allied health professional

Trainees were asked to rate their confidence working as a rural generalist allied health profession across these domains via survey in all three phases. Trainees were asked to rate their confidence from 0 (not at all confident) to 100 (extremely confident). The level 1 and 2 trainees' confidence were measured separately over the three phases to identify any trends for analysis and because the level 1 and 2 pathways were quite different in terms of the course content and the trainees' level of practice experience.

Level 1 confidence

Over the three research phases, on average, the level 1 trainees overall confidence improved by 6% while their confidence in the other domains improved by 4–6%. The largest standard deviation scores were for the overall confidence ratings, indicating a wider variation in perceptions of confidence compared to the more discreet questions. The biggest gain was in working across health services, indicating the learning helped them feel more confident working across the different spectrum of services their health service offers. Between phase 1 and 2, confidence ratings remained very similar across the domains, but then in phase 3 there was a larger increase. This would suggest the first half of the pathway did not have a big impact on trainees' confidence,

but in the second half of the pathway they felt more confident. A range of factors will have impacted these ratings, including the amount of experience the trainees had, the clinical opportunities they were afforded and the supports that were available to them as well as the participation in the AHRGP. It is also important to note that trainees who discontinued the pathway early did not rate their confidence in phases after they had left. As a result, there were fewer people included in phases 2 and 3, which may have biased the results. Average and standard deviation scores are outlined in Table 24 and Figure 6.

Table 24: Average level 1 trainee perceived confidence (standard deviation)

0 not at all confident to 100 extremely confident	**Phase 1 (n = 9)**	**Phase 2 (n = 6)**	**Phase 3 (n = 3)**
Confidence working with clients across the age spectrum (e.g., infants, children and adolescents, older people)	62.8 (9.6)	63.3 (15.1)	73.3 (5.8)
Confidence delivering a large variety of health services (e.g., health promotion, early intervention, acute, subacute, chronic disease)	64.3 (5.6)	68.3 (4.1)	76.7 (5.8)
Confidence working across a large variety of health settings (e.g., hospitals, health centres and clinics, patient homes, community venues)	71.4 (9.9)	71.7 (7.5)	75.0 (7.1)
Overall Confidence as a rural generalist	64.1 (10.1)	63.3 (12.1)	70.0 (10)

Figure 6: Average level 1 trainee confidence ratings

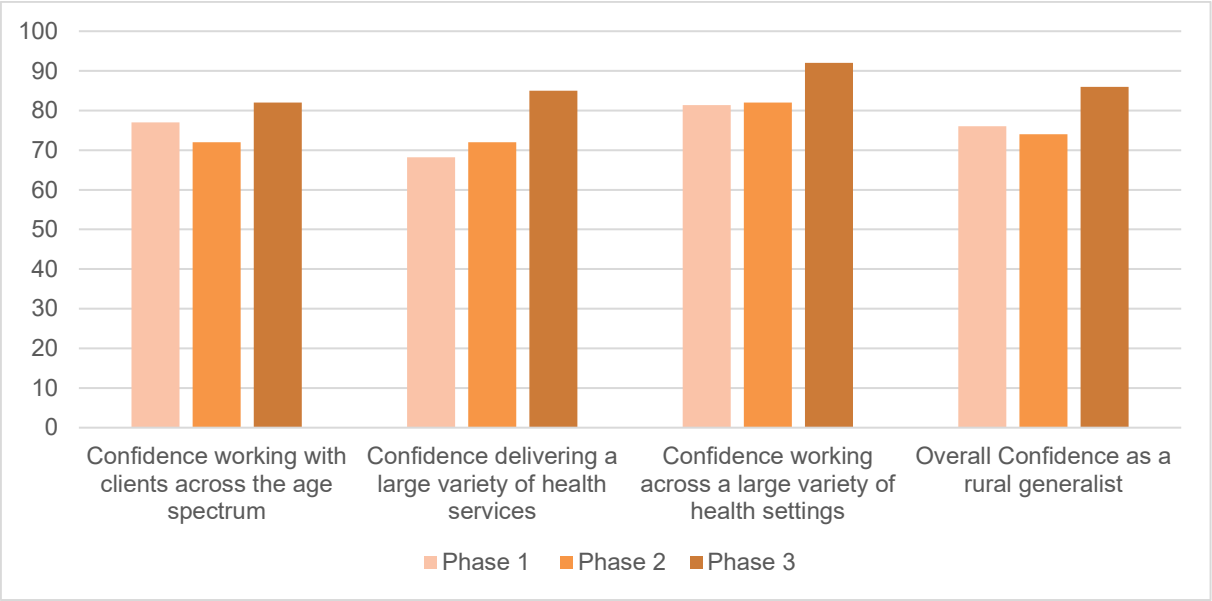
Level 2 confidence

The level 2 trainees reported feeling more confident across all domains in phase 3 compared to phases 1 and 2. On average they reported being 10% more confident overall as a rural generalist, which is pleasing to see considering they were already reporting feeling relatively confident (76/100) on commencement of the pathway. The smallest increase in confidence was working across the age spectrum; however, this also had the largest variance in responses. This could indicate trainees did not choose topics that expanded their skills and knowledge across the age spectrum, they already felt confident working across age groups, or their clinical workload did not allow them to implement their learning with different ages. Level 2 trainees' confidence increased more working across different services and settings (up 17% and 11%), indicating their learning had a greater impact in these areas. As there were no level 2 trainees who discontinued, all five trainees rated their confidence in all three phases. Ratings are outlined in Table 25 and Figure 7; standard deviation is also included to demonstrate the variance in responses.

Table 25: Average level 2 trainee perceived confidence (standard deviation)

0 not at all confident to 100 extremely confident	Phase 1 (n = 5)	Phase 2 (n = 5)	Phase 3 (n = 5)
Confidence working with clients across the age spectrum (e.g., infants, children and adolescents, older people)	77.0 (10.4)	72.0 (11.0)	82.0 (13.0)
Confidence delivering a large variety of health services (e.g., health promotion, early intervention, acute, subacute, chronic disease)	68.2 (12.8)	72.0 (8.4)	85.0 (5.8)
Confidence working across a large variety of health settings (e.g., hospitals, health centres and clinics, patient homes, community venues)	81.4 (7.4)	82.0 (4.5)	92.0 (4.5)
Overall Confidence as a rural generalist	76.0 (6.5)	74.0 (8.9)	86.0 (8.9)

Figure 7: Average level 2 trainee confidence ratings



Trainee description of supervision and study time

Supervision

The rural generalist education provider recommends AHRGP trainees have access to regular discipline-specific supervision from an onsite or highly accessible experienced allied health professional for 60–90 minutes per week to assist trainees with the integration of their learning (James Cook University, 2022).

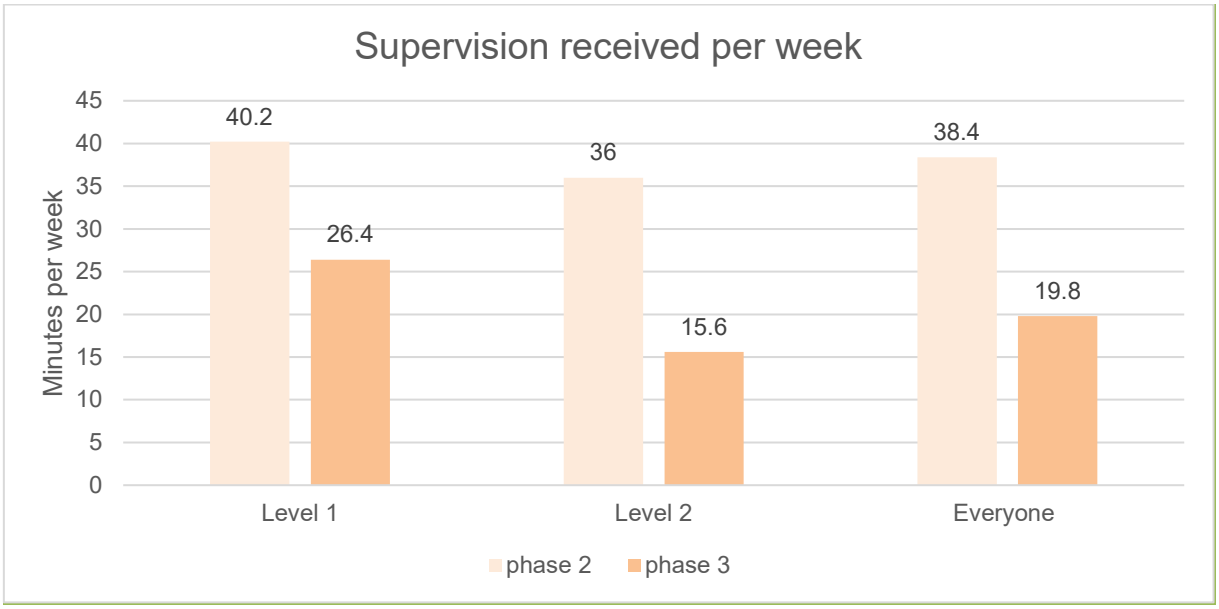
The SA Health Allied Health Clinical Supervision Framework (SA Health, 2014) outlines the minimum hours of clinical supervision recommended for allied health professionals working in SA Health. One hour of clinical supervision per week is recommended for allied health professionals within the first year of practice; this reduces over time to one hour per month as years of experience, competence and confidence grow.

Trainees were asked to report the number of hours of clinical supervision they received per week during the pathway via survey for the first half of the pathway (phase 2) and the second half (phase 3). Trainees who did not participate in phases 2 or 3 did not have their hours of supervision recorded. The results of this are outlined in Figure 8. In phase 2, the trainees reported they were receiving on average 38 minutes of supervision per week, with the level 1s receiving slightly more than the level 2s. This is less than the 60–90 minutes recommended by the education provider. In phase 3, trainees reported receiving less supervision than in phase 2 with level 2s on average receiving less than half of what they received in the first half of the AHRGP and level 1s receiving on average 14 minutes fewer per week. According to the SA Health supervision framework, allied health professionals should expect to gradually receive less supervision over time; however, the education provider does not stipulate a reduction in supervision over time.

It is important to note that in phase 2, health services were in the midst of managing the impact of COVID-19 on their health services, and allied health roles, service provision and organisational priorities changed. This may have impacted how much supervision the trainees received. In phase3, while COVID-19 was still present, health services had generally returned to relatively

usual business. In summary, trainees undertaking the AHRGP did not require supervision above what is expected in the SA Health Allied Health Clinical Supervision Framework (SA Health, 2014) despite the additional pressures of study, and they generally did not receive the recommended hours of support recommended by the education provider.

Figure 8: Trainee-reported supervision received per week (minutes)



Study time

Table 26 outlines the time trainees reported spending on study and related service development projects in the first half (phase 2) and second half (phase 3) of the AHRGP. These reports include all trainees who participated in phases 2 and 3. In phase 3, trainees were also asked to report how much time they were spending studying in their own time, but this was not collected in phase 2.

Of the eight trainees who completed the pathway or are continuing beyond June 2022, five reported they were unable to consistently protect their assigned study time at work. On average they spent less time studying at work in the second half of the AHRGP than the first. They also reported spending more time on service development activities in the first half. At the midpoint the level 2 trainees were reporting on average 5.25 hours a week working on service development and at the end they were spending half an hour per week on average. The level 1s reported a small amount of time on service development (25 minutes per week) in the first half of the pathway and

no time in the second half. These findings are consistent with trainee descriptions of workload pressures and challenges of implementing service development projects amongst other priorities at work. This data was collected via survey and so may also be biased in terms of what trainees classified as AHRGP-related service development work and their normal assignment-related tasks. It is also worth noting that trainees reported a range of service development projects that they participated in, but the time attributed to completing these may have been recorded as study time or study completed outside of work hours. It is also important to note that that service development activities relate to some but not all modules and so time will vary depending on what order the topics are completed.

In terms of study undertaken outside of work hours in personal time, the level 2 trainees reported significantly more study required to complete the pathway. Level 2 trainees were studying for on average nearly nine hours a week at home while the level 1s were able to complete their study in just over two hours a week at home after hours. It is also important to note that more of the level 2 trainees found it difficult to quarantine study time at work. These figures may be helpful for future AHRGP trainees to consider when weighing up the workload requirements for both pathway options.

Table 26: Trainee average self-reported time (hours) spent participating in AHRGP-related study and project work per week

Hours per week	Level 1 trainees		Level 2 trainees		All trainees	
	Phase 2	Phase 3	Phase 2	Phase 3	Phase 2	Phase 3
Supervision	0.7	0.4	0.6	0.3	0.6	0.3
Study in work hours	5.3	2.6	5.2	4.8	5.3	3.9
Service development	0.4	0	5.3	0.5	2.6	0.3
Study in own time	Not collected	2.2	Not collected	8.8	Not collected	6.3

Trainee perceptions of the benefits of undertaking the AHRGP – phase 2

In phase 2, the trainees discussed early benefits they were experiencing from participating in the AHRGP. These fell into five themes:

1. Gaining skills and knowledge
2. Opportunities to put learning into practice
3. Investing in self
4. Building networks
5. Helpful university systems

The **gaining skills and knowledge** theme included reports of trainees learning broad and specific skills and knowledge through the course content. Specifically, trainees found the project management skills useful in terms of learning the steps involved in designing and evaluating a project. Trainees also discussed the benefit of learning more about how the organisation operated and about the scope of rural generalist practice. In the theme of **opportunities to put learning into practice**, trainees discussed the opportunities the pathway gave them in terms of choosing topics that were relevant to their work, using current consumers as case studies in assignments, developing projects for their service and having the opportunity to work in different clinical areas. The theme **investing in self** included the trainees recognising that their confidence was growing during the pathway, and they were broadening their thinking. They also reported the opportunity to be able to invest time in their learning at work, which they felt fortunate to have. **Building networks** involved the trainees meeting new people through participating in the pathway, including in peer support meetings with other trainees or when seeking information from other allied health professionals across the regions in relation to their assignments and projects. The final theme of **helpful university systems** included reports from trainees about the way in which the education provider made it easier for them to study, including having flexible options and access to academic staff and information.

Table 27: Phase 2 trainee-reported personal/professional benefits

Theme 1: Gaining skills and knowledge	
Learning generalist skills	*"Yeah, I think so. I certainly found the clinical stuff interesting, and good to know, but yeah, in terms of what I really think, oh, this is so good to know, this is going to really change what I do" 12* *"I think from the core topic last year, or last semester, I think I've just got more of an awareness that was like all around rural health, so that was a really good one to start with. That just gave me more of an awareness to different strategies to implement within rural health, not that we weren't doing them, but just to bring them back to the forefront of actually that could be an option of doing that." 5*
Communication skills	
Cultural competency	
Clinical skills	
Increasing scope of practice	
Learning different options for intervention in rural areas	
Gaining knowledge	*"Yeah, I think just an increased knowledge base is a big enough benefit itself." 7* *"In the diabetes, to be honest, it was probably just a refresher on the physiology of diabetes. Even the models of care and things like that, again, great in theory but when you're working in a rural setting" 2* *"I found the course content quite good, quite solid, certainly extending beyond standard scope of practice and lots of, quite just generally interesting information" 12 phase 2*
Knowledge of conditions and clinical presentations	
Understanding disease pathology/physiology behind conditions	
Opportunity to deep dive on clinical cases	
New assessments	
Increasing knowledge base	
Rural practice concepts	
Learning project skills	*"And I guess for me, even if I wasn't doing that particular project, I've kind of got those skills now where I can identify an issue in the workplace and be like, alright, I'm going to do a bit of evidence-based research on this and then I'm going to see how I can kind of plan to improve that service … And I guess in terms of how to plan a project, how to kind of plan quality improvement, identify where your gaps are, like, I did find that helpful" 13*
How to do a project	
How to search for evidence	
Learning the steps to undertake a project	
Learning skills to use in future projects	
Learning about the organisation	*"And, then sort of the targets that we have to meet was one of the topics … Which was really interesting to see where the funding comes from, what we're trying to hit, and why we're trying to hit those targets. And, then sort of work out where our funding bodies lie and how it differs*
The services provided	
Funding models	
Organisational structures and processes	

Key performance indicators and targets	*between different services within the one health system" 10*
Having the knowledge to be able to influence change in the organisation	*"I suppose some of the report writing and things like that has helped; being able to justify different things and have some of that evidence base behind you now to be able to justify why you might be either recommending something or why you might be putting a proposal through to management, so some of that." 5*
Theme 2: Opportunities to put learning into practice	
Applying learning to practice	*"I would say probably there were parts of it because you had to pick, like, standardised assessments, there were definitely some of those that I chose to use in the course and now I probably use them in my day-to-day practice." 8* *"I guess because I choose them it's obviously tailored to my interests and my kind of clinical needs, and I found that the way in which those two courses were presented were a lot more tailored to how I like to learn" 13* *"And being able to do that research into areas that come up semi-regularly, but may at the time may just be a simple fix and then send them home, but actually being able to look a bit deeper and think about, well what else can we do while they're here, to then make sure they're not re-admitting and just even little things that might be able to change their practice, and recommendations as well." 10*
Assignments are relevant to clinical practice and help consolidate learning	
Reflecting on ways that practice has been influenced	
Practical/clinical topics are relevant	
Using telehealth	
Using the assessments that were suggested	
Being able to choose topics that are relevant	
Improving ability to engage effectively with Aboriginal consumers	
Being able to research clinical problems deeply to make changes to practice	
Opportunity to do projects	*"And I learnt a bit more about quality improvement … which was really helpful. It was something that was actually in the pipeline anyway, so it worked out well that the time of the assignment actually sort of gave me the study time to be able to do something work related at the same time." 10*
Participating in quality improvement activities	
Implementing skills into work that needed doing	
Opportunity to broaden clinical workload	*"So, getting an opportunity to kind of, I guess, move into different areas … A little bit, only because you had to have examples for when you were doing the assignments. So, normally at the beginning of the, like when we divvy up our clients, I'd be like, I really need someone with Parkinson's or a degenerative disease." 8*
Seeking out different clinical presentations to be able to do coursework	
Trying out different clinical areas to meet topic requirements	
Theme 3: Investing in self	

Confidence	*"I think that it probably gave me a little bit more confidence in myself. Applying for the scholarship and then getting it was a really big booster and it did give me confidence in my abilities and what I was doing to handover. There was someone on the other end that wanted me to go through with it to sort of build my experience as well." 7*
Building confidence in skills and abilities	
Confidence in self	
Broadening thinking	*"So, I've found that the knowledge I've gained from that has really shifted my mindset in terms of when I get a palliative care referral, thinking about, well, what else can we do to facilitate a positive end of life experience for this client in terms of occupational engagement. So, yeah, that's been really, really good I've found that mindset, yeah." 13* *"Yeah, I think it's allowed me to step back and look at the big picture a little bit more. So, it's very easy to put your physio blinkers on" 3*
Changing ways of thinking	
Expanding own understanding and having perceptions challenged	
Bigger picture thinking	
Recognising how broad the roles are in rural	
Time to learn	*"I think it's just allowed me to really quarantine some time to upskill in the areas. I think that's a good thing about the pathway, I know we have to do (professional development) and (continuing professional development) sort of hours and things, but it's really quarantined some time to dedicate to upskilling and then be able to look at how you can incorporate that into work." 5*
Dedicating time to upskilling and incorporating into work	
Protected time in work hours to do the course	
Theme 4: Building networks	
Peer support	*"We probably haven't had as many catch-ups as we would have last semester when I would have spoken to you. We were catching up regularly with the other trainees and with (project manager), but just linking with them and hearing through them talking about what they're doing their subjects, you get a grasp of just a bit more about service design in the area and how their job runs. That's always useful." 4*
Meeting others in the pathway for peer support	
Networking	*"Yeah, I think from a networking point of view, so it's prompted me to have some clinical conversations with lots of different staff members within our multi-d team, so that's sort of given me more awareness of where I can refer on to other people to get more services for clients and those sorts of things." 3*
Building relationships with team members	
Building networks across regions	
Theme 5: University systems	
Flexible study options	

Workload spread over the year	*"No, it was quite nicely spread, actually. It was sort of like February/March and then May/June, but I don't think talking to the other people that are doing it, I was sort of the only person that had that combo, I guess." 2* *"It was eight weeks which was actually quite a nice time frame because I find the 13-week ones do feel like they drag on a little bit. Six weeks was too short, but eight weeks kind of felt like a good time period." 13* *"Yeah, absolutely, because I think they've got some flexibility with the way they've structured the assignment, so it's not like you have to do one particular thing, it's more a broad umbrella and then you can flesh out what is applicable to your workplace." 3*
Intensive topics were good over shorter periods of time	
Intensive and less intensive options for topics	
Flexible assignments	
Access to support and information	*"So certainly, had that conversation where she was like, I've just taken over this topic, really open to your feedback about that sort of thing, fine, and it's good, but not everyone has time to give feedback all the time." 12* *"I'd obviously had reached out to lecturers to ask questions about assessments and things like that, and they've been really great in terms of responding to emails and queries and stuff like that." 5 Phase 2*
Academic staff open to feedback	
Discussion boards to see what other have asked is helpful	
Academic staff responsive to questions	

Trainee perceptions of the benefits of undertaking the AHRGP – phase 3

In phase 3, the trainees identified ways in which they had personally and professionally benefited from the AHRGP. Four themes emerged from the data:

1. Growing and advancing self
2. Gaining skills and knowledge
3. Investing time in learning
4. Helpful university systems

Growing and advancing self involved the trainees recognising that by participating in the pathway, they had personally and professionally benefited. Trainees reported being more confident in their work roles and with others, and they had the confidence to ask for help and to take risks.

Trainees also found the pathway helped give them direction for their career and opened up opportunities for them at work in terms of leadership, projects and new clinical opportunities.

The **gaining skills and knowledge theme** was consistently discussed by trainees, everyone acknowledged there had been some learning and the vast majority of completing trainees were able to identify a range of skills they had learnt through the pathway. A strong feature in the theme was the attainment of evidence-based practice skills, with trainees reporting they were now much more comfortable searching for, analysing and applying evidence to their practice. They also had the opportunity to consolidate their clinical skills and broaden their knowledge for generalist practice. Trainees reflected on their developing leadership skills and operational knowledge as being significant benefits of the pathway. They learnt more about how the organisation operated and was funded and how to undertake service development projects.

The theme **investing time in learning** was described as a significant benefit. This included the opportunity to undertake study in work time but also the opportunity to stop, think and reflect. Trainees took the opportunity to reflect on their strengths and gaps in skills or knowledge and choose topics and learning activities that would help them learn and grow in these targeted areas. The course-related activities forced trainees to reflect on clinical cases they were working on, problems in their workplace that they could solve and areas for innovation, which they also found to be a benefit. Throughout the pathway trainees were given permission to undertake study time at work, and most found some time in work hours to participate in the training and some found time to undertake project work as well.

The final theme of **helpful university systems** included trainees describing the opportunity to take time off or reduce their study load as needed. They also reported the information available about topics before enrolling had improved, and they had good access to feedback and support from academic staff.

Table 28: Phase 3 trainee-reported personal/professional boundaries

Theme 1: Growing and advancing self	
Personal growth and confidence	*"Now that I've spent a bit of time out of it, I've been able to see some of the things that I've been able to include within my day-to-day working life, so that's really good." 3*
Confidence in role and self	
Confidence to ask for help, admit they are struggling	
Choosing topics out of comfort zone	
Opportunities for career development and advancement	*"I think there's skills I've gained in this that I wouldn't have otherwise ever gained. And the development and career opportunities that it's really opened up. Like I couldn't do the job that I'm in at the moment if I didn't have (AHRGP), and I probably wouldn't have gotten, or been prepared for my last role either." 12*
Giving direction and choice about career prospects	
Opportunities to try new areas	
Being promoted within organisation	
Setting up rest of career and future development opportunities	
Theme 2: Gaining skills and knowledge	
Developing evidence-based practice skills	*"Most useful was probably just the focus on research evidence and evidence-based practice. That was a consistent theme across most of the subjects … it's just not something that I've used a lot in terms of research evidence, analysing and gathering and that kind of thing." 13*
Learning from experts	
Discovering new evidence for practice	
Learning to gather, analyse and implement research into practice	
Learning about reliability and validity of assessments and interventions	
Consolidating clinical knowledge and skills	*"I think it helped me to integrate into my role and to learn a bit more about where I fitted and what (profession) can provide." 10* *"We had to identify what our gaps were within that chronic condition or within what we were going to implement … I felt like I knew quite a bit, but I learnt a lot more of different ways other people implement stuff in a program, or even just one-on-one interventions." 5*
Developing knowledge not covered in undergraduate training	
Identifying gaps in knowledge	
Learning about different conditions and treatment options	
Broadening skill base for practice	
Time to reflect on practice	
Skills to facilitate change and manage projects	*"I think for me the benefit has been learning how to start to finish, what do you need to do to be able to facilitate that*

Learning how to manage projects	*change? So, I've got those skills and I can refer back to that if I ever need." 13*
Learning processes, where to start how to finish	*"I think there were a couple of really great project development things within some of the subjects which translated really nice to workplace and just current priorities at work at the time." 4*
Developing operational knowledge about the organisation	*"I think it was just the knowledge gained around … like the holisticness of the rural health system, and just some of those strategies that you can put in place within a health service that may not have everything that metro does." 5*
Investigating the organisational structure	
Understanding business processes, funding streams, structures	
Learning about how to support health service delivery	
Theme 3: Investing time in learning	
Time to invest in learning, reflecting, studying	*"I think I've been supported really well in allocating that time for study." 3*
Time to reflect on practice	*"The topics that I'm the furthest time from, I probably have found the most value, because I've had more time to kind of reflect on it and see." 12*
Time to research	
Acknowledging own strengths	
Having time for study at work	
Theme 4: Helpful university systems	
Flexible study options	*"I think that flexibility allows you to plan, when you're doing subjects throughout the year. Like I did one subject this semester, because that was all I needed to do to finish, but I could have done two and only done one last semester. So having the flexibility of doing that, I think, is helpful." 5*
Option to do 1 or 2 subjects at a time	
Possible to take time off and come back	
Flexibility to get extensions for assignments	
Access to support and information	*"I think in general the support was really good from JCU itself" 10*
Responsive academic staff	*"I did get some good constructive feedback, which I was really happy with" 3*
Constructive feedback received	*"There's videos, there's the module outline video which you get access to in your first week, is now accessible on their home page before you even sign up" 11*
Option to receive feedback before submitting assignments	
Access to information before signing up for topics is improved	

Trainee perceptions of the benefits of undertaking the AHRGP – phase 4

Six months after completing the AHRGP, the seven graduating trainees had the opportunity to reflect on their experience of the pathway via an open-ended question in the survey. The responses relating to benefits of the pathway are described as follows:

- Broadened understanding of rural and remote scope of practice
- Gained confidence in work role
- Interesting and relevant learning materials
- Reinforced passion for rural health and improving the lives of rural communities
- Successfully applied for higher level positions and salary reclassifications
- Increased desire to make changes to service provision
- Broadened skills outside of allied health (research, leadership skills)
- Funding gave trainees the opportunity to do funded study
- Support from the organisation to quarantine study time
- Team recognising graduating trainee's achievement
- Gaining an interest in further study opportunities in the future

> *"I don't feel I have come out as a rural generalist clinician, however it has given me the confidence and drive to explore more areas, apply for higher roles and learn new things. This is not something that I realised straight after finishing, however with months between finishing and writing this, I have gained perspective." 10*

Challenges of AHRGP experienced by trainees – phase 1

Within the first module of the AHRGP, trainees explored their early experiences of the pathway and anticipated what the pathway might be like. Trainees discussed the challenges they were worried about in this first phase. Themes emerging included:

1. Quarantining study time
2. Support from the organisation
3. Work-life balance
4. Motivation and stress
5. Challenges with the course

In the first theme, trainees were particularly worried about **quarantining their study** time; they recognised that they had very demanding jobs, competing demands and vacancies in their team that were going to make it difficult to take time each week to study. **Support from the organisation** included the concerns that managers and other team members did not understand the AHRGP and the requirements of participating. The **work-life balance** theme included trainees' concerns about how much time the study was going to eat into their personal time as they did not feel they would be able to manage all of the requirements in work time. In the **motivation and stress** theme, the trainees described being worried about maintaining their motivation to study while also working in stressful environments and, for some, having just finished their undergraduate training. **Challenges with the course** included concerns about navigating the new university online environment, and some trainees were concerned about finding relevant clinical examples that related to topic content.

Table 29: Phase 1 trainee early and anticipated challenges

Theme 1: Quarantining study time	
Distractions at work, people asking questions, other tasks Balancing work and study commitments Not having enough study time Heavy workloads Challenge of getting study time approved by management Not having enough time to the pathway well Competing demands at work impacting study time Assignments due but clinical work is the priority Short staffed, difficult to take time Meetings fall on study days impacting on how much time is left for study	*"I suppose the only other thing is that sitting down at your desk to do it can be quite distracting because always have a list of things to do and as soon as you open your computer you remember something, and it can be easy to get distracted, but I try hard to just sit down and (study)" 7* *"That that 0.1 is nowhere near enough to actually what I need to do. That only really covers the actual coursework and then things like assignments and everything else on top takes longer. I did have my clinical senior – so at the start she's like 'oh, you know, like some of this needs – you know, there's an expectation that some of this will be done in your own time' but – and that's true and some of it is done in my own – like I do a lot of it in my own time but it's a work-related resource as well that you're creating and it's often referencing work-related materials so you have to be here at work to do it" 12* *"The time constraints are sometimes limiting how I do things so sometimes it might be a bit more rushed to get through modules to then get to the assignment, so not giving it the time that it sort of deserves, just depends on the clinical load" 10* *"I mentioned there that the time constraints are sometimes limiting" 10* *"But unfortunately, if emergencies come up or things come up you prioritise a client over study; it's just sort of the nature of the work" 5*
Theme 2: Support in organisation	
Team members not valuing study time Manager not understanding pathway purpose and requirements Manager insisting on trainee studying at work, studying at home would be easier Pathway not recognised as a part of career progression	*"I suppose some people within the workplace, not necessarily management, don't hold highly like doing extra study so they can see it as 'you get the day off a fortnight, what are you actually doing in that time?' so that does make it challenging. I don't advertise that I'm taking a day off to do study or anything like that but, yeah, I suppose that has been something I have been cautious of because not everyone has the opportunity to be able to do that" 5* *"Yeah, and I – you do have to be here for some aspects of it because you need to be continuing asking questions, etcetera, but there are aspects that you can be at home … I'd rather be at home with my own laptop doing my own thing because, yeah, I feel I'm babied a little bit to stay at work, which is a little bit annoying, but it is what it is." 1*

Theme 3: Work-life balance	
Having to do most of the study at home	*"I know that there's a component that – an expectation that you will take study home to do it but it's really hard, especially when you've done a whole day. Like last night I got home and just couldn't like look at it. Like after you see clients and you have meetings and you're like done, yeah." 8*
A reluctance to spend weekends studying	
Not feeling like studying after working all day	
Theme 4: Motivation and stress	
Having the motivation to do the study	*"I think it is potentially better started with someone who's got a bit more experience rather than me jumping straight into it after six months … Yeah. I think some of the stuff that's covered is more towards that level 2 position, organisational stuff; that's just from my point of view. Maybe starting it a bit later, closer to hitting that year mark would be" 11* *"I guess that would probably be one of the biggest barriers, is if my frame of mind, I guess, changed depending on what's happening in the workplace. I think, you know, if we've got a lot on and it's quite stressful and I'm not having the time to really think about that applicability into practice so that's probably the biggest barrier for me, I think, in achieving those goals." 13*
Having just finished university and now studying again	
Starting the pathway too early in career	
Working in a stressful environment, having the headspace for learning	
Theme 5: Challenges with course	
Navigating new university systems	*"The first few modules were definitely a struggle … just trying to like even navigate the website and those kind of things … but I'm getting my head around it a little bit more now, which has been good" 7* *"Not being able – [choosing] the clinical areas, you obviously have to have the case load in that area to be able to do it, so not being able to shuffle the team round to be able to allow me to have that [case load] might be a bit of a barrier." 10*
Having access to the right consumers for topic activities	
Not working in a generalist role while studying	

Challenges of AHRGP experienced by trainees – phase 2

Trainees discussed challenges relating to the AHRGP in phase 2. The following themes emerged:

1. Time as a challenge
2. Support mechanisms
3. Pathway not meeting expectations
4. Staying motivated through the pathway
5. Challenges with the education provider

Time as a challenge was a consistent theme across all trainees. Finding time to manage the study requirements was difficult while trying to maintain a work-life balance. Trainees found it difficult to protect their study time at work while juggling competing demands. **Support mechanisms** was a diverse theme relating to a range of challenges trainees faced getting adequate support. Some reported difficulties with their manager while others faced challenges with clinical supervision. Within this theme the trainees also discussed feeling isolated in the pathway, with limited interaction with other trainees as compared to the beginning of the pathway when they felt more connected. The **pathway not meeting expectations** was also a strong but diverse theme; trainees reported challenges relating to the pathway being not as useful or relevant to their work as they would have hoped. While they recognised they were benefiting from the pathway, a range of trainees felt the AHRGP was not as relevant to their work or profession as they were led to believe it would be. The theme of **staying motivated throughout the pathway** related to the expectations theme, with trainees finding it difficult to be motivated to engage in activities that they were not enjoying. It also involved the trainees describing the challenge of maintaining their levels of motivation to engage in study over an extended period. The final theme of **challenges with the education provider** involved the trainees describing specific challenges they encountered with the university, including a lack of flexibility and challenges interacting with academic staff. Trainees reported assignments and feedback were vague, which they found disappointing, and there was limited information available about topics before enrolling in them.

Table 30: Phase 2 trainee-reported personal/professional challenges

Theme 1: Time as a challenge	
Work-life balance	*"It sort of varies to be honest. It's hard to put a number to it, because when assessments are due and stuff, I'd be working on it most evenings and weekends." 5* *"I haven't exactly felt stressed about it, but definitely felt frustrated at some points that I'd kind of put myself in the position where I was having to, you know, spend a weekend doing an assignment that I wasn't really getting anything out of so that's probably been the biggest challenge for me." 13*
Studying in own time fluctuates	
Balancing study with other roles and responsibilities	
Protecting study time	*"Finding the time to study. I'm not sure how everyone else has gone with it, but every time I've spoken to you, and every time I seem to speak to (project manager), we don't have any staff." 11* *"Doesn't always work out that way with timing of inpatients and meetings, and that kind of thing. So, it has been a bit of a challenge, especially with trying to add paediatrics in. But I have managed to still complete the assignment and learn a bit from it as well." 10* *"It's just it's hard. I suppose it's hard to not feel guilty about it because other people that are not in the position of doing this pathway, you just feel a little bit of judgement that you're taking time off to study. I don't know if anyone else has expressed that, and that's just I suppose me – that's more my personality that I worry about stuff like that." 5* *"Whereas talking to people that are AHP1s or 2s where they don't have as much, probably, responsibility of that other stuff other than clinical, it's a lot easier to literally say I'm not available because they're not going to get hassled about stuff that is organisational and as opposed to just clinical" 2*
Fitting in the study requirements for two topics	
Not having any staff, challenge to find time to study at work	
Busy workload challenge to quarantine time	
Meetings and client needs impact protected time	
Feeling guilty taking study time	
Impact of study time on other team members time	
Higher level responsibilities impact study time	
Intensive topics take more time but are shorter in length – doesn't fit with study time	
Too many meetings impacts study time	
Theme 2: Support mechanisms	
Limited support from supervisor	*"Like, I just had my same supervision. I wouldn't say that my supervisor overly asked me about the study. It was very independent." 8* *"It was meant to be about once a week, but it took six months for that to get started" 7* *"But yeah, I've certainly felt like there's been a big push to talk through stuff, but I don't – yeah, it hasn't come up as*
Support from supervisor was inconsistent	
Supervisor not supportive of pathway	
Gaps in supervision	
Lack of senior leadership in team	
Supervision did not include AHRGR	

Supervisor role unclear in pathway	*something that has been really clear as to what the supervisor is really meant to do." 12*
Limited support from manager	*"Like, when I did my, what did we do? I'm trying to think of what that thing's called (performance appraisal). So, when we did that just before she left, she wasn't able, like, she gave me my strengths and one of the strengths, I think she gave me one strength and it was your ability to transition from being a student to a speech pathologist. And I was like, 'Are you serious?' I have literally done this program. I've done so many things to contribute. So, yeah, like, she would have had no idea." 8* *"Well, my team leader last year, I used to fill her in about what I was doing, but she was a bit like, okay, wasn't really that interested." 2* *"I wouldn't say that my managers either clinical or operational have an in-depth understanding of what I'm doing or what I'm working on" 12*
Manager not involved	
Manager not supportive/interested in pathway	
Manager doesn't understand the pathway	
No opportunity to speak to manager about pathway	
Manager changed different expectation on time and study	
Limited support from peers	*"Over teams, we've done one or two. Doesn't happen too often to be honest." 11* *"One of the cons I suppose would be not being able to just chat to your other students about stuff that you're doing and just clarifying some of those things. I know I've often reached out to lecturers and stuff, but sometimes it could just be a basic question that you might ask your mate sitting next to you. It's a quick clarification of something you've been thinking about, and you don't have that when you do online learning." 5* *"We did initially last year because we all had the core subjects together, whereas this year, we haven't really … we did at the start of the year because we all did the teaching one, but then we haven't since, so it was even the few times we caught up when we were doing different stuff, it was a bit, oh this is what I'm doing, but there wasn't much discussion because there was no one else, really, to help you with it or to relate to it." 2*
Feeling isolated	
Less meetings with other trainees arranged	
Less opportunity to share learnings with peers	
Not having peers to bounce ideas off, don't know who else is in the topic	
Difficult to line up schedules with other trainees	
Doing different topics to peers	
Theme 3: Pathway not meeting expectations	
Expectations not met / not clear	*"I suppose, I don't know. I suppose I didn't really, for me, it's probably not what I envisioned it being. I think it's beneficial overall, but it's probably not what I envisioned it to be" 1*
Course different to what was anticipated	
Organisation was not clear what was expected of trainees	

Not being able to deliver on expectation for tangible outcomes for organisation Stressful at times Starting the pathway too early Pathway not meeting expectations	*"But there's certainly lots of push from project managers, ACLs, everything to really be able to show that, and I think that's just a tricky amount of pressure to put on someone who's actually completing the course, to then not only complete the assessments, but then also have to be able to show what relevance that is to the organisation, which is just part of it, but it would be helpful if it was easier to do, I think." 12* *"I think that navigating a new town, a new job, a new career, with everything just being so early on, I think that it probably would have benefited me if I had waited maybe a year or two until I'd settled in and really made the decision that it was something that I wanted to do. I almost feel a little bit guilty in a way that I started and wasn't able to follow through because I didn't stay in my role, but I think that you really need the time as a new grad to just settle in and understand what the hell you're doing before taking on even more." 7*
Relevant content Not having the right consumers for topics Topic requiring consumer input that not clinically indicated Content not relevant to clinical work Challenge to find relevance in topic, put learning into practice Some topics need adjusting to be relevant to allied health; i.e., education and diabetes topics Topics geared towards larger allied health professions, not always relevant to podiatry and speech pathology	*"Probably to find suitable clients was sometimes a little bit difficult because I suppose, in country, your client list is very variable and you're not like a metro place where you might have a big cluster of one diagnosis or something" 7* *"I did a running injuries one which I found really interesting, probably for me more personally, but in a public healthy setting, I don't really see people come through with running injuries." 4* *"I didn't feel like I would learn anything by doing that assessment. It was more just make something up to get it into the marking criteria." 5* *"And I said, we don't usually do that kind of assessment here, and it's probably more of something that would happen in a metro area, because they'd have that specialised respiratory unit. But it's not something we do here." 10* *"Yeah. I found that really not overly applicable to my role. In the course itself there was a lot of nurses. It was run by nurses, it was tailored for nurses, and there was a lot of older nurses who were entering or in higher education … I didn't really find it overly applicable for my learning" 13* *"So, you'd go into the, like, the module, and sometimes it was split up and they would have resources for certain things, and sometimes there wouldn't be hardly any resources for speech. Like, there'd be two articles. It was, yeah, very interesting." 8*

Assessment tasks not relevant to work	*"And I don't know if it just comes down to how theory-based it is. You do it to meet the assignments but if you were actually practically implementing it, you wouldn't execute it how you've done it in your assignment, I would say." 2* *"And although I try to think of it in terms of, like, me, I guess, what I can do to improve the health service I'm working in, essentially it is a postgraduate degree and there are assignments. There is APA referencing. There is course content. Like, it's a uni degree." 13* *"I'm not just studying this as part of my qualifications, I'm already qualified, I'm already working in the field, I want tasks and I want it set up in a way that facilitates my actual role, not just getting information for the sake of any information, because I can already do the role, I can already treat these patients, I can already do that work, but I want to do it better out of that, kind of reflected in that." 12*
Academic style assessments rather than practical	
Assessments not recognising the skills and roles of trainees	
Unable to use assessment piece in clinical work, not relevant	
Assessments theory based	
Theme 4: Staying motivated through the pathway	
Challenging to maintain motivation	*"Most challenging? I think, yeah, that motivation is a big one because when it doesn't feel, when the subject content doesn't feel relevant, it makes it really hard for me to want to use my time to engage in the program. You know, like, particularly the six-week intensive, I didn't enjoy it and I was spending, you know, every night or quite a few weeknights and then quite a few weekends doing work that I wasn't enjoying. And it felt to me like, you know, I've put myself in this position and I am not enjoying it whatsoever kind of thing." 13* *"I'm like, I feel like I'm actually, like I get it done but I'm not doing very well. I feel like I don't really … I just do what I have to, to get it done. I know that sounds really bad, but it's not very interesting. I think I've just got higher priorities with work and whatnot that I just do what I have to, just tick it off. That sounds bad." 2* *"But trying to rush through that probably meant I didn't take on as much information as I could." 11*
Looking forward to the course being finished	
Not enjoying the study, doing the bare minimum to pass	
Not being a natural studier	
Difficult to be motivated to do well when not getting anything out of topic	
Learning activities are not mandatory so no motivation to do them	
Rushing through activities to get them done	
Theme 5: Challenges with the education provider	
Course flexibility issues	*"I don't know the ins and outs of the university. But it would be awesome if things were available more regularly." 1*
Topics not always available	
Limited information about topic available before enrolling	

Clunky online systems to navigate	*"Their module outlines, as well, the ones you can find on the website don't tell you actually anything that's involved in the subject. It's a very blasé summary, I guess, of what they're hoping to get from it but no kind of insight into what you've actually got to do, what it's actually about." 11* *"So, I think it is kind of, I guess, a bit of a balancing act. And particularly when you're not able to choose your subjects, there's always that risk that it's not going to be as motivating for you. So, just having to kind of overcome that has been a little bit challenging." 13*
Unable to access topics that appear relevant to discipline	
Some mandatory topics not relevant	
Limited access to university supports	*"And because it's so online, you didn't see someone do a lecture. It was all pre-recorded stuff, so it was really hard to engage with … Yeah, I think that would have been nice. And, like, be in an almost classroom setting. That way you would have put a face to someone, and it would have felt more like you, I don't know." 8* *"I think just how vague it is. Even your feedback's vague. We had a bit of feedback in our podiatry network and there's two other podiatrists doing the level 1 version and they had the same thing. They're like, the feedback's like, you need to expand on this, or you got a pass, but you don't know why or how or … And even the description of the assignments are really vague." 2* *"Contacted the uni to say 'We need some flexibility around this because of my clinical load', which is obviously my first priority, for them to come back and be like 'No, you can fit that in, you've got a 24-hour extension' … It was just like, well, I'm not an undergraduate here that just studies full-time, this is my job, and it's not the highest priority in my job." 12* *"So that's why it's sort of sitting in the middle. And with some of my initial sort of topics, we spent a lot of time doing these assignments, and the feedback I was getting was things like 'Very well done'." 3*
Lack of interaction with lecturers in topic	
Intensive topics were challenging when managing busy workload	
Assignments too vague	
Not enough feedback for effort put in	
Assignments not relevant to clinical work	
Limited guidance with assessments	
Topics with one assessment piece at end skews workload	
Being the only student in a topic is isolating	
Lack of flexibility with due dates	
Too much self-directed learning, not enough content	

COVID-19 impacts

During phase 2 interviews, the trainees reflected on the impact COVID-19 was having on their experience of the pathway. The interviews for this phase were conducted in 2020 and the regional LHNs had spent considerable time preparing for a significant impact on their business. As a result, trainees described how they were reassigned to different job roles, moved offices, were split into different teams and were required to only service high-priority consumers. Trainees also reported they were unable to travel out of the region on weekends or for work for some of 2020 and there was less to do on the weekends. Reflecting on the impact of COVID-19 on the experience of the pathway, trainees described positive impacts including the extra time they had to engage in study because there were fewer consumers to see, there was less to do on weekends and the university was more flexible in terms of time frames and the application of their learnings to clinical practice. There were however several challenges as a result of COVID-19, including the changing of organisational priorities. It was challenging to get project work approved during this time as it was not an organisational priority; some trainees experienced higher workloads as a result of realigning priorities and preparing for the impact of the pandemic, which meant they had less time for study. They were also unable to travel to their remote consumers, which was stressful, and teams were split up geographically or reassigned work roles, which impacted who they were working with and the type of work they were doing. While the COVID-19 pandemic continued throughout phase 3 as well, this was not a significant feature of trainees' interviews at the end of the pathway. They felt the biggest impact on their experience was during the initial months of 2020 when services were preparing for the pandemic impact.

Table 31: COVID-19 impacts

Positive impacts of COVID-19	
University was more flexible with assignments	*"I think obviously COVID has changed that level of expectation that the university has, and how flexible they are, and how much everything that they need" 12* *"If anything, it's made it easier because we haven't been as busy. So, I've almost found like I've probably had a little bit more time to do some incidental study at work here and there … Our workplace didn't change too much in terms of our service provision; it was just that we didn't have the clients that we were seeing so, yeah, had a bit more free time, I guess." 13*
More time to study as only seeing high priority clients	
More time to study on weekends, more free time	
Meeting new people at work with teams split up differently	
Negative impacts of COVID-19	
Project work not prioritised	*"It got sent up for approval well before COVID, but then yeah, it's probably at the start of the year, and then I guess COVID came along, so then I would say that it wasn't a priority for them." 4* *"I suppose also I've only done, I would have completed five, but I had to pull out of one because of the COVID-19 situation and the contingency planning. We weren't seeing that subset of clientele in our contingency planning. I've really only done the first lot of subjects." 1* *"No. I suppose over COVID I didn't for a good chunk of time. Not that I wasn't able to, not that I didn't have support to, it's just that my role at the moment being the AHP3 was to do lots of sort of strategic stuff around the COVID time. So just for probably a month and a half there I didn't dedicate that one day a fortnight to study." 5* *"It was just an odd time to try and start a project when everyone else was redeployed" 1* *"So, it's not a high priority at the moment, with COVID and having no staff, to being able to implement it. But I haven't been told I would never be able to implement it, it's just when we get steady staffing that we could look at implementing that." 5*
Organisational priorities over study	
Not having access to the right consumers	
Heavy workload challenging to manage with study	
Lack of leadership during challenging time	
Team separated so less opportunity for working together	
Couldn't travel for work shadowing	
Not able to visit outreach sites	
Staff reassigned roles	
Outpatient programs cancelled	

Challenges of AHRGP experienced by trainees – phase 3

Challenges relating to the pathway fell into four themes:

1. Time and motivation
2. Translating into practice and career progression
3. Support structures
4. Education provider related challenges

The first theme of **time and motivation** related to work-life balance, the amount of time invested in the pathway and maintaining the motivation to put in time over the course of the pathway. All trainees reported finding it difficult or very difficult to maintain their work-life balance while undertaking the pathway. Difficulties were faced when trying to fit in coursework as well as assignments, fitting in study around demanding workloads, prioritising study time over clinical work and study impacting their downtime. Some reported not realising how much work would be required outside of work hours when they signed up for the pathway. Multiple reports of motivational challenges arose. It was particularly difficult to maintain motivation in the second half of the pathway, and trainees described the amount of work they put into assignments was not always recognised or acknowledged in feedback received from the education provider academic team. This limited feedback fed into the downward cycle of motivation as effort did not always appear to be rewarded.

The second theme of **translating into practice and career progression** included challenges of the relevance of learning for practice, difficulties implementing learning into practice and having the qualification mean something at their work. In terms of relevance to clinical practice, trainees found some of the topic content was not pitched at the right level for their learning or the types of clinical presentations, and treatment options were not relevant to their local community. Trainees reported challenges implementing learning into work when the clinical presentations, assessment tools or treatment modalities were not available in their local area. Trainees were also disappointed in the outcomes of the pathway at their work; they did not feel the pathway necessarily opened doors for

them, resulted in a higher classification or had tangible benefits for them. Some other professions pay higher salaries when employees gain particular qualifications, but this is not the case for the AHRGP in SA.

The third theme of **support structures** included support from the project management team and their own organisation. The support the AHRGP project management team gave trainees in the first half of the pathway was valued by trainees. The opportunity to share learnings and experiences with peers and clinical leads at teleconferences was reported as helpful and supportive. Trainees reported these opportunities were less frequent in the later stages of the pathway. As a result, trainees felt isolated in the pathway and did not feel they could contact other trainees for support because they did not have the ongoing relationship with them. In terms of support from the organisation, trainees reported their managers and teams were not always supportive of their involvement in the pathway, or they lacked an understanding of what the AHRGP was. This resulted in trainees feeling like they had to justify their time and place in the pathway.

The fourth theme of **education provider challenges** included a range of descriptions of concerns about the content of the topics. Trainees felt some of the topics did not meet their expectations in terms of the relevance of the content to particular areas of practice and to rural generalism more broadly. Some topics were not available to speech pathology or podiatry and those that were appeared to have limited relevant case examples for them. Some commonly seen conditions were not included in course material. There were reports of trainees having limited interaction with other students and academics and receiving inadequate guidance and feedback. There was also limited flexibility in terms of due dates and the ability to manage a busy case load around study for some trainees.

Table 32: Phase 3 trainee-reported challenges with the AHRGP

Theme 1: Time	
Motivation and time investment	*"At the start it was all new and interesting and I really enjoyed it as a break from the clinical side of things for the first half of the program, whereas found the second half a lot more challenging to just keep focused and to prioritise it and see it helping me and relating to my practice as a motivator" 4*
Maintaining motivated to study over time or when topics did not correlate well with clinical role	
Significant investment in time for modules with limited benefits for clinical practice	
Long, involved assignments	
Work-life balance	*"I tried everything in the book to try and have a separation between work, study, life, but you get home from work, I'm exhausted, I can't do study, that leaves the weekend. And when you've only got two days in a weekend and I get one day of work to do it, to do two subjects in that time, it barely fits." 13*
High level of commitment required outside of work hours	
Study impacting mental health	
Working full time and studying is challenging	
Limited down time for leisure, personal relationships	
Needing to take a semester off to have a break	
Protecting study time	*"I'd do two days of outreach and then I'd come back, and then I'd have my study day on the Friday, but then I'd be stressing about, I need to write that doctor's letter, or that person's going to go in for an amputation, and I want to make sure that we're covered and stuff." 1* *"Some will turn in the grave when I say this, but it just needs to be so much more structured and actually allocate that time and maybe a bit more accountability." 2*
Urgent work and phone calls interrupt study time	
Large case load with no one to cover when studying	
Undertaking only mandatory tasks due to limited time	
Vacancies in team impacting on workload	
Allocated study time inadequate for demands of pathway	
Lack of accountability to take study time	

Theme 2: Translating into practice and career progression	
Opportunity to implement learning in practice	*"I really struggle with this idea that somehow, like you're in it to learn, and then somehow at the same stage, and I get you've got to have outcomes and measurables and stuff like that, like you're just learning at the same time" 12*
Limited scope of practice impacting ability to implement learning	
Learning not having tangible impacts on practice	
Limited time to put learning into practice while studying	
Pathway not having a direct correlation with career progression or recognition	*"I'm not say that coming out of this I feel like I should be all of a sudden titled differently or something like that but you don't have the wolf behind chasing you to get to the finish line because it's a nice thing to have accomplished and learnt things along the way but it doesn't actually change, well it doesn't feel like it changes anything significantly, move you up to a different position or something like that." 4*
Limited tangible benefits for trainees with current organisational structures	
Pathway not directly correlating with career progression or direct outcomes for trainees	
Theme 3: Support structures	
Support from organisation	*"Was questioned around how much time I was using for (study) and when I was doing it, and just like that general attitude of … 'How much should you be prioritising it? … Why do you get to do the program and not like …' even that knowledge that 'Oh, well why do you get a whole day a fortnight just to do PD?' … I've learned not to talk about it a lot." 12*
Managers limited understanding of the pathway and expectations	
Limited flexibility in relation to study time	
Colleagues limited understanding of the pathway and support for trainees	
Other professional development requests declined by management while undertaking pathway	
Peer and project manager support	*"I think having opportunities to actually build more of a social connection between the participants would be really helpful and then I know I would've felt more comfortable to be like, 'Hey, I'm really struggling with this assignment. What are you doing?' rather than just doing it by email." 2*
Fewer meetings between project team and clinical leads in second half of pathway	
Limited peer support between trainees, limited opportunities to build rapport	
Trainees undertaking different topics reducing opportunities for peer support	
Trainees feeling isolated studying online	

Theme 4: Education provider related challenges	
Topics not meeting expectations	*"I just feel like if you're doing to do the course you would probably want to build what you more often and frequently see, other than those obscure ones that you can go and research if you have to." 1* *"You look at the resources, there's two for podiatry and one for pharmacy, and then there's eight for physio … it's very obviously weighted that way, I think." 11* *"I was going into it hoping that I'd get a lot more around leadership and management and those types of skills and it wasn't quite that for me." 13* *"It's so different. So, I don't think I probably knew enough about what to expect and I think that would've changed my decision drastically whether or not to do it." 2*
Some common conditions in practice were not covered in course material	
Limited paediatrics and aged care topics	
Limited resources or adaptations made for podiatry in topics	
Some relevant topics not available for podiatrists	
Coursework not as relevant to local context and complex roles	
Limited topics to develop leadership or management skills	
Links to external sites as topic content rather than content tailored to topic	
Not knowing enough about the pathway before signing up	
Heavy study load	
Some topics did not clearly link to rural generalist scope	*"I did a diabetes subject and it was all about, it was for diabetes educators, well, it wasn't solely about that but that's literally what it was and everything … everything was as a diabetes educator" 2* *"So, you'd go into the, like, the module, and sometimes it was split up and they would have resources for certain things, and sometimes there wouldn't be hardly any resources for speech. Like, there'd be two articles. It was, yeah, very interesting." 8 phase 2*
Topics were intended for different audiences rather than rural generalists	
Some topics need adjusting to be relevant to allied health; i.e., education and diabetes topics	
Pathway not resulting in generalist skill acquisition	
Topics geared towards larger allied health professions, not always relevant to podiatry and speech pathology	
Access to university support and feedback	*"I had some topics where I spent the time to complete the assignment, which I thought was a really good standard, and then I got a satisfactory grade, and they wrote 'Well done' next to it with an exclamation mark. So, I found that a little bit frustrating." 3 phase 3* *"As adult learners, from the university level, they can't treat it as though we're like undergraduate students … There has to be flexibility around*
Limited feedback on assignments considering to effort required to complete them	
Receiving a mark and no feedback	
Receiving negative feedback but still passing the assignment 3	

	paperwork and deadlines … I guess respectful of the jobs that we hold as well." 12 phase 3 *"And because it's so online, you didn't see someone do a lecture. It was all pre-recorded stuff, so it was really hard to engage with … Yeah, I think that would have been nice. And, like, be in an almost classroom setting. That way you would have put a face to someone, and it would have felt more like you, I don't know." 8* *"Like you don't get a lot of like, here's a lecture, we're going to talk through a topic, it's more read this article and it's meant to then be able to extrapolate all this information out of it. So, if you don't have the pre-learning then it's not that easy to negotiate, and you sort of have to do a bit of your own research to then make sense of what they're wanting you to make sense of." 10*

Challenges of AHRGP experienced by trainees – phase 4

In the phase 4 survey, some of the trainees took the opportunity to reflect on the challenges they faced during the pathway via an open-ended question. These challenges relate to the relevance of the learning and opportunities for integration into practice, interaction with others and time limitations. One trainee reflected on the significant impact the pathway had on her wellbeing in terms of the significant time and effort she put into the study in her own time. The responses relating to challenges in this phase are described as follows:

- Limited relevant learning materials and activities; too much theoretical not enough clinical
- Limited opportunities to implement learning into practice
- Challenge of not feeling like a rural generalist after completing the level 1 program
- Limited opportunity for interaction with other trainees undertaking the pathway beyond meetings arranged at the beginning of the program
- Challenge of quarantining study time with high number of vacancies in teams
- Negative impacts on work-life balance while managing study commitments

“Lack of support to have time allocated for study from workplace due to frequently having high vacancies within department” 11

“I have not felt that the pathway had a significant enough impact on my professional skills to justify the negative impact it had on my mental health across two years. The degree itself was well designed and the learning was appropriate for a level 2 professional, it unfortunately was just not the right fit for me.” 13

“I think the pathway lacked specific clinical learning opportunities. Too many subjects spent on less relevant theoretical things (adult learning principles, management principles without being overly practical). I liked the regular support sessions we did as a level 2 group initially, but these were minimal at the end. It was still a good opportunity and appreciated the scholarship to be able to do it.” 4

Trainee perceptions of the AHRGP enablers

At each of the three research phases, trainees raised a range of factors that were enabling their participation in the pathway. These were analysed together as they were very consistent across all phases. The only notable difference was that trainees reported having more peer support meetings with other trainees and the project manager in the first half of the pathway. The themes relating to enablers of the pathway include:

1. Quarantined study time
2. Finding the right place to study
3. Course content and structure
4 Supervision and management support
5. Supportive colleagues/workplace
6. Project manager coordination

Quarantined study time was imperative for trainees managing the study requirements; they found having flexibility to study around other work roles was helpful and having permission to block the time out in their diary and consistent times to study each week helped to protect the time. **Finding the right place to study** was an enabler that trainees realised over time; they found removing themselves from their desk or studying from home enabled them to be less distracted by clinical work and colleagues. The **course content and structure** were enablers in that when the topics were interesting and relevant, the trainees were motivated to put the time in to their study. They also found the flexibility of the pace of the course ensured they could do less when they had other competing demands. **Supervisor and manager support** was as significant enabler which also included the advice and guidance from clinical seniors and clinical leads. Trainees found that when they had questions about their assignments or projects, they were able to get help from these supports. **Supportive workplace/colleagues** related to the workplace valuing trainees' involvement in the pathway and helping them to quarantine their study time and work through challenges. Trainees appreciated this informal support. Lastly, the **project manager coordination** role was reported by several trainees as being a significant enabler in facilitating peer support and encouraging the trainees to persist through challenges experienced in the pathway.

Table 33: AHRGP enablers

Theme 1: Quarantined study time	
Time allocated in work hours	*"Enablers were definitely the fact that Country Health were willing to give us FTE to our study. I think that if it was something that we had to do in our own time, that would have changed my view on it a lot … Yeah, I made sure that I always allocated the same day and the same time every week to be able to do it." 7 phase 2* *"It's been pretty good. We have a – like we timetabled and rostered what we're doing week by week on a*
Study time rostered into diary	
Studying the same time each week / keeping a strict routine	
Permission to do study flexibly around other commitments	
Making up study time at another time when interrupted	

Having more study time at peak times	*monthly basis so being fortunate enough to have a day set aside" 4 phase 1* *"If I find that, you know, we've got meetings or things that accumulate on that day, then I will usually try and make up that time somewhere else in the week because I just find without having that time allocated it would be unachievable, for me." 2 phase 2* *"I can actually do it within work that allows me to think 'all right, well, how is this actually applicable in a workplace?' I think if I didn't have that time to study in work hours it would very much feel like a chore so I think that that is really beneficial and will be a big enabler" 13 phase 1*
Theme 2: Finding the right place to study	
Permission to study at home	*"So, it's been really awesome to have it at home. It's much more, it's less anxious times, because when I was doing it here, people would be popping in and out and asking me questions, and I'd have to go and help the (allied health assistant) which I'm happy to do, but it was just annoying at the time. Whereas now, it's been really awesome to have that protected time at home." 1 phase 2* *"So, when I had study days, I would do some here on site, and then some at home … so it's allowed me to spend more time studying without having to drive here, just to study. So that was a bonus. And also, I got less interruptions." 5 phase 3*
Finding somewhere free of distractions to study	
Booking a different space to study at work	
Finding a quiet space to study	
Being unavailable to interruptions during study time	
Theme 3: Course content and structure	
The course is interesting	*"I think I genuinely, I mean I enjoy learning overall, and I appreciate the idea of being able to learn outside of just my general role and trying to think about new things, whether that's clinical or practice or whatever" 12 phase 2* *"I suppose that's why I want to look at subjects being not the two subjects at the same time going forward, so then I can manage that a bit better." 5 phase 2*
Motivation to learn	
Positive intention for the course	
Learning relevant material	
Flexibility to take time off from study	
Flexibility in how many modules are done at a time	

Theme 4: Supervision and management support	
Supervisor/senior providing guidance and support	*"Yeah. Just she was a really good resource to be able to find things that I might have not known where to look. But she had a really good insight into that, so yeah, she knew that she'd seen things before so she sort of just followed where logically she would have put it, and found it and sent it all to me, which was good."* *10 phase 2* *"Let's support you. What do you want to feel supported? And, like, has even just called me to check in. So, yeah, so far, she's been great." 8 phase 2* *"Having that full day of study time, that definitely helps and that's probably the biggest one. That gives me, yeah, a full day to do stuff, which, depending on how many modules I'm doing and difficulty they are, I can usually get most of my work done in that time."* *5 phase 1*
Clinical leads helping with projects, linking to the right people	
Supportive manager	
Supervisor/manager helping to quarantine study time /advocating for time	
Keeping supervisor/manager informed of progress so they can see the benefits and are motivated to provide support	
Theme 5: Supportive colleagues / workplace	
Team members respectful of study time	*"I've pretty much got a consistent day that's my study day and everyone knows I'm doing that, and people try really hard to honour my time for that and not interrupt me and that sort of thing. That's really, really great. That's really well-respected around the place."* *4 phase 2* *"And just being able to continue to network with different people if I am doing projects or courses and that because a lot of the learning within the course is that sort of self-directed learning so if I don't know the answers then it's about finding someone within the organisation that I can talk to about it." 3 phase 1*
Colleagues try to not interrupt study time	
Learning from other team members, answering questions and helping with challenges	
Team recognising that study is difficult and offering assistance	
Theme 6: Project manager coordination	
Meetings organised by project manager were helpful	*"I think as well, just having those sort of scheduled catch-ups with everyone within country health that was doing the pathway and just being able to hear where other people were up to and what they had found as a challenge so that we were almost prepared, in a way, that if we were then doing that module in the future, you knew what to expect." 7 phase 2* *"(Project manager) was really good at linking us up with other people and particularly if we had, like if there were*
Guidance and support through challenges	
Support from other trainees across regions	
Meetings with project manager and other trainees doing the same topics	

Hearing about peers' experience of topics was helpful before doing them yourself	*the two of us doing the same subject, she would always make sure we got in contact. So that was really good. In some aspects it was really nice when you could hear other people struggling as well and not find it as beneficial. So, I think that was a good side of it." 4 phase 3*
Project manager helping solve problems encountered	*"She's great; really great. Really supportive. I emailed her last night about the assignments, and she'll problem-solve, which is really good." 3 phase 1* *"We've been doing a few – like (project manager) has instigated a few – like all four participants linking in together" 4*

Service development project experiences described by trainees

There is an expectation that trainees will participate in service development activities while participating in the AHRGP to enable them to implement their learning in practice and develop innovative solutions and ideas for their organisation and community (SARRAH, 2019). AHRGP topic assessment activities generally revolve around implementing learning into practice by developing a project, resource or activity for the employing organisation or a consumer. Throughout the three phases, trainees reported a range of projects and activities they had undertaken in conjunction with the AHRGP, including those shown in Table 34.

Table 34: Examples of trainee service development activities

Telehealth	• A high risk foot remote service telehealth proposal • A telehealth hand therapy proposal linking local and metropolitan occupational therapists to consumers
Delegation to support workers (e.g., allied health assistants)	• A remote allied health assistant podiatry training program and protocol • An allied health assistant led arthroplasty rehabilitation group program • An occupational therapy allied health assistant proposal to improve team efficiencies • Evaluating an allied health assistant led hand therapy group
Extended scope of practice including skill sharing (trans-professional practice)	• The development of speech pathology training packages on modified diets for nurses across multiple sites • The development of profession-specific education and training sessions • Developing an interdisciplinary falls prevention education program
Partnerships supporting inter-agency and rural-urban service integration	• Local physiotherapy hydrotherapy service development linking local and metropolitan pain services • Formalising a partnership with a specialist provider to facilitate the prescription of complex assistive technologies to local clients via telehealth • Developing a paediatric peer support group for consumers
Other resource development	• An auditing instrument use to improve sterilisation efficiencies • An occupational therapy position statement informing the use of yarning with Aboriginal people • A proposal for an arthritis rehabilitation exercise program • A speech pathology assessment inventory with guidelines for their use and application • Various consumer brochures and treatment plans relevant to specific health conditions • Development of profession and team-specific orientation manuals

Service development project enablers

During phase 2 and 3 interviews, trainees discussed various enablers that assisted in developing these service development projects while undertaking the AHRGP; these are presented in appendix 3. Two enablers emerged**:**

1. Supportive organisations

2. Course content with topics that build on each other.

Supportive organisations included a range of experiences of trainees where the organisation made a real impact, from managers and supervisors offering encouragement and practical support to having access to the resources and information that was needed. Some trainees were encouraged to take on projects that the team was already motivated to implement or were very small and easy to manage in a busy workload. In terms of **course content with topics building on each other**, this theme related to the project management and service development teachings from the education provider. Many trainees reported that this was a positive aspect of the AHRGP; even those who had been unable to implement a project felt they had the skills to do so in the future. One trainee structured their topics so that they could work on the same project over multiple topics, which they felt was a significant enabler and contributed to their overall satisfaction with the pathway.

Service development project barriers

Various barriers to developing and implementing service development projects were discussed with trainees in phases 2 and 3. These were analysed into three themes:

1. Organisational support for projects
2. Topic limitations
3. Time limitations

Organisational support included the trainees reports of limitation in terms of approvals, funding and resources for project, challenge of getting help or support from staff within their regional LHNs and projects being too big to manage themselves. **Topic limitations** related to the structure of the AHRGP, with different topics each requiring the development of different project proposals or assignments that did not necessarily align with each other or with their work role. **Timing limitations** involved trainees lacking time to implement and evaluate the projects they proposed with the limited time they had quarantined for study and the rest of their workload very busy with clinical priorities. COVID-19 also had significant impacts on service development projects, which

was discussed earlier, including projects not being approved, non-urgent services being cancelled, and staff being reassigned to different roles. Further details are available in appendix 4.

Chapter key findings

The focus of this chapter was to describe the program logic individual outcomes and activities and Kirkpatrick's levels 1 and 2 (reaction and learning) and to a small extent level 3 (behaviour) (Kirkpatrick & Kirkpatrick, 2016). In summary, the individual outcomes for trainees in the AHRGP was variable although consistent themes emerged and were described throughout this chapter. In terms of learning, trainees described their goals in phase 1 and associated learning throughout phases 2 to 4; they also reflected on their reactions to the pathway at each phase of the research. Trainees' initial goals for the pathway were centred on developing skills, knowledge and confidence, and some also included improving health services more broadly. When describing what they had gained from the pathway, some trainees reported developing generalist knowledge and skills in line with their goals while others felt the pathway had less of an impact on their learning.

Average job satisfaction reduced in the middle of the pathway but went back up at the end of the pathway. This may have related to COVID-19 impacts in 2020 significantly changing the way rural health services ran, but the study load may have also contributed to this. Trainees described impacts that COVID-19 had on their experience of the pathway, including the challenge of organisational priorities changing, workload pressures, project work not prioritised and having limited access to consumers that aligned with assignments. Some trainees also reported that because the organisation prioritised very high-risk consumers only at the early stages of the pandemic and staff were not permitted to travel out of the region on weekends, they had more free time to study. Satisfaction with the AHRGP was higher at this midpoint while job satisfaction was at its lowest. It is interesting to note that the trainees were more satisfied at the midway point than at the end.

The data about completion rates indicates trainees reached the midpoint within 12 months of beginning the pathway in 2019, but the time to complete the second half of the pathway was very variable, with trainees finishing between mid-2020 and the end of 2022. This would indicate that some trainees did not complete the topics at the same rate in the second half. This may have related to the COVID-19 pandemic or other organisational or personal challenges. Trainees reported challenges with motivation at the midway and end point of the pathway whereas at the beginning they were enthused and excited about the opportunity to participate.

Benefits of the pathway were described by trainees in phases 2, 3 and 4. Themes from these phases were comparable and related to the development of confidence, skills and knowledge, including clinical, operational and project learnings. In phases 2 and 4, trainees described learning more about the concept of rural generalism and rural practice. In phase 3, trainees spoke more about developing evidence-based practice skills and described ways in which they were able to use these skills in practice. In phases 3 and 4, the trainees also reflected on the consolidation of their skills and how the pathway had built on what they already knew while in phase 2 they described more specific areas of learning. During phase 2 they were in the middle of the pathway and describing their current experience whereas in phases 3 and 4 they had finished the coursework, and this may have allowed them to be more reflective in their thinking. In phase 2, a theme of broadening networks arose but this did not feature in phase 3 or 4, perhaps indicating this was an early gain for trainees that did not continue to grow in the second half. Investing time to learn was a theme in phases 2 and 3 with trainees recognising the privilege of having time to study at work as well as the benefit of having time to learn, reflect and improve their practice. In both phase 2 and 3, confidence was a strong feature of the benefits described by trainees. In phase 2, they also reported the pathway was helping them think more broadly, and in phases 3 and 4 trainees reported the pathway had helped with career advancement. Trainees were asked to rate their confidence working as a rural generalist over the three phases; these ratings also demonstrated an increase in confidence from the beginning of the pathway to the end. This is consistent with the qualitative findings.

Trainees explored the challenges they had faced throughout the pathway in phases 2 and 3 and to a lesser extent in phase 4. They also described the challenges they anticipated encountering in phase 1. A consistent theme across all phases was the limitation of time. Managing the study load, high workloads and work-life balance was a challenge throughout the pathway. In phase 1, trainees were worried about how the study time would impact their workload and how they would find the time to do study at work. In phase 2, the trainees described feeling guilty taking study time while there were vacancies in the team or when they felt the time away was impacting other team members. In phases 3 and 4, trainees described the challenges at work resulting in them reducing how much time they studied at work and the impact on their wellbeing. These findings indicate that, perhaps in the first half, trainees were more diligent in taking study time while in the second half when experiencing work challenges, they took less study time off. To further strengthen this qualitative finding, trainees reported the actual hours spent undertaking study-related activities via a survey in phases 2 and 3. This indicates that trainees did indeed study less at work in the second half of the pathway; on average the level 1s studied 2.8 hours less per week and the level 2s 0.4 hours less in the second half of the pathway. Trainees reported a range of factors impacted on this, including COVID-19, organisational changes, staffing challenges and workload pressures.

Support mechanisms were described as challenging during phases 1 to 3. In phase 1, some trainees were concerned their organisation did not understand or value the requirements of the pathway and the support they would need. In phase 2, trainees described gaps in support, including limited supervision and management support, while in phase 3 these were not such a feature. When reviewing the quantitative data, it is clear that trainees received less clinical supervision in the second half of the pathway, even though the main concerns with access to supervision were in the first half. Further, the quantitative data indicates that approximately half the supervision was received face to face and the other half remotely. Of the trainees who did not continue beyond phase 2, 66% were receiving remote supervision. This is an important factor to consider moving forward in planning the support mechanisms for trainees. Both phases included challenges in terms of support from peers, with reports that in the early stages of the pathway there were peer support meetings arranged through the AHRGP project manager, but these reduced by

the midpoint and did not feature in the second half of the pathway. Since this was raised in both phases it would appear this was highly valued and was challenging when taken away. It is also important to note that six of the 13 trainees in phase 2 did not complete the pathway, so their responses about a lack of supervision or management support may have gone unresolved as they discontinued the pathway, whereas the trainees in phase 3 reported less of these challenges and appeared to have been somewhat satisfied with the support they received, the two trainees who either left or deferred in phase 3 were the least satisfied with the support they were receiving.

Trainees in phases 2, 3 and 4 reported challenges with the relevance of coursework to their clinical work and with motivation. In phase 2, there were more reports of concerns relating to the organisational expectations of the pathway not being met than in phase 3, and perhaps this became clearer towards the end. There were also more reports of challenges with motivation in phase 2, but again in phases 3 and 4, the trainees had finished all the coursework, so they did not need to be motivated anymore. All phases featured the challenge of relevance of coursework and the ability to put learning into practice; this related to the topics not always aligning with trainees' learning needs and the type of work they experienced in rural and remote SA.

The limitations and strengths of the education provider course were discussed at phase 2 and 3. A range of themes emerged with some crossover of ideas in terms of limitations and strengths. For example, some trainees found they had limited interaction with the teaching staff while others found them to be responsive. Some trainees found the topic content to be particularly relevant while others found it lacked transferability to their practice. Most trainees found the workload to be very high and challenging to manage, but some also mentioned how flexible the university was in terms of choosing one or two topics, undertaking intensive shorter topics and taking breaks when needed. It was pleasing to see over the three phases that SA Health were able to work with the education provider to overcome some of the challenges that trainees reported, including topic content and outlines and flexibility of options.

In addition to challenges and benefits, trainees also described the enablers they experienced throughout the pathway across each of the three phases. These were consistent across all phases

and related to protected study time at work, finding the right place to study, the education provider course itself, support structures and workplaces and the project manager role. Service development projects were also described in this chapter as well as the barriers and enablers relating to these projects. The enablers and barriers both related to support from regional LHNs. Project implementation success was largely dependent on trainees feeling supported to develop and implement their projects, projects being aligned with organisational priorities and resourcing, and support structures and colleagues offering advice and practical assistance.

Chapter summary

The outcome each trainee achieved through participating in the AHRGP was variable; the seven who completed the pathway in 2022 had positive and negative reactions that have been outlined. They also reflected on the benefits the pathway had had on their learning, career, confidence and skills to work as a rural generalist. While the pathway was challenging in terms of juggling a busy workload and the relevance of the training to all clinical areas, all of the level 2 trainees completed or are planning to complete, and three level 1 trainees completed the pathway. Their experience, perceptions and reflections are invaluable in refining the pathway and improving the experience for future trainees. In the next chapter, the service leaders' perspectives and experiences of the pathway will be explored to build on the findings from this chapter. This will assist in evaluating Kirkpatrick's third phase, behaviour, which focuses on how the training has influenced participants' performance at work.

CHAPTER 8: SERVICE LEADER EXPERIENCES OF THE ALLIED HEALTH RURAL GENERALIST PATHWAY

Chapter overview

In this chapter, the perspectives of the managers, supervisors and clinical leads (service leaders) are explored to build a comprehensive understanding of the experience and outcomes of the AHRGP. The service leaders describe the anticipated outcomes of the pathway and then how the pathway has actually impacted trainees in positive and negative ways. Kirkpatrick's third level, behaviour, is interested in the ways in which workplace performance are influenced by training (Kirkpatrick & Kirkpatrick, 2016), and in this chapter, service leaders rated trainees' confidence and competence to work as rural generalists and then described the changes they were noticing in trainee behaviour and performance. They also explored how the pathway was impacting them and their roles as an indirect outcome. This exploration of outcomes and impacts is mostly in line with individual outcomes from the program logic framework but is also helping to build a comprehensive understanding of AHRGP inputs and outputs. Table 35 outlines the structure of this chapter.

Table 35: Chapter structure

Phase 1
Anticipated outcomes of the pathway
All phases
Confidence and competence
Phase 2
Trainee individual outcomes / behavioural changes
Challenges for trainees
Service leader outcomes
Challenges for service leaders
COVID impacts

Phase 3
Trainee individual outcomes / behavioural changes
Challenges for trainees
Service leader outcomes
Challenges for service leaders
Enablers for pathway success
Support for future trainees
Discussion

Anticipated outcomes of the pathway

In phase 1, the service leaders described the anticipated outcomes of the AHRGP, which could then be analysed with actual outcomes in phases 2 and 3. These were explored in terms of the outcomes for the individual trainees, the organisation and the consumers with whom they worked. Within this research question, the anticipated outcomes for trainees will be explored while outcomes for the organisation and consumers will be described in chapters 9 and 10 .

Service leaders anticipated that the trainees would benefit from the pathway in multiple ways:

1. **Trainees will become more confident** rural generalists with improved skills and knowledge relevant to rural practice
2. **Trainees will develop a broad understanding** of health systems that new clinicians would not otherwise understand early in their career
3. **Trainees will develop critical and flexible thinking** with an ability to think outside the square, solve problems more easily, take on challenges, work with limited resources and more easily consider others' perspectives and views
4. Trainees will also develop an **appreciation and understanding of rural and remote practice** and the needs of their local community
5. By having a core group of trainees undertaking the training together, they will develop new networks to support each other and be able to work on projects together

6. **Trainees will feel valued and appreciated** as they are given time and funding for training; they will also benefit from a recognised pathway for developing rural and remote generalist skills
7. Trainees' involvement in the AHRGP will allow them **to progress their careers in rural and remote areas** rather than having to move for a promotion

Confidence and competence

In order to demonstrate behavioural changes (Kirkpatrick & Kirkpatrick, 2016) at each of the three phases, supervisors and managers were asked to rate trainees' competence across three rural generalist domains (working with clients across the age spectrum, delivering a large variety of health services and working across a large variety of health settings) and also their overall confidence working as a rural generalist. The rating scale was 0 for not at all competent/confident and 100 for extremely competent/confident. A limitation of these ratings was that there were several changes to managers and a few changes to supervisors over the phases; as a result, the ratings were not completed by consistent participants at each phase. Additionally, there were significantly more trainees to rate in phase 1 compared to phase 3 due to the trainees who discontinued part way through the pathway. Due to these limitations, the results should be analysed with caution. Of particular mention in phase 3, five of the eight managers did not feel comfortable rating the trainees' competence and confidence because they had not worked directly with them. The remaining three managers rated the confidence of six trainees. In each phase, all of the supervisors were happy to rate trainees' competence and confidence. Since the level 1 and 2 pathways were different in terms of the level of experience of trainees and the program structure, confidence and competence ratings were separated for analysis.

Level 1

Supervisors consistently rated level 1 trainees' competence and confidence more highly in phase 3 than phase 1; confidence improved 33% and competence improved between 7 and 20%. The supervisors rated competence delivering a large variety of health services more highly than

working across age groups and health settings; potentially trainees had more opportunities in this area, or this was more visible for supervisors.

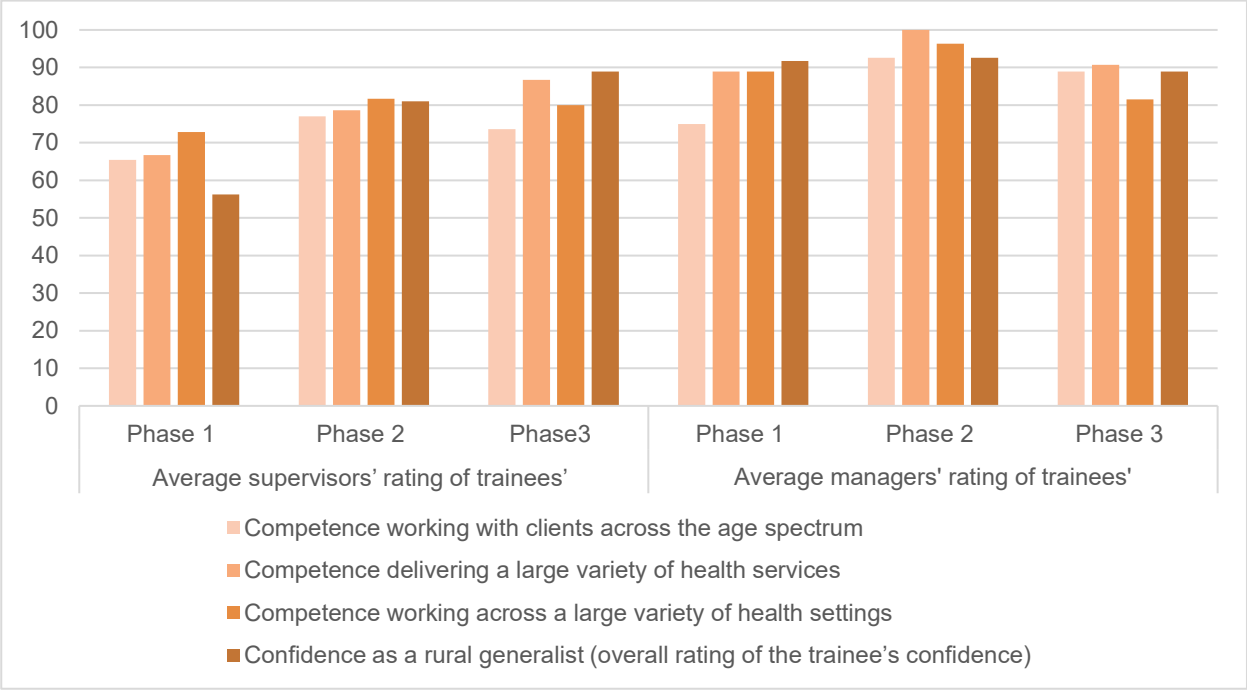
In phase 1, the managers rated the trainees' competence and confidence higher than the supervisors, indicating managers thought the trainees were performing at a high level at the beginning of the pathway. The managers rated competence and confidence fairly consistently across the three phases. This may be a result of the very high phase 1 ratings, which meant there was a small margin for improvement, but may also relate to the changes in managers who completed the ratings and the smaller number of trainees in phase 3 compared to phase 1. The high ratings of confidence and competence in phase 3 indicate positive behavioural outcomes of the trainees. The standard deviation was higher for the supervisors than the managers, indicating more variance in ratings amongst the supervisors, especially in phases 2 and 3. Average ratings are reported in Table 36 and Figure 9.

Table 36: Average level 1 manager and supervisor perceived trainee competence and confidence (standard deviation)

	Average supervisor rating of trainees (standard deviation)			**Average manager rating of trainees (standard deviation)**		
	Phase 1 (n = 9)	Phase 2 (n = 7)	Phase3 (n = 5)	Phase 1 (n = 4)	Phase 2 (n = 3)	Phase3 (n = 3)
Competence working with clients across the age spectrum (e.g., infants, children and adolescents, older people)	65.4 (25.7)	77.0 (13.8)	73.6 (13.4)	75.0 (14.0)	92.6 (6.4)	88.9 (0)
Competence delivering a large variety of health services (e.g., health promotion, early intervention, acute, subacute, chronic disease)	66.7 (20.0)	78.6 (13.8)	86.7 (14.5)	88.9 (9.6)	100.0 (0)	90.7 (3.2)
Competence working across a large variety of health settings (e.g., hospitals, health centres and clinics, patient homes, community venues)	72.8 (17.7)	81.7 (14.6)	80.0 (19.9)	88.9 (15.0)	96.3 (6.4)	81.5 (6.4)
Confidence as a rural generalist (overall rating of the trainee's confidence)	56.2 (21.2)	81.0 (15.3)	88.9 (7.9)	91.7 (3.2)	92.6 (6.4)	88.9 (0)

0 – not at all confident/competent; 100 – extremely confident/competent

Figure 9: Average manager and supervisor ratings of level 1 trainee competence and confidence



Level 2

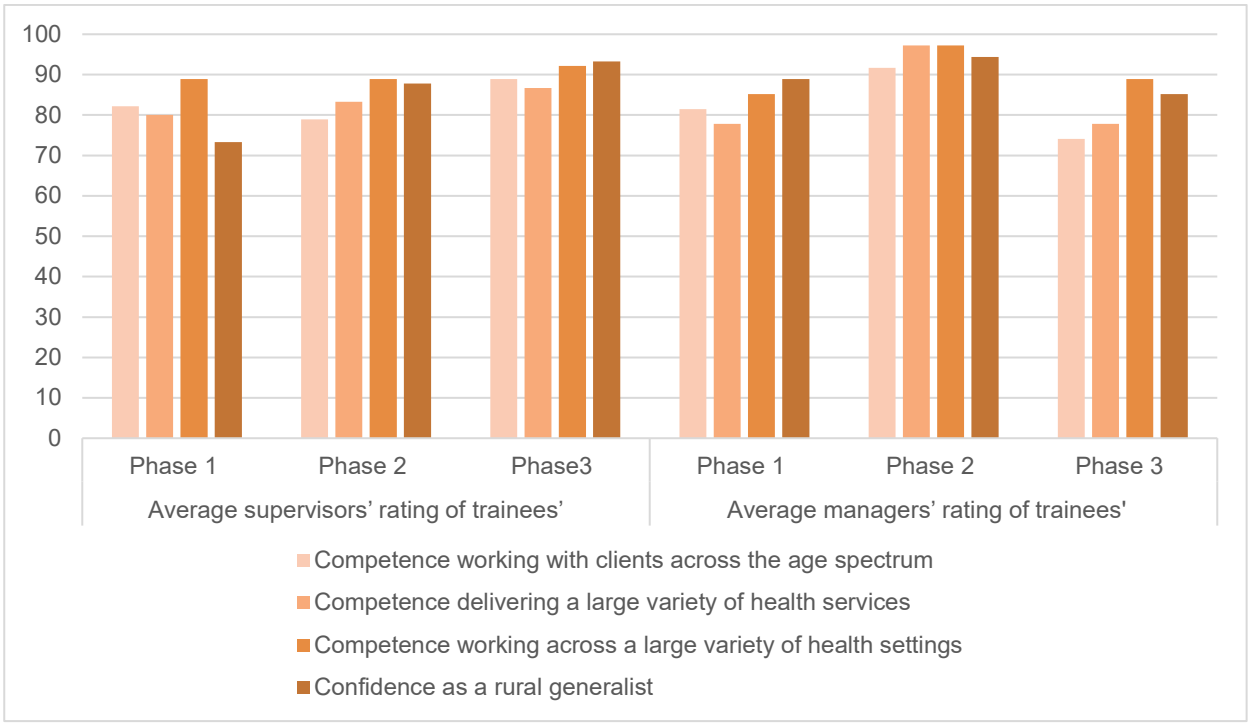
The supervisors of level 2 trainees reported that competence had improved slightly across all domains from phase 1 to 3 (between 3 and 7%) and confidence was rated 20% higher in the third phase compared to the first. Managers reported level 2 trainees' confidence and competence was relatively consistent; however, it is important to note that there was significant turnover of managers between the phases and only one manager reported ratings at every phase. As a result, the manager ratings should be considered with caution. The supervisors and managers rated the competence and confidence at comparable ratings in phase1, whereas the supervisors generally rated the level 2 trainees more highly in phase 3 than the managers. Again, this could have been due to the smaller number of and inconsistency of managers across phases. Positively, the supervisors, who were quite consistent across the three phases, felt the level 2 trainees had positive behavioural changes across the three phases. Average ratings are reported in Table 37 and Figure 10.

Table 37: Average level 2 manager and supervisor perceived trainee competence and confidence (standard deviation)

	Average supervisor rating of trainees (standard deviation)			Average manager rating of trainees (standard deviation)		
	Phase 1 (n = 5)	Phase 2 (n = 5)	Phase3 (n = 5)	Phase 1 (n = 3)	Phase 2 (n = 2)	Phase3 (n = 3)
Competence working with clients across the age spectrum (e.g., infants, children and adolescents, older people)	82.2 (12.7)	78.9 (21.7)	88.9 (7.8)	81.5 (6.4)	91.7 (3.9)	74.1 (25.7)
Competence delivering a large variety of health services (e.g., health promotion, early intervention, acute, subacute, chronic disease)	80.0 (5.0)	83.3 (11.1)	86.7 (8.4)	77.8 (11.1)	97.2 (3.9)	77.8 (29.4)
Competence working across a large variety of health settings (e.g., hospitals, health centres and clinics, patient homes, community venues)	88.9 (7.9)	88.9 (13.0)	92.2 (9.3)	85.2 (6.4)	97.2 (3.9)	88.9 (19.2)
Confidence as a rural generalist (overall rating of the trainee's confidence)	73.3 (9.9)	87.8 (2.5)	93.3 (6.1)	88.9 (11.1)	94.4 (7.9)	85.2 (6.4)

0 – not at all confident/competent; 100 – extremely confident/competent

Figure 10: Average manager and supervisor ratings of level 2 trainee competence and confidence



Trainee outcomes/behavioural changes – phase 2

Supervisors, managers and clinical leads described various individual outcomes for trainees in phase 2. These emerged in five themes:

1. Confidence
2. Managing complexity and developing autonomy
3. Generalist skill development
4. Reflective practice
5. Leadership

Confidence was noted to be improving in terms of trainees making clinical decisions, taking on new challenges and supporting others. Participants were impressed with how confident the trainees were to share their learnings with others. In terms of **managing complexity and developing autonomy**, participants reported trainees were becoming more skilled in managing complex clinical problems, prioritising workload and working with less support and guidance. Participants described these as key requirements of rural practice. Trainees were also demonstrating the **development of generalist skills** within the first half of the pathway, with participants noting trainees were understanding their scope of practice better and demonstrating the ability to work across clinical areas. Trainees were noticed to be improving in **reflective practice**: they were using their initiative to identify areas for improvement and make appropriate changes to their practice, relying less on supervisors in this process. Lastly, trainees were improving their **leadership skills** with the confidence to apply for career advancement opportunities, taking on higher duties and supporting other team members.

Table 38: Trainee outcomes/behavioural changes

Theme 1: Confidence	
In their approach to work	*"I think probably the program has helped to do that in terms of building their confidence, giving them more scope to stretch themselves and grow their skills." 28* *"The early meetings, it was very much trying to pull out information on what they were working on and what they were doing. Whereas the more recent meetings over this year, it's definitely improved in terms of what people are working on and talking, some of the initiative they've shown in scoping out projects." 35*
Making clinical decisions	
Taking on new clinical areas or rosters	
Supporting other staff	
Speaking up in meetings	
Sharing their experiences with others	
Theme 2: Managing complexity and developing autonomy	
More independent managing complex situations	*"Both have increased their skills and competences, both have grown in confidence, and so I see them being able to manage more complexities and issues much better. Their tool bag is bigger, so in a sense is when they're managing issues they are doing really well." 19* *"I think they've shown a high level of understanding in some really tricky situations, and I think they just … I don't think they flinch much around that. They are happy to lay out their understanding and their reasoning and what they would recommend and they're happy to take on feedback. But all in all, they do a really good job of making those decisions." 23*
More flexible and adaptable to different clinical situations	
Prioritising case loads and work effectively	
More autonomous and relying less on other for support	
Fast-tracking skill development in a broad range of areas	
Developing resilience	
Theme 3: Generalist skill development	
Better understanding and appreciation of the generalist role as a specialty area	*"They have taken on some more outreach work; they feel more confident to actually broaden their work, so they are taking on the learning they've got and been able then to implement that into a more generalist role so when they, we've allocated them a region they've got to pick up everything in that region." (Participant 19).* *"I've been a very strong advocate for what we see as a rural generalist specialty, and I think this provides a really clear kind of identity for that." 45*
Broad skill development relevant across ages and service types	
Managing outreach rosters and providing services to a whole community	
Developing a stronger identity as a rural generalist	
Theme 4: Reflective practice	
Effectively reviewing practice	*"They certainly had some really good reflections. They'll often compare their practice now to before they'd done their studies. So, they might say to me in supervision, oh,*
Identifying areas for improvement in their skill development	

Relying less on prompting in reflective practice	*beforehand these were my thoughts around … Or this is what I've done in the past with this … client. Now that I've done my studies, I've learnt this, and I was able to embed this into my practice." 34*
Reviewing learning and changes in practice	
Theme 5: Leadership	
Applying for higher level positions	*"It makes them a more flexible, adaptable worker to the context in which we work and certainly, their stepping up and taking on this case load management and so on has been something that I've really observed." 26*
Supervising and supporting others	
Taking on higher duties and leadership roles	
Applying for reclassification	

Challenges for trainees – phase 2

Challenges for the trainees explored with managers, supervisors and clinical leads emerged in four themes:

1. Challenges with the AHRGP training
2. Challenges with time
3. Support for trainees
4. Stress and study

Challenges with the training included wide-ranging concerns from all participant groups. They were concerned about the relevance of the material for practice in SA, the limited choice of modules, the quality of the training and the amount of feedback academics were giving trainees. One clinical lead was concerned that considering the regional LHNs' considerable investment they would have expected more for the trainees**. Challenges with time** included the trainees finding it difficult to manage study commitments while also managing busy, complex workloads. For some the challenges focused on the high clinical priorities trainees were managing that were difficult to ignore during designated study time, and for others, staff vacancies in teams meant trainees were more reluctant to take time off at work to study. The **support for trainees** theme emerged with participants acknowledging that some trainees did not get enough support during the first half of

the pathway, including supervision, peer support and manager support. A few participants described instances of trainees experiencing difficulties with supervision which resulted in professional isolation or stress. Some managers were meeting with trainees regularly to provide support and guidance while others had very limited contact with the trainees in their regional LHN. Participants consistently discussed the importance of providing support to the trainees, but it would appear that this was challenging to execute in some situations. The fourth theme, **stress and study**, relates to the other themes described but was specifically related to trainees appearing to be stressed while undertaking the pathway. This related to workload pressures, personal circumstances and the difficulty of juggling multiple roles.

Table 39: Phase 2 trainee challenges reported by service leaders

Theme 1: Challenges with AHRGP training	
Relevance to practice, some content was challenging to apply to the local context	*"So, some of their assignments have been based around QI projects. They haven't necessarily translated into practice … they didn't think that they would be applicable until sometime in the future"* 34 *"Sometimes just as they're hitting one of those subjects, they'll rotate out of a particular clinical area so where they've needed to have specific clients to be able to write case studies about, that's been a little bit of a challenge sometimes." 22* *"I know (the trainee) really reflected that with me as well on oh there's this topic, I'm just hoping to get it done, haven't really learnt much from it 'cause it was stuff I already knew. And then there's other topics which I think they are learning"* 32
Limited module choices for some professions and interest areas	*"So, I think, well there's not a huge choice of modules. Like for example I think there perhaps were another one or two that she could have chosen from"* 20
Challenges with the quality of the modules	*"Personally, I would have expected a little bit more maturity of the program than I guess we're getting a sense of, from some of the feedback that we're getting from the trainees" 36* *"Some of them are better than others, but yeah, I can't say, I think it's a great quality … given how much the program is costing us, I'm not sure I would support anybody doing the Level 1 again" 17*
Topics aimed at a lower level of understanding	*"They could have done it with their eyes closed, probably." 17* *"Already has the knowledge in that space. So, I think that was a surprising one for them, that it actually hasn't been quite as beneficial as what they thought" 24*

Having to adjust roster to generalist experience increases workload	*"I know that they were planning on doing a paediatric topic, but they don't work in paediatrics. So, then I think that was going to be a little bit difficult. So, then they decided they were going to do like a day a week or a day a fortnight working in paediatrics. But then that sort of became too overwhelming" 29*
Limited feedback from academics	*"So, you get your mark, and you get pretty much bugger all other feedback, and so it feels quite remote. They don't feel like they're being held to account. And given how expensive this is, that's actually not very good" 17*
Trainee not understanding pathway requirements when signing up	*"I don't think they've really, because I'd talked to them about it three months before they were due to start and I think they'd kind of gone, 'Oh yeah, oh yeah, oh yeah,' hadn't really looked at any of the information sent through, then looked at it right up at the sign-on date, and I think they thought it was too much." 17*
Theme 2: Challenges with time	
Heavy workloads and challenges quarantining study time	*"They still have to sort of make sure that they are undertaking their clinical roles and the roles that are required by their teams and the organisation and in some ways the pathway is put last in terms of priorities."* 20
Staff vacancies impacting workload and study time	*"Yeah, so that is maybe what falls down, especially when you're in contingency and you've got staffing shortages" 28*
Interruptions and urgent work arising	*"I think at times they have; I think sometimes you know; the urgent clinical activity comes up and it overtakes the priorities I suppose. And being clinicians, they'll want to be responsive to those urgent client needs so."* 22
Trainees not taking study time despite encouragement	*"So, I've had to help them to be quite structured with their time to really say, 'We need to get you off our floor. Myself and your team leader need to know what half days we're going to set aside,' so we can almost take them offline and stop people from finding them."* 34
Pathway is a lower priority than clinical work	*"So, I think in some ways these trainees, they still have to sort of make sure that they are undertaking their clinical roles and the roles that are required by their teams and the organisation and in some ways the pathway is put last in terms of priorities." 20* *"a lot of the clinicians really struggled to, sort of, balance that with, 'Oh, we've got 25 more people on the waiting list, but I'm supposed to study.' And that balance between doing what they thought they should do, and that work ethic, versus the ethic of participating in the program" 24*

Challenging to put aside inpatient work; easier with community-based rosters	*"They're mainly in the acute inpatient sector and so you obviously, you've got urgent clients you need to see. You need to do their discharge planning. Things come up that you can't necessarily control and so I feel like they're more likely to override their time with clinical things that pop up." 34*
Limited time to implement/evaluate projects	*"Completing and evaluating, I think. So, the evaluation of the project probably more than the completion. Because for all intents and purposes they completed what they needed to, but the follow-up evaluation hasn't been done" 20*
Theme 3: Support for trainees	
Ensuring trainees have adequate support	*"Making sure that they're able to access appropriate supervision at the regularity that is needed" 22* *"The problem was that we were having profoundly limited contact time." 25*
Limited peer support available	*"But yeah, I don't know whether that element is also, that has also added to (trainee) pulling out because (another trainee left), so therefore." 27*
Trainee being too isolated	*"They were quite an isolated clinician as well. So, I think that's part of the issue," 22*
Inconsistent manager support: some managers were meeting with trainees regularly to provide support and guidance while others were providing indirect support through the supervisor or senior clinicians	*"I think in hindsight, I'm not sure that they're getting the regular, structured follow up. Certainly, they're not getting it from me. I'm assuming that they have a supervisor as part of the program, so" 28* *"I think for it to be successful I'd recommend other people do the same thing right at the start, commit to it, and say, 'This is what we're prepared to give you in order for you to be successful … If you look at the results we've got … if we hadn't have committed to it, it would have been a waste of time.'" 19*
Theme 4: Stress and study	
Trainees managing stress of work and study	*"They said it's been great learning, but I think it was a fairly stressful time for them in trying to get these two modules completed as well as doing this leadership role" 20* *"And then they were studying on top of that with the rural generalist pathway so I can understand how that would have been quite overwhelming for them." 22* *"So, they've had a huge amount on their plate, and you know, it's not surprising to me that they've withdrawn from study because they're just really completely overwhelmed and doing everything they possibly can" 26*

Managing multiple rosters well as study	*"They were so busy and split between many different other areas, that then adding that into their workload was too much. But then things settled down and then they was reconsidering doing that. So, I'm not sure where they're at with that now" 29*
Being away from partner/family	*"I'm pretty sure their partner who was from out this way had moved to (the city) at the start of their last contract. So yeah, there was plenty of encouragement to go back to (the city) as well." 25*

Service leader outcomes – phase 2

In phase 2, the managers, supervisors and clinical leads were asked to reflect on how the AHRGP was positively impacting them; the responses were quite different for each group. Two themes emerged from the supervisors and one each for the clinical leads and managers:

- Supervisors learning about rural generalist practice
- Supervisors taking pleasure from seeing others grow
- Clinical leads building links across regions and understanding processes
- Managers feeling involved in the pathway

Supervisors reported they were **learning more about rural generalist practice** through supervising a trainee, which they found particularly beneficial. This included discovering new concepts and ideas, developing their reflective practice and learning about the AHRGP. Secondly, supervisors described the **pleasure they felt from seeing a trainee grow** and also working with a trainee who was passionate, challenged their thinking and engaged in rich discussions. From a clinical lead perspective, it was beneficial to **build links across regions and get a better understanding of services** and problems through working with trainees. They also benefited from being able to link trainees with allied health professionals in other regions who shared interests or could benefit from collaborating. Generally, the managers in phase 2 did not feel the AHRGP was impacting them, apart from one manager who was particularly impressed with how the **trainees were involving her in discussions** about the pathway and associated activities. This was having a positive impact on her learning and broadening her perspectives.

Table 40: Phase 2 outcomes for service leaders

Supervisors learning about rural generalist practice	
Challenging own learning	*"So, you know when I then have clients I can kind of then think oh hang on, yeah, such and such thought of that, that's a really great way of looking at it. So, I find clinically it probably also helps my leadership development, I'm quite new within a senior role so I find it's really great." 32* *"I guess helping somebody to reflect on their own practice. That's actually good for me as well … Yeah, it helped me with that skill. Because I might not be the best at that, yeah … Yeah, I do, but yeah, they're actually quite good at reflecting on their own practice." 29*
Learning new concepts and ideas for intervention	
Mutual learning with trainee through supervision discussions	
Learning about the AHRGP	
Developing reflective practice skills	
Supervisors taking pleasure from seeing others grow	
Benefit of supervising committed people	*"They just soak everything up. But they, at the same time, they'll challenge me at times, as well, which – they're just a joy to supervise in both settings, in the clinical supervision space leadership and in the rural generalist space. They're just too easy. So, I would say no, from a challenge perspective" 24* *"So, they're often thinking about the consumer and our community and how that's matching up with the services that we're providing … we have a wide range of things to discuss. So, it's not just the clinical side of things which we've always discussed but it's also perhaps taking that step back and having a look at the big picture" 23*
Proactive trainees ask for help when needed	
Rich, critical thinking conversations	
Trainees engaging in deep thinking, finding ways to meet the community's needs	
Clinical leads building links across regions and understanding processes	
Linking people across regions working on similar projects / with similar interests	*"They're more assertive and more, they will ask for help, and they also send me things, even like, so if they've seen something or done something they'll send it out to the whole distribution list or they'll send it to me and say, 'You might be interested in this.' So, it's a two-way thing. They're making sure they're engaging me in that stuff as well whereas I guess when you're a newer grad you have less confidence in maybe reaching out to your clinical lead as much." 27* *"I just think it's really useful to know what's gone on, and then to really get an idea of what things are happening and how it could help other regions as well. So, often in this process, when (name)'s been discussing a particular topic or something they're looking into, I can direct them to another senior clinician that's specialised in that, or I know that they did a project six months ago on that particular topic" 24*
Understanding what is happening on the ground to better represent allied health	
Trainees keeping clinical leads informed of learning and implications for practice	

Managers feeling involved in the pathway	
Nice to be asked for advice/input from trainee	*"I found that really interesting, and they both came actively wanting advice about if they're on the right track and involvement, and that was really quite nice for me … I learnt what they learnt, and it was nice to see what they were learning, so in a sense I could have a different viewpoint on things too" 19*
Learning from trainees; developing different perspectives	
Trainees seek support from manager as needed	

Challenges for service leaders – phase 2

At the midpoint of the pathway, supervisors, managers and clinical leads were asked to describe the challenges they were facing with the pathway. The supervisors and clinical leads supervising trainees raised concerns around knowing how to best support the trainees, but managers did not raise any concerns for themselves. These supervisors' concerns all related to a central theme of **supporting trainees**. They described not having enough information and structure to know how to support the trainees in meaningful ways and described challenges working with the some of the trainees in terms of them being open to talk about what they were learning and what they needed help with. Work pressures meant supervisors were also finding it difficult to provide enough support in line with the requirements of the AHRGP in some circumstances.

Table 41: Phase 2 challenges for supervisors supporting trainees

Knowing how to support trainees	
Having more information about modules to better support trainees	*"But I probably haven't had that extended period of time to really gain more from that because, as a supervisor, it would be good to see what the program had to offer and what was being taught and then be able to then use some of those ideas in future supervision. If that makes sense." 26* *"The fact that they can't get a really clear idea of the content until they've signed up to it is nonsensical. So, trying to make informed choices when you've got really bland generic brief descriptions, you can't go in and go, 'Well, what is it all about?'" 17*

Knowing how to support trainees	
Challenges with supervision, knowing how to best support trainees	*"As a supervisor I've found in these settings we've had really great discussion and it's been really productive space, other times we haven't reflected a supervision where I think you've not got the most out of it or got the most out of me and what we can do." 16* *"But I think I would probably like to be a bit more informed with some of what's going on, and it was because I was thrown in last minute into it, so I probably didn't have the same preparation as some other people." 26*
Lack of structure about how to support a trainee	*"So, for me, that structure, almost like a supervision contract but not necessarily if you're supervising someone, even as a senior to say these are the things perhaps to keep on top of. Because you can ask people and if you don't have knowledge of what they're specifically working on or what they're meant to be working on, they'll only tell you as much as they want you to know, or as much as they need to ask about" 34*
Supervision focusing on clinical issues with limited time for AHRGP-related discussions	*"At the time it's been on the back burner because there's so much else going on."* 32
Being able to provide enough support to trainees / meeting the supervision requirements	*"I think that perhaps the, there's been a few hiccups along the way around supervision, meeting the supervision requirements for the participants … So, I think perhaps it has been difficult for some sites to meet the regularity of supervision because it is more than what is often expected as part of our supervision framework." 22* *"Yeah, it would be actually, and they certainly needed, I found, a very high level of supervision. So, the supervision that I did do with (name) was very much more 'I need to know the absolute minute detail of everything'" 26*
Trainee not sharing learning	*"Their perspective is they haven't got enough to share just yet, they haven't learnt enough, there's nothing relevant to anyone here … They can be quite guarded with those resources and even with outcomes or assessments that they've had you've really kind of got to probe them for results or information or findings." 16*

COVID impacts reported by service leaders – phase 2

COVID-19 amplified some of the challenges faced during the AHRGP in the beginning of 2020, and in phase 2, the managers, supervisors and clinical leads described the impacts they had noticed. These fell into three themes:

1. Organisational/service impacts
2. Individual impacts
3. COVID-19 opportunities

Supervisors and clinical leads described the **challenges of services** moving online or being cancelled as having impacted trainee experiences in the pathway with fewer consumers to see, groups and projects being cancelled, and staff being reoriented to different roles and tasks. During this time, it was difficult to balance study with changing work circumstances. Service leaders also described **individual impacts** for the trainees in terms of challenges matching the course content with the work they were doing and deciding to reduce the study load or defer topics during times of uncertainty. Some managers, supervisors and clinical leads were also aware of personal stressors that were affecting trainees that impacted on their pathway experience.

The managers, supervisors and clinical leads also identified **opportunities** that arose in the first half of the pathway as a result of COVID-19. Some trainees ended up with more time for study because the anticipated high clinical demand for COVID-19 patient care was not realised. Health services were directed to only service the highest of clinical priorities in preparation for significant numbers of COVID-19 patients who would need to be managed as case numbers rose, but the pandemic did not end up have the clinical impact that the regional LHNs were anticipating. As a result, in some circumstances the AHRGP trainees were afforded more time to participate in study-related activities at work. The pandemic also allowed trainees to participate in new leadership opportunities as service changes were planned and adopted. They had the chance to solve complex service problems and participate in innovative service delivery options which related to their rural generalist training.

Table 42: Phase 2 COVID-19 impacts

Theme 1: Organisation/service impacts	
Changing organisational priorities and service delivery	*"No, so I think in the early stage when everyone or not everyone but lots of the LHN's really quickly moved to essential only. Cutting group therapy and face-to-face contact with clients that were centre base, a lot moved directly to telephone and Telehealth type consults" 22* *"I think they are, in some settings. I think, there's quite – a fair amount of still staff uncertainty and shuffling around. So, there's still teams that are down on staff and have been working down on staff for quite some time" 24*
Stress of reorienting services to online instead of face to face	*"Okay, you've been doing this for a year now, do it by telehealth and support a new graduate who hasn't even been doing it to start doing it by telehealth". So, a fair whack going on." 26*
Managing competing demands	*"And, I think, the clinicians as a whole were struggling at the height of the COVID thing, at the start, I guess, not so much now. But to do that balancing it out with the rest of the clinical work" 24* *"But with, I guess, with the additional demands of COVID and the response times for certain activities and tasks, that put a bit of a capacity pressure on them." 22*
Face-to-face supervision had to be done remotely	*"I think through COVID times, so over the last couple of months, it perhaps has been a little bit tougher. I think that might be to do with that we're not really allowed to meet face to face right now. So, whilst we might be sitting in the same building, we need to organise VC and other technology to have our meetings." 23* *"Just providing as much support as I can. But I was onsite once a fortnight and now I'm remote once a fortnight, but available" 26*
Theme 2: Individual impacts	
Challenge of working with consumers relevant to topics	*"And then COVID has just thrown a spanner into the works of everyone when we've had, you know complete scale back to only essential service delivery. It's made access to some of those clients really difficult." 22*
Reducing study load to manage workload pressures	*"I think they are almost at halfway because before COVID it was looking like they were going to be finishing at the end of this calendar year, but I think that's been slightly extended now." 16* *"COVID, I think, has challenged them, from a capacity perspective. And I know from (name)'s perspective, we had a lot of discussion about whether or not they should pause the training, at the moment, just due to the work demand." 24*
Stress at home around COVID impacts	*"And, obviously, dealing properly with the stress. Like, their own individual or family stresses during that time, too." 24* *"No. I think (name) did because they actually had two weeks with the COVID leave because they were in contact with somebody at a training*

	program, so they came back and had to go into isolation, quarantine for two weeks." 28 *"So yeah, up until probably about a week or two ago, we were stuck where we are, which means if they're in shared accommodation, that's where they stay for the entire period of time, whether it be after work, weekends. So, it has been very difficult for a lot of them, especially the ones that aren't from here that like to travel." 44*
Theme 3: COVID-19 opportunities	
Opportunity for trainees to step up and take on new challenges	*"I think, on a whole, everyone's had to change the way they've worked because of COVID. I think it's really brought out the best of people, their attitudes, the maturity levels … it's good to see the ones that actually step up, (name) being one of it, steps up, takes it in her stride, and yeah, can't fault them." 44* *"And that's perhaps another piece of evidence for how I feel (name) has stepped up with their knowledge and their leadership with this program. I made a point of putting them on the other side of the building because I knew they was really the best person to lead that half of the team over there. So that meant that we couldn't see each other." 23* *"Even in COVID, they've been recognised in the COVID space in their region about their leadership, their work ethic, as well, and how much they've put into supporting their team at that point in time, as well." 24*
Opportunity to try new ways of meeting consumer needs	*"So, what we've done is, in fact, the (town) mob took on the (another town) waiting list and went through and screened it to get that point scoring division and then, we've gone back to those people and said, you know, who would accept telehealth and then we've been able to divvy them up." 26* *"I do think that their mindset around using telehealth has changed in general because they've had a bit more exposure to it and we've had a lot of chats around the use of telehealth within our team lately." 34* *"Making them all think outside of the box. It's like, "Okay. We can't provide a service this way, but how can I provide my clients a service". So, it's really got them using their brains and thinking outside of the box as to what they can do and provide their clients at home to keep the services going" 44*
More time for study while only seeing high priority consumers	*"We've been a bit lucky with COVID. They've probably had more capacity to do more because things have quietened a little bit with the lower priorities. Had COVID not happened, they probably would've really struggled to commit the time to the rural generalist program because we've only got two podiatrists for the whole region." 28*

Trainee outcomes/behavioural changes – phase 3

In phase 3, supervisors, managers and clinical leads discussed a range of changes they had noticed in the trainees; these also had flow-on effects for others, which will be explored in research question 3. Themes emerging include:

1. Confidence
2. Broad skill and knowledge development
3. Skills to manage complexity and problem-solve
4. Developing system and strategic thinking
5. Leadership skills and career advancement

Confidence at phase 3 involved trainees demonstrating a high level of confidence and professional growth. Participants noticed trainees asking important questions, sharing their ideas with others and having the confidence to make complex decisions. The **broad skill and knowledge development** theme included learning relevant skills for the workplace and applying them to practice; participants felt that the choice of topics enabled trainees to tailor the pathway to suit their needs and try new areas of practice. The development of project skills was also noted to be a significant benefit of the pathway. **Skills to manage complexity and problem-solve** was a consistent finding for this group. Supervisors, managers and clinical leads reported the trainees were able to think flexibly, critically analyse situations and use evidence-based practice effectively in their clinical work. This enabled them to manage high levels of clinical complexity in their rural generalist practice. **Developing system and strategic thinking** included the trainees' knowledge of how the organisation worked and strategic thinking. This was demonstrated through identifying ways to improve service and processes for the organisation, which was described by multiple participants. Lastly, **leadership and career development** included the significant leadership skills the trainees had demonstrated and the ways in which they had used the pathway to leverage into roles with higher duties. Participants were impressed with where the trainees were going with their careers and also the leadership they had demonstrated in their existing roles.

Table 43: Phase 3 individual outcomes/behaviour changes

Theme 1: Confidence	
Asking questions	*"When I talk to them now, I see a different (name) and I ask them questions and they confidently have discussions around things where before they might be a bit more hesitant. I see them, that's one of probably their biggest ones, their confidence has been a really good improvement." 19*
Growing professionally	
Sharing and discussing ideas with colleagues	
Making clinical decisions	
Theme 2: Broad skill and knowledge development	
Relevant learnings for clinical practice	*"Giving staff ability to choose and lead which way they want to go, I felt that was probably something that we have enjoyed so far." 42* *"Opportunity to try new things, I think they are probably found more so what things they do like and what things they don't need they've taken that opportunity to try something and still hold their substantive position if you wanted to come back to clinical work." 34*
Developing generalist skills	
Having choice over the skills and knowledge to be learnt	
Applying skills to practice	
Developing project management skills	
Opportunity to try new clinical areas	
Theme 3: Skills to manage complexity and problem-solve	
Autonomy; being able to work through problems with less support	*"When I throw something at them new … doesn't need that kind of input from me on a regular basis, is confident to say I know what I'm doing now, I know I need to gather, I know how to present it so in a sense you have to have that confidence and competent skill level to be able to do that without coming back and saying is that okay, is that on the right track … , boom, there you go, half a day later my finalised document is there and it's of a high standard" 19*
Critical analysis skills	
Ability to manage complex situations	
Development of flexible thinking, considering different perspectives	
Knowing when to get support	
Developing reflective practice skills	
Theme 4: Developing system and strategic thinking	
Understanding organisational systems and processes	*"You know, that understanding of using systems to get things, whereas they had a very clinician approach of well, it's just because it's the right thing to do for the client. It's like yeah, that doesn't always swing it." 17* *"So that non-clinical knowledge I think is a big learning and I think I guess the other outcomes is the I think there is an increasing level of recognition of the learning that has come out of the pathway for them" 35*
Thinking broadly and strategically when managing problems	
Developing non-clinical skills	
Getting to know the region demographics and needs	
Skills to take on high level tasks	

Theme 5: Leadership skills and career advancement	
Confidence to take on leadership opportunities	*"I see there's been more of a confidence to pick up some of the other leadership roles within their teams." 22* *"I think on a broader scale they have been able to apply the learnings to their overall role and career progression really within their team and leadership progression" 20* *"I think it really has set them up for their future because they were able to use the learnings from that training to be successful in recruitment to a clinical senior position." 24* *"There are some examples where some of the trainees have been recognised for that and this led to other opportunities either through presentations or progressing through AHP levels" 35*
Demonstrating leadership within existing roles	
Nominated for leadership award	
Skills to establish career long term	
Using skills to move into different areas	
Skills to apply for promotional roles	
Backfilling leadership roles	

Challenges for trainees – phase 3

In phase 3, trainee challenges described by managers, supervisors and clinical leads emerged in four themes:

1. Relevance of course material
2. Limitations with the course structure
3. Managing study and work commitments
4. Recognition of the pathway

Supervisors and clinical leads described various challenges with the course content and structure, and just one of the managers felt the pathway had not been relevant for trainees. The others did not have concerns with the actual course. **Relevant course material** related to concerns that some topics or activities were not relevant to the trainees' clinical work or the local context. For example, the health conditions were not frequently seen in rural and remote SA, the assessments were not available locally or the interventions were not relevant to the discipline. Concerns were raised around trainees having not developed generalist skills or having benefited less than expected. **Limitations with the course structure** mainly referred to the challenge of smaller disciplines (speech pathology and podiatry) having enough relevant choices of topics and learning

materials compared to the larger professions (occupational therapy and physiotherapy), which had more options. It also included the challenge of contacting topic coordinators when trainees had queries or concerns. A range of difficulties around **managing study and work commitments** were raised, including demanding workloads, prioritising study time, clinical priorities, interruptions and work-life balance. There also appeared to be differences in terms of stressors for level 2 trainees with high level operational demands on their time compared to the level 1s who were mostly in clinical only roles. The final theme of **recognition of the pathway** relates to the challenge for trainees of investing a significant amount of time into a course that doesn't have tangible benefits in terms of career advancement or pay incentives.

Table 44: Phase 3 trainee challenges reported by service leaders

Theme 1: Relevance of course material	
Assignments and coursework not relevant to health service needs	*"The feedback has been quite strong that they're not finding that there's as much relevance to their work" 51* *"I think there were some courses, like the feedback from the participants was that there were some courses that were definitely more relevant than others." 34* *"I don't necessarily think it's changed their clinical practice, like what they're doing day to day" 50*
Some topics more relevant than others	
Assignments and coursework not relevant to health service needs	
Challenge of staying motivated when content not relevant	*"I think when they were doing topics that they didn't feel had any value and kind of you've just got to get through it, you know" 17* *"I think probably the motivation there where you can't see the relevance, it's, Yeah, I'll do it, because I want to finish it, but really, I'm just going to be doing it for the sake of it, and I'm struggling to find time to do that with my other work priorities" 51*
Content appeared to be developed for rural and remote work, not regional	*"Being based in this regional city almost and we do have some resources so they found it sometimes hard when topics were covering more that really remote or rural context, they couldn't apply it" 16*
Pathway didn't impact on generalist skills	*"They don't know how much it's directly improved their rural generalist skills … I think, I don't know maybe yeah, they might have had different expectations about the program before starting it." 29*

Theme 2: Limitations with the course structures	
Topic choice not relevant	*"There's less subjects that seem to be really hitting the mark for them" 51* *"And certainly, the feedback that I've had from all of them is they've taken physio modules or something that's been written from another profession and just tried to … (make them fit) … and so they don't feel authentic or valuable" 17* *"I mean, ideally there might be a few more modules available as time goes on for a bigger range of choice." 20* *"There was a lot of frustration … around that there were particular subjects that they were interested in doing and they could see a relevance to podiatry, but it wasn't, podiatrists weren't allowed to be enrolled in the course." 16* *"(Name) would be talking about their stress levels and it might be around some assignments or not being able to get in contact with a course coordinator" 34*
Limited choice of topics	
Some disciplines not able to access relevant topics	
Topics not meeting the needs of all disciplines	
Topic coordinator not understanding the scope of practice for all disciplines	
Challenge of contacting topic coordinators	
Theme 3: Managing study and work commitments	
Staff shortages and trainees feeling guilty taking study time	*"Especially in times of very short staffing. There is quite a lot of guilt and despite having to support clinicians and you shouldn't feel guilty, blah blah blah, it's a lot I guess of a burden on their shoulders whereas I think the level 1 participants, possibly not so much. They've got a higher FTE already dedicated to clinical time so it's not, it doesn't impact as many other people in the team as a does in the clinical senior role." 24* *"I think that whole year where basically, you know, they were the only FTE pod as a new grad, near new grad, I think that's hard." 48*
Fitting in study around other priorities	*"I think they both struggled with time availability, to have study time available and blocking that out. They had to be really structured and quite strict with their time and I think clinicians will automatically divert to clinical work when we're short staffed, rather than taking care of our other responsibilities." 22*
Difficulty protecting study time	
Study was more time intensive than anticipated	*"They definitely had a couple of moments where they were was quite stressed and not necessarily ready to throw in the towel but just kind of wanted it to be over with because they were doing a lot of work outside of*

	work hours as well as they had a lot going on transition wise in her personal life" 34 *"(Name) did find the work, the requirements for the study, a lot more than they did think." 47*
Finding work-study-life balance	*"I think what they're finding is that they then often end up doing some of it like out of hours and those kind of things. It's like anything. You have the best intentions and you have time blocked out for it, but whether or not that actually comes to fruition." 50*
Focusing on meeting the needs of the assignment rather than the needs of the organisation due to time constraints	*"So, some people certainly did just do for the sake of doing a university assignment and didn't necessarily always either consider the local context or didn't think that it was something we would be able to embed within the regional within their local site." 34*
Pathway long; struggling to stay motivated to complete pathway	*"As I say, as much as I think the level 2 clinicians struggled with the amount of work and towards the end it was really just glad it was all over" 24*
Theme 4: Recognition of the pathway	
Rural generalism not recognised as a specialty Pathway doesn't lead anywhere Pathway not well known / valued broadly	*"But the way that this program can perhaps sell this a little bit more, that we can have an identity as a rural generalist, like that is actually a legitimate identity, just like it is to be a sports physio, just like it is to be a cardio-resp physio. We are just as important." 23* *"So, it's that changing, the landscape is changing and so if the rural generalist is where we're going to start embedding practice, it's got to have more value. So, it's either got to be like it's becoming, like going from diploma to degree to honours degree, it becomes the sought after, it's the qualification. So, the workplace has got to reflect that they value it, and I don't think they understand it to value it at the moment." 17* *"You know, so it's like diabetes educators. You know, the, having, being an accredited diabetes educator is now the thing to have and most places won't employ a diabetes educator without it, this has either got to go that way or it's going to die, because at the moment it's a something and nothing." 17*

Service leader outcomes – phase 3

In phase 3, managers, supervisors and clinical leads were once again asked to describe how the AHRGP had positively impacted them. As in phase 2, this was different for the three different participant groups:

- Supervisors getting satisfaction from seeing trainees grow
- Supervisors gaining skills
- Clinical lead getting to know trainees
- Clinical leads seeing links between regions improve
- Managers having the opportunity to work more closely with trainees

Supervisors got satisfaction from watching the trainees grow and develop over the pathway and they felt satisfied supporting a trainee through the pathway. **Supervisors also described a range of knowledge and skills they had gained** through the process of supporting trainees. They had refreshed their skills, learnt more about evidence-based practice and the AHRGP and refined their supervision and reflective practice skills. **The clinical leads learnt more about the business** of rural regions and both the **clinical leads and managers enjoyed getting to know the trainees** better through having more direct contact with them. One manager also reported they had benefited from having people in the team who could now participate in quality improvement activities and higher level thinking to assist them with their own roles and workload.

Table 45: Phase 3 service leader outcomes

Supervisors getting satisfaction seeing trainees grow	
Satisfaction from supporting a trainee undertaking the training	*"I think the advantage is just that they are doing something that they themselves have elected to do, that they are interested and passionate about and that they could get the learnings from being involved in the pathway and I guess if I can support them in that and that is the direction they want to go then I think it is ultimately good for myself and the organisation just from the fact that, yeah, we are supporting them in something they want to do." 34* *"I'm here to pass on what little knowledge I have. I believe my mandate is to, I feel it's my mandate that if I don't develop someone how will I know I'll get a better service next time, it's better to share and if my knowledge, it's just going to be of waste really, it's better shared and it's a good feeling to support someone and to see them grow I feel." 21*
Pleasure in seeing allied health professionals grow	
Feeling satisfied and personally benefiting from supervisor role	
Supervisors gaining skills	
Developing own reflective practice	*"To me like the reflective practice that you tend to do in supervision I think that's a good learning opportunity for me because it's not like I'm the person that knows everything, you know the supervisee is coming to me for the answer, it's sort of like you can problem-solve situations together. So, I think that's a good learning opportunity for supervisors." 29* *"I think I grew a lot professionally … thinking about myself as a supervisor, how can I get more out of that situation rather than being passive, maybe being a bit more proactive and curious … how can I improve my supervision skillset." 16*
Refreshing clinical practice, bringing fresh ideas	
Developing own supervision skills	
Learning about the region as a remote supervisor	
Learning more about evidence-based practice	
Learning more about the AHRGP	
Clinical lead getting to know trainees	
Getting to know trainees, what they were doing, what ideas they had	*"It was actually really useful being able to connect in with them to find what we were doing, find out some of the new ideas and clinical areas" 24*
Clinical leads seeing links between regions improve	
Allied health professionals building connections across regions	*"I was able to link people. So, link a clinician that was in the pathway focusing on a particular topic and linking that to other clinicians in different locations where they were doing something similar and have that part of the pathway." 24*
Linking similar projects across regions	

Managers having the opportunity to work more closely with trainees	
Finding out what drives them, how we can retain them	*"I guess just finding out a little bit more about those individual clinicians and what drives them or what interests them in terms of looking at that as a retention strategy. You find out a little bit more through your contact with them and what does make them want to stay." 28* *"I was able to hand over decent chunks of work for them to take over so it wasn't relying on me, I could rely on other people to assist that process … It's also a sounding board for me as well as in if we were going to do this project, tell me how you do it from your learnings and is this other person over here on the right track." 19*
Having people in the team who can help with service development	
Manager having a sounding board to run ideas past	

Challenges for service leaders – phase 3

In phase 3, managers, supervisors and clinical leads identified challenges they faced in the second half of the AHRGP. These related to a central theme around the **support they were providing trainees and the expectations of their role in the pathway**. Multiple supervisors and managers reported needing more guidance and support from the project management team in regard to what their role was in supporting trainees in the pathway. In particular, managers, supervisors and clinical leads who had not been in the role when the trainees were nominating to participate felt they had missed out on being oriented to the pathway expectations. Supervisors and clinical leads also described the trainees' support needs changing over time and the challenge of recognising and adapting to their new needs; for example, with trainees becoming more autonomous and relying less on direct supervision but still wanting to feel supported. Furthermore, during busy periods it was sometimes challenging to fit in regular supervision, and the clinical leads and managers recognised gaps in supervision for some trainees were an issue.

Table 46: Phase 3 challenges for service leaders

Supporting trainees evolving support needs	*"I really had to rely on their initiative or, you know, being proactive myself and going and talking to them informally. So, I suppose I didn't always feel like I knew exactly what they were doing before they were doing it" 34* *"As a supervisor I … just flipped how supervision could look for them because it was just finding the environment didn't suit their thinking and just looked at different ways that we could have supervision … they wanted more standing alongside each other walking and talking about a situation or just being a bit more flexible about how supervision could look." 16*
Ability to provide a diverse case load for trainees	*"Well in the fact that they couldn't go into another area which she was interested in doing" 29*
Knowing how to support trainees who were struggling	*"I guess probably the only thing that was a struggle is I guess supporting motivation through the program when, yeah, participants are struggling with that balance and the act of balancing their clinical role and leadership role versus, yeah, the pathway" 24* *"That probably was the biggest challenge because it's about protecting them as well because then they're still working full-time and trying to make those hours up in their own time, probably not good in terms of fatigue and wellbeing for those clinicians. I don't know how we'd do that better" 28*
Fitting in regular supervision	*"I think that probably over the last 6 months of their pathway, some of our clinical support, like our supervisor support's dropped off, I would say. Now, whether that's a reflection of finding the time being a problem, or whether it's more of a reflection of their independence, and really just not feeling like they need that support, I'm not sure." 23* *"I think supervision has, at times, been challenging. And providing the regularity of supervision" 22*
Gaps in supervision	*"I think that was harder because they didn't have a good on-the-ground supervisor" 17* *"We know that the clinical supervision provided across speech generally was pretty ad hoc over that period because of, yeah, the gaps in the backfill … So, there hasn't been that feedback loop, certainly to me, yep." 51*

Supervisors needing more guidance about their role / involvement from project team	*"It would be really helpful for me if I had more regular communication, either from the (project team) … or direct with those people that are undergoing the program, because there hasn't been that negotiation around what are the requirements of the program … we can make sure that those clinicians are supported, even if it's, do they need additional study leave or things like that to help them get through, would be good" 51* *"I guess I didn't really know exactly what to expect because it was the first time I'd supervised or supported anyone doing it. So, I didn't have any set expectations, I mainly knew that there was time that they would have to quarantine for it, that they would ask us questions that we would provide oversight and support." 34*
Managers needing more guidance about their roles in the pathway	*"So, I've come in when they're already part way through that program, and a lot of that planning and communication had already happened. So, the level of involvement that I've had has probably been ever further reduced because of that." 51* *"I feel like (names)'s fallen through the net sort of thing because there wasn't the handover. I didn't have any, any expectations put on me of what I needed to be doing with them. So, I, you know, I haven't checked in with them and now I'm feeling really bad. But yeah so I think maybe some more organisational stuff around that." 47* *"But it also puts that responsibility on the line manager to make sure that happens as well, because we all get busy and we let things slide sometimes" 28*

Enablers for the pathway success

In phases 2 and 3, managers, supervisors and clinical leads discussed enablers that had helped trainees to succeed in the AHRGP. These were consistent across both phases and so are presented together. Enablers included:

- Project manager available for support/advice as needed
- Project managers facilitating support between trainees, clinical leads and supervisors
- Supportive managers and supervisors
- Managers and clinical supervisors advocating for study time
- Manager, supervisor and clinical leads assisting with project work and learning activities

- Support and encouragement from the team
- Flexibility of the university around other commitments and challenges
- Organisations who value and invest in staff for the future
- Having enough staff to enable the trainee to protect study time

"I think it's just the nature of our team because we, I like to think we are a good team that supports each other so I think we have been able to then allow that flexibility for (trainee) to take days off for her studies and cover the workload" 21

Managers and supervisors also described strategies in phases 2 and 3 that they had used to help the trainees protect and get the most out of their study time. These included:

- Finding a separate space to study at work that is free of distractions
- Studying at home if suitable
- Blocking out time in schedules so clients cannot be booked in
- Letting the team know when the trainee is not available
- Setting aside shorter blocks of time to make them more achievable to protect
- Being flexible with timing of study
- Marrying up appropriate case loads that allow adequate study time
- Avoiding the trainee having too many roles to cover / spreading self too thinly
- Reassuring the trainee that the study time is important and needs to be protected

"Being in the joint space and things because anyone could just come and talk to her. So yeah, once we put a few things in place that works better, but I think it was challenging at the start to make time for the non-clinical work which we often push to the side." 34

Support for future trainees

Managers, supervisors and clinical leads were asked to rate how likely they were to recommend the AHRGP to others in the future. Despite the challenges described, 84% of participants (86% of managers and 83% of supervisors and clinical leads) reported they were likely or very likely to recommend the AHRGP to others. The remaining participants were neither likely nor unlikely to recommend it. Of the supervisors and clinical leads who had supervised a trainee everyone was happy to supervise a trainee again, except one supervisor who felt it would be important to have a discussion with the interested allied health professional to make sure they had enough time to commit to the pathway before agreeing to supervise them. All the managers were happy to support a trainee in their region in the future.

Chapter key findings

In phase 1, the managers, supervisors and clinical leads identified a range of anticipated outcomes for trainees in the AHRGP, and in phases 2 and 3 they were asked to identify the actual outcomes they were noticing. These were comparable across all three phases with the anticipated outcomes largely consistent with the actual outcomes.

Participants anticipated trainees would **develop confidence to work as rural generalists**, which came to fruition. Confidence ratings increased over the three phases especially for level 1 trainees; the level 2 trainees were already rated very highly at the beginning so there was limited room for improvement. The developing confidence also was described consistently during interviews at each phase, with trainees demonstrating the ability to assert themselves, share ideas, ask questions and support others.

Developing understanding of health systems was reported specifically in phase 3, with participants describing the trainees' development of system and strategic thinking. This was not a major finding in phase 2, indicating these changes were more obvious at the end of the pathway and with trainees consolidating their skills and knowledge into action at a higher level.

Developing critical and flexible thinking was a consistent theme through phases 2 and 3. Managers, supervisors and clinical leads repeatedly commented on how the trainees had developed the ability to manage complexity, solve problems, critically analyse situations and reflect on their practice. They felt the trainees became more autonomous, relying less on support from the manager or supervisor but knowing how and when to seek support as needed.

Developing an appreciation and understanding of rural and remote practice emerged in both phase 2 and 3 through the development of rural generalist skills and broad knowledge. While the appreciation of rural and remote practice was raised in phase 2 only, it was clear from the interviews that the participants felt trainees developed an understanding of their practice and the skills required across all phases. Reports of trainees learning relevant skills and applying them to their practice were raised by all participant groups in both phases.

Developing peer networks was not specifically described by this group although it was raised by the trainees themselves and may have been less visible to the supervisors and managers. In Chapter 7, trainees described this outcome in terms of meeting peers undertaking the AHRGP, reaching out to team members and external services for support and collaboration opportunities. Trainees did not however report working on projects with other trainees and had limited interactions with peers in the second half of the pathway. In terms of networking more broadly, the supervisors, managers and clinical leads described the trainees sharing their skills and knowledge and supporting other team members, which was a positive outcome.

In terms of **trainees feeling valued and appreciated**, it was difficult to measure this from the service leaders' perspective. They did describe how the AHRGP was raising the profile of rural generalism as a specialty which will help give trainees a better sense of identity in their roles. They also described the protected study time as an enabler which allowed the trainees to undertake study activities at work, and various strategies were used to assist the trainees to protect their time. Trainees feeling valued through a recognised pathway for rural generalist skills is an outcome that requires further work to be realised. Some service leaders described the challenge of the pathway

not being recognised by the organisation in terms of a specialist qualification and not having have direct career advancement implications.

The anticipated outcome of trainees having **opportunities to advance their careers** in rural and remote areas was explored widely with this group. Trainees developed leadership skills both within their roles and in higher level positions. It was evident to these participants that trainees were using the skills and knowledge from the pathway to establish long-term career opportunities in rural and remote areas. Managers, supervisors and clinical leads reported the trainees were demonstrating career advancement and leadership through taking on new clinical opportunities and outreach work, undertaking projects and moving into supervisory or management roles.

In phases 2 and 3, managers, supervisors and clinical leads reflected on how the AHRGP was impacting them. In both phases, the supervisors described a range of benefits for them professionally, including the refinement of their own clinical and supervision skills and learning more about the AHRGP. They also enjoyed the role of supervising a trainee and felt satisfied seeing them grow. Clinical leads across both phases found the AHRGP gave them an insight into the business of the rural regions, and they were able to draw links between regions that they previously had not realised. In both phases managers also reported it was satisfying to work with trainees; in phase 2 they described the pleasure of being asked for advice or and being able to support the trainee while in phase 3 there were examples of deeper levels of engagement with trainees.

As well as the positive outcomes, challenges for the trainees and the managers, supervisors and clinical leads were discussed in phases 2 and 3. The emerging themes were quite consistent across phases 2 and 3. Managers, supervisors and clinical leads reported concerns with the training content in both phases with most concerns about the relevance of the content for rural and remote practice in SA. At times it had been difficult to relate the content to local contexts, and some of the content was either pitched at the wrong level or not written to a high standard. In phase 3, supervisors described the challenge of trainees remaining motivated in the second half of the pathway, which was especially difficult when they were not finding the learning relevant. Some

of participants in phase 3 also felt the trainees had not benefited from the pathway as much as they had anticipated. In both phases, participants supporting podiatry or speech pathology trainees reported challenges being able to access relevant topics and learning activities for their discipline. Time to undertake study was raised as a significant issue with managers, supervisors and clinical leads across phases 2 and 3. Reports of trainees managing complex and demanding work while also trying to fit in AHRGP activities was a feature throughout the pathway.

The managers, supervisors and clinical leads faced their own challenges throughout the pathway. In both phases these challenges were around how to support trainees. In phase 2, supervisors and clinical leads described the challenges they faced in having limited information about the AHRGP, and in both phases the managers and supervisors described needing more structure in terms of their role. As the pathway was new, participants reported being not sure how involved they were supposed to be or how they could be the most helpful for trainees, and this was particularly challenging when new managers came on board and hadn't been involved from the beginning of the pathway. It would have been useful for some direction and guidance from the project management team. Clinical leads and managers reported in phase 3 that throughout the pathway, gaps in supervision had been challenging to manage and at times had not been communicated through effective channels, which was frustrating.

Chapter summary

In summary, the managers, supervisors and clinical leads identified a range of positive outcomes for the trainees and themselves through participating in the pathway. They also experienced challenges in supporting trainees and identified various challenges for the trainees. Despite these wide-ranging challenges, all managers, supervisors and clinical leads were happy to support more trainees in the future and 84% were either likely or very likely to recommend the pathway to others. Some supervisors and clinical leads commented on the importance of ensuring the right people were recruited into the pathway to increase the chance of success. The factors for success will be thoroughly explored in Chapter 11. In the next two chapters, organisational and consumer impacts of the AHRPG will be explored to address Kirkpatrick's fourth level of evaluation (results) and the

program logic impacts. This deep exploration will continue to build on the comprehensive research approach that is often missed in the evaluation of training and workforce initiatives.

CHAPTER 9: CONSUMER IMPACTS OF THE ALLIED HEALTH RURAL GENERALIST PATHWAY

Chapter overview

This chapter will outline the impact of the AHRGP on consumers in rural and remote SA. The pathway was introduced to improve allied health workforce outcomes to better serve rural and remote communities in SA. To understand the impact the pathway had on consumers, a group of consumer representatives met as a focus group in phase 1 and again in phase 3 to discuss allied health services in their communities and the perceived impact the AHRGP would have in meeting their needs. Trainees and their managers, supervisors, clinical leads and project managers also discussed the impact of the pathway on consumers in their regions. Table 47 shows how this chapter is structured.

Table 47: Chapter outline

Phase 1
Consumer representative perspectives of the factors that contribute to a quality allied health service
Service leaders' anticipated consumer outcomes
Phase 2
Service leaders' perceived consumer outcomes
Phase 3
Additional factors contributing to quality allied health services for consumers
Service leaders' perceived consumer outcomes
Trainees' perceived consumer outcomes
Consumer representative feedback on pathway outcomes
Discussion

Consumer representative perspectives of the factors that contribute to a quality allied health service

In phase 1, five consumer representatives from four of the six regional local health boards explored their perceptions of allied health services in rural and remote areas of SA. As the focus group participants were in the capacity of consumer representative rather than a consumer themselves, they were asked to describe what the experience of receiving allied health services was like in their regions and what they thought a quality allied health service should entail. They were informed that their ideas and experiences would be revisited in phase 3 in relation to the outcomes of the AHRGP. The perceptions of the consumer representatives are summarised in Table 48.

Table 48: Phase 1 consumer representative perceived quality allied health service factors

Theme	Description of theme	Consumer representative quotes
The right professions	Quality allied health services are accessible to consumers with a wide range of professions available to meet the varying needs of the community.	*"Up here at (town), for instance, we've got one OT, we've got one physio, we've got one podiatrist and we've got one speech therapist and that's to cover the whole of the (region). Other than that, you'd have – as we usually do – we go private." 41* *"And a broad cross section of services that are offered" 55*
Timely services	Allied health services should be available in a timely manner as people shouldn't have to wait just because they live in a rural or remote location. Some locations do not have good access to allied health services and so there are long waiting lists or consumers need to travel long distances to receive a service.	*"I haven't seen a physio for quite some time, but we had such high demand here and not enough people to keep it up that physio was only for a certain amount of weeks. Regardless of your situation they could only give you physio for so many weeks … When I was living in the city it was much easier to get an appointment quickly." 38* *"It's also very difficult to get appointments because of the number of people that are requiring them in the public system." 55*

Theme	Description of theme	Consumer representative quotes
Generalist skills	Rural and remote allied health professionals should have experience and skills to work across a wide range of clinical areas rather than specialised skills in one area. They should have a good understanding of rural practice and match the service to the needs of the community.	*"A service not only needs to be accessible, but I think the practitioners, they've got to have a fairly, you know, sort of broad range of practice expertise. Unlike in the city where people can specialise because there are lots of clinicians so you can go to particular specialists or subspecialists in particular areas, up here you can't so I think what is helpful is to have, you know, people with a broader range of experience, so breadth rather than depth, I think is also useful." 54*
Communication and confidence	Allied health professionals should have confidence providing health services and an awareness of when they need to ask for help. They should be excellent communicators to be able to work with a wide range of people. Allied health professionals should have a good understanding of their role and what they can offer consumers.	*"People that have – who can build confidence in the consumer that they're working with. I guess that way they have to be confident in the skills that they've learnt." 55* *"They need better skills, communication skills. Because there's less of them, they have to learn how to work more effectively in a team and sometimes, you know, how to do things outside their general discipline area." 54*
Client-centred	Allied health professionals should be client-centred; they should focus on the problems the client is concerned about rather than what they think is important or what they think the priority is.	*"What they would like them to focus on is the problem that they're asking for help with and having the confidence that if that clinician needs extra support and needs, I guess facilities to support the support, they can find it." 55* *"I mean you're talking about a team approach, sort of multidisciplinary approach as opposed to people working in silos and so they're tending of focus on the person rather than on a particular, you know, discipline area and so having that multi-collaborative approach I think is useful." 54*

Theme	Description of theme	Consumer representative quotes
Teamwork	Health professionals should communicate effectively in teams to avoid duplication for consumers and to improve the effectiveness of the care provided. This is particularly important in rural and remote areas because the health professionals work across broad clinical areas and locations and collaboration and communication is essential for consistent consumer care.	*"They would need to work together in a team to be able to decide who needs what and how often they need it and bring them all together. I would've thought that was part of a care plan and it would have to be a team approach." 55* *"I have multiple chronic disease and I don't have a formal care plan but here in Health here, they have one file for me, and my diabetic nurse practitioner will look at my podiatry file, she'll look at my dietitian file. They'll all look at each other's reports to know where I am at." 38*
Managing complexity	Allied health professionals in rural and remote areas need to manage multiple and complex consumer needs. Teams should work together to case manage consumers' competing demands with the consumer at the centre of the team to avoid them feeling marginalised or left out of the process.	*"Suffering a mental health condition and impacting on their need for, say, for example, OT or physio support, just the interplay between those different services and what happens at the end of the day for the person, to the patient, to the consumer, I think it's just – and, yeah, it can be a bit of a maze." 40*
Knowledge of local services	Health professionals should have a good understanding of other services available to consumers and collaborate with each other so that everyone can offer consumers the best possible services and avoid working in silos. Sometimes services are not aware of the other local services that could help.	*"I don't think that people are made aware enough of what is available to them. We've got pamphlets along the walls but it's obvious that doctors, or whoever, are not referring them on saying 'we have this locally. You can see this person and get this service'. I know most people here wouldn't know what is actually available." 38* *"Yeah, I think people need a road map. It's about navigating the system and, you know, there's all these health professionals. What do they do? How do you access them? How much do they cost if it's private, etcetera? What do you expect in terms of the treatment plans and – you know, so I think people do need a better understanding." 54*

Theme	Description of theme	Consumer representative quotes
Training	Allied health professionals should be taught about rural practice and the reality of what it is like to live and work in a rural area before they come. Allied health professionals should have the opportunity to study and work in rural areas while they are at university, so they are better prepared to work in the country on graduation.	*"I guess the reality of what it's like to work in a rural area, and it is challenging. If they come up forewarned, I mean if – often the real thing is not like what they learn in a book. I think they need to know before they come to an area … if they come straight out of university and they come into this area they need to know what they're coming to, so they're prepared, to a certain extent …* *I think they really – in terms of their training they need a good understanding of the health system and the different things that work in country and how it all comes together as opposed to just their discipline." 55*
Retention	Allied health professionals don't stay long in rural and remote areas. Some experience burnout, high workloads, limited support and issues with job security. Health services should develop better systems for supporting new allied health professionals to improve continuity of care for consumers when health professionals turn over.	*"Some of them are fairly inexperienced, that we have trouble recruiting allied health people to the region and so there's generally maybe one or two sort of more senior people who tend to reside in the region but a lot of the others are coming up as relatively new graduates who are only staying – you know, generally only stay for 12 months or 12 to 18 months and then, when they get a better job in the city they disappear." 54* *"I think they need some security to know that there's a career pathway. If they really like the area, they need to know they're not going to be locked into one area, that they can move around, they've got a definite career pathway." 55*

Theme	Description of theme	Consumer representative quotes
Continuity and consistency	Consumers get frustrated by the lack of consistency and continuity of treating allied health professionals because of frequent staff turnover. Better staff retention, team communication and documentation could reduce this challenge. When health professionals turn over, the health system should have processes to ensure services continue seamlessly.	*"(I had a) very brief OT-related assessment and that was it. I got home and like I thought that there might've been some follow-up OT-related activity, but nothing happened, but I survived and I'm here today." 40* *"Because they come up and you're getting them for perhaps 12 months, 18 months and then the grass is greener, and they're gone. I lost one last week and he was only with me for 18 months; now I have to get used to another one. Yeah, it's not good." 41*
Personal factors and boundaries	Rural and remote allied health professionals reap the rewards of working across a broad range of clinical areas and living in a country town with the opportunity to get involved in the community. There are challenges too; there is less to do, especially if they don't play sport. Health professionals need to be aware of privacy and confidentiality issues and strategies in country areas as they may work with clients who they see socially as well. If allied health professionals experience professional isolation, they need to know where to get support. They also need to establish a good work-life balance and pursuits to occupy themselves outside of work.	*"I think on top of that, that often those people will feel isolated because they simply don't have the network of support that they would have in Adelaide … I mean there are a lot of challenges on the one hand working in country because you know, you've got small populations, you've got issues of privacy, you run into people in the supermarket, or whatever, and people say 'Can you tell me about this?' or whatever so they have to learn how to separate their practice from their social probably more so than they have to in the metro areas." 54* *"When it comes to country living, I've seen with some people that that that actually puts them off. They're used to the bustle and excitement of the city, and I know locally we don't have a lot to offer. Unless you're really into sport there's really not much to do." 38*

Theme	Description of theme	Consumer representative quotes
Monitoring of quality and complaints	Health professionals' practice should be monitored to ensure services are high quality. Consumers deserve to have their needs acknowledged, and they should be given clear information about their health care and follow-up services. Health professionals should follow through on plans and utilise appropriate systems and documentation to ensure consumers do not fall though the gaps. Consumer complaints should be actioned in a timely manner.	*"I guess the only time you hear it is if anyone isn't happy with the service they got and they don't believe that the person, that the allied health person, is doing what they thought they were going to do. That's when the negative comments come out and that comes down to just personality sometimes. I mean allied health people are just human, the way everybody else is." 55* *"You do get a lot of complaints from people who – particularly around the NDIS at the moment where people, you know, have to wait a long time to get assessed and, you know, often an OT will come out as part of that sort of assessment process. They'll spend a long time with them, maybe several visits, then they go away, and the client doesn't hear anything for a month or two. They make enquiries and they find that that OT or person has gone. They send out somebody else and the whole process starts again, and they find that incredibly frustrating." 54*

Additional factors contributing to quality allied health services for consumers

In June 2022, four consumer representatives from three rural local health boards met for the follow-up focus group. A fifth representative who was unavailable due to unforeseen circumstances reviewed the focus group summary and provided additional input via email. Consumer representatives reviewed the focus group findings from phase 1 and reported that they were still relevant and accurate in 2022. They described additional factors pertaining to quality allied health services in rural and remote areas in 2022, as described in Table 49.

Table 49: Phase 3 additional consumer representative perceived quality allied health service factors

Theme	Description of theme	Consumer representative quotes
Workforce shortages and wait times	Rural and remote allied health workforce shortages continue to be challenging, which has a significant impact on consumer experiences of allied health service delivery. Participants reported local community members waiting significant lengths of time to access allied health services, which they attributed to not having enough allied health professionals in their local area.	*"COVID has caused huge problems and there's the staff are just absolutely stressed out of their mind." 55* *"I think the big thing is increase the number of practitioners … look, when we say that we don't have these waitlists." 41* *"We're almost too close to the city and I know that sounds silly, but people don't want to come out just that little bit further." 53*
Funding arrangements and service types	Changes to funding arrangements impact consumers in terms of what services are available and how they are funded. Changes to disability and aged care funding are currently impacting consumer experiences and concerns for future service delivery, especially when future changes are uncertain. Some allied health services work in competition with each other rather than collaboratively, which impacts negatively on consumers' care and experiences. Limited funding for health promotion activity in rural and remote is resulting in consumers missing out on services that educate them about preventative health and in consumers only receiving intervention once they have a health condition or disability.	*"We've got three or four different agencies, all vying for the same dollar. Now, that money is only going to go a certain. So, somebody's missing out." 55* *"We used to have transitional care package then we had commonwealth home care package and then we had the My Aged Care Home packages, that's all going to be re-shuffled … At the moment you have to get a regional assessor to come in then they've got to get one of the provider's assessors to come and it's a nightmare … we should come up with something that is more equitable for everyone because even with providers we were talking about lack of services in certain areas." 41* *"Have looked for allied health professionals to come and talk to the group about preventative health, if you like. They haven't been able to do it because effectively, it's not in their job descriptions and there's no funding for that to happen … And so, what ends up happening of course is that they only see people at the pointy end of the problem rather than they're able to get in and provide advice in … to maybe mitigate some of those issues so, that might be*

		worth something that is we're thinking about for the future." 54
Community influences	It is very challenging to recruit health professionals to remote or isolated areas. More needs to be done to support service delivery in areas which are more challenging to recruit. Health professionals leave rural and remote areas to pursue educational or employment opportunities in metropolitan areas for their partner or children that are not available locally. Health professionals should be provided with holistic employment packages to keep families in rural and remote areas long term.	*"We'll look at it holistically and make it a whole package to keep families and keep people in areas which I would dearly love to see. Especially as I get older, I want more people here that look after me." 53* *"If people come up with partners, then we need to do work to make sure that the partners have a job if that's what they need, that people are aware of schooling opportunities and those kinds of things, particularly for people with young families. And also, if people are coming up alone then we should ensure that there are good support mechanisms in place so that those people sort of are acculturated into the communities and can meet other people." 54*
Telehealth and alternative service delivery	Rural and remote consumers face challenges travelling to health services, especially when there is limited public transport. Consumers would benefit from more telehealth and innovative service provision models, but they also need good access to technology and support to access the services that they require. Health professionals also need support to orient their services to telehealth modes in effective ways.	*"Our allied health people have decided recently that they're going to actually issue tablets to clients so that they can communicate with the practitioners. And I said, 'Yes, that's fine if you can teach them how to use them.'" 41* *"I think we've had a few situations where a lot of health services have reduced back to the main hospital or (location) and we're told that we can access them, and those people will come out … I can think of at least three people who have never ever had a driver's licence and it's really difficult for us to get to (location) and then back again so." 53*

Summary of consumer representative perceptions of quality allied health services

In summary, consumer representatives provided a thorough description of key aspects of quality allied health services for consumers. These relate to clinical and workforce challenges. Consumers in rural and remote areas have varying and complex needs, and allied health professionals need broad skills and knowledge to be able manage these. Allied health services should be responsive

to consumer needs in terms of being timely, accountable and client-centred. When there are staff vacancies or turnover of allied health staff, consumers experience long wait times for services, inconsistent support and issues with continuity of services. More needs to be done to improve retention but also develop systems so that when allied health do leave, the consumer experience does not suffer. Retention strategies suggested include providing better support and training to allied health staff, helping them integrate into the community and supporting the needs of their family or partner. Complex funding arrangements and service structures also create barriers for consumers to access the health care that they need. There needs to be more investment in telehealth and collaboration between service providers to improve the consumer experience.

Service leader anticipated consumer outcomes

As stated in research question 3, in phase 1 the managers, supervisors and clinical leads described the outcomes they anticipated for the AHRGP. When asked to identify what outcomes consumers could expect to realise through the introduction of the AHRGP in SA, they identified the following:

1. Trainees will have **improved skills and be more knowledgeable** to meet the needs of their consumers more effectively
2. Trainees will be able to better cope with **complex consumer needs**
3. Trainees will better understand the **needs of their community**
4. Consumers should be able to receive **high quality allied health services** closer to home
5. With improved retention, consumers should receive **more consistent and higher levels of care** from allied health professionals

> If we are a place that's providing supportive education, structured and formal education for our staff, would we not then attract a higher level of (allied health professional) to our organisation if we are able to provide that? Of course that's going to have a good impact for the clients. [23]

It's not just a sort of retention strategy, that was part of it, but actually to provide a consistent level of service to consumers in the community with people that were suitably skilled and able to provide safe, quality services. [37]

Table 50: Phase 1 service leader anticipated consumer outcomes

Theme 1: Skills to manage diverse consumer needs	
Problem-solving	*"I had a really, really good result with her … I knew she had the issue … and in terms of what I was able to do for, that I had to make an orthotic for her, and in terms of pain, that's taken her from an eight out of 10 down to like a two when I spoke to her last, which is awesome." 11* *"Perhaps just makes you stop and reflect and clinically reason your way through what you're doing or whatever else you could do compared to normal practice where you kind of just perhaps a little bit more just keep running." 4*
Deeply investigating consumer needs	
Exploring new intervention options	
Clinical reasoning	
Theme 2: Developing skills in working with Aboriginal people	
Using more open communication	*"It's probably the Aboriginal clients that have positively benefited from my improved approach to communicate with them." 13* *"I probably did learn intensive learning about the cultural context to the community, yes, because I think that makes you more culturally sensitive when interacting with all clients." 1*
Understanding cultural contexts	
Providing more meaningful services	
Theme 3: Developing services to meet consumer needs	
New groups to meet community needs	*"Consumers obviously benefit from having that group up and running, it's probably the most obvious thing." 4* *"Helped increase the sort of efficiency and the consistency, and the longevity of some of our rehab programs. So, that will help some of our community members now and in the future." 3*
Improving efficiencies for consumers	
Improving services to remote communities	
Developing skills for future referrals and service needs	

Trainee, manager, supervisor, clinical lead and project manager perceived consumer impacts

In phases 2 and 3, managers, supervisors and clinical leads reflected on the impact the AHRGP was having on consumers. In phase 3, trainees were also asked about the impact on consumers.

Consumer impacts reported by service leaders – phase 2

In phase 2, service leaders described the consumer impacts they were noticing in the first half of the pathway. In some instances, they described what they envisaged the impact to be while at other times they were describing actual impacts. Four themes emerged:

1. Applying learning to consumer care
2. Consumers receive evidence-based care
3. More confident, skilled allied health professionals to work with consumers
4. More coordinated, consistent care for consumers

Applying learning to consumer care emerged, with managers, supervisors and clinical leads recognising that the trainees were putting their learning from the pathway into practice. Reports of the material being easy to implement and assignments focusing on trainees' current clinical cases were noted enablers for consumer benefits. They also described examples of trainees undertaking activities that had direct benefits for consumers, including managing challenges during COVID-19. **Consumers receive evidence-based care emerged**, with service leaders noticing trainees using evidence in their planning and directly with consumers, which hadn't been a focus of their work before the AHRGP. More **confident, skilled allied health professionals** revolved around the general upskilling the trainees had engaged in and how this was having significant impacts on the way they worked with consumers. The trainees appeared to be more confident and self-assured with their increasing knowledge and skills and this was resulting in consumers receiving more holistic and client-centred care. Finally, more **coordinated, consistent care** included discussion around better retention, resulting in consumers accessing consistent allied health professionals. This theme also described trainees developing systems and processes to improve the coordination

of care for consumers in other ways, including more and better consumer information, better access to services in remote areas and trainees identifying new ideas to improve the consumer experience.

Table 51: Phase 2 service leader perceived positive consumer impacts

Theme 1: Applying learning to consumer care	
Trainees advocating for consumers needs	*"It was through their leadership, and this was during COVID times as well, it was a lot of communication, it was a lot of teamwork and they led all of that to ensure that that person got seen within a few days, when really, if they hadn't pushed hard and hadn't advocated for that consumer, it might have been a different outcome." 23*
Using consumers as case studies to deep dive on clinical presentation and options for interventions	*"Well hopefully the increased knowledge base that the trainees are then applying to their clinical activities with clients will improve the quality of those client interactions." 22*
Topics are practical, easily applicable to clinical work	*"They should be able to apply those learnings and they were really keen to do so and I think they have been able to gain some real practical skills to apply to specific clients." 20*
Trainees are keen to implement their learnings, which benefits consumers	*"Clinicians are trying to see how they can implement it into their actual practice in their service delivery." 24*
Theme 2: Consumers receive evidence-based care	
Trainees referring to evidence with consumers	*"But with the way they're approaching their clients, they tend to refer to evidence. So, everything that they're presenting or giving education to clients, it's more about what evidence suggests." 21*
Using latest evidence to make decisions for consumers	*"So, it's up to date research that they're kind of acquiring knowledge on and yeah, I think taking that into their client sessions or their client interactions would certainly be having a positive influence on the outcomes for the client." 34*
Trainees are actively trying to improve their practice through evidence-based practice	*"It's got to be of benefit that you're getting someone who's kind of trying to be as progressive in their practice as possible by constant learning and reflection and getting feedback from people outside of South Australia. I think that's really helpful, yeah." 27*

Theme 3: More confident, skilled allied health professionals to work with consumers	
More skills and knowledge to effectively work with consumers	*"It gives them a lot more skills and a lot more knowledge base for them, so it just provides them stronger support." 44*
Trainees having a strong foundational knowledge in different areas saves consumers time lost to researching answers	*"So, I think some of the assignments that they've had where they have been able to go into more depth in some of those things when the time comes and because they're choosing things that would commonly occur, they've actually already had the chance to get really strong foundational knowledge in it to then able to put into practice quite easily." 32*
Trainees more confident with their skills positively impacts consumers	*"But then I wonder if their internal confidence may be shining through a little bit more and that would obviously impact on how they are behaving around consumers" 23* *"But, I guess, probably their overall confidence will have – and that comes through. Like, clients know when you're not confident about something or if you're stumbling over trying to explain yourself about why you're reasoning is there. I think their confidence will show through to their clients." 24*
Being able to engage more meaningfully with Aboriginal people	*"And even just through, as I mentioned, talking about some of the ways to engage Aboriginal clients." 34*
Working with consumers more holistically to meet their needs	*"I think it has, because in a sense is, if you look at what the philosophy is, is it's about how they're looking at consumers holistically and being able to encompass all that their needs are." 19* *"I think with their involvement in this course they're going to have a look at a client much more holistically and in a rural perspective or through that lens" 16*
Services provided are more effective with new skills and knowledge	*"I think that their overall service delivery would be a lot more effective, whether, like I said, that's about how they're approaching their clients from a more general perspective or the specific skills they're learning from the subjects that they're doing, yeah, I think their clients would get the benefit of that" 34*
Theme 4: More coordinated, consistent care for consumers	
Trainees influencing system changes to improve coordination of services	*"They've expressed a lot about how they don't want to just do the course to get the certificate at the end of it. It's more than that. It's about how they can bring ideas into their region to really improve on clinical services that are provided to that community." 24* *"But if we're able to influence any sort of local system change around how we deliver services to be more coordinated or more targeted to specific client groups then I see that as being a possible improvement as well." 22*

Upskilling allied health assistants to provide a higher level of care in remote locations in-between allied health visits	*"Certainly from, if I look at what we've done in (region 1), and the work that it's supported (name) to do to develop the allied health assistants, it's massively increased their capacity in their smaller outreach towns, the lower level clients are getting consistent service, which they love, which we just didn't have the FTE to do before. Been huge across there." 17*
Better information available for consumers	*"Lots of their projects have been around pulling together resources and information brochures that can be given to consumers. So hopefully the level of communication that we're having with clients is improving as well and we're keeping them better informed … So, I think if we're able to build that skill base then that's only going to be positive for our consumers and in development of really you know, strong service models applicable to our regional areas" 22*
Better knowledge of other services and disciplines to coordinate consumer care	*"That they'd be able to include more interprofessional like referrals or management of a client" 16*
Better retention of allied health improves continuity of services	*"Just having that continuity, that same face that people get to come back and see each time if they have multiple appointments. They're working with NDIS, and you see the same client for over a period of time, clients love that. They like that familiar face, and it just provides a better outcome of service to be able to see that one person rather than getting chopped and changed with different people each time they come in." 44* *"I think it's important to let the consumers know that we're doing whatever we can to ensure permanent and retain people in our community, because they want a consistent service. And I think that was the feedback from the community, was that it's hard for them to keep getting a consistent service if they've got constant change in clinicians" 28*

Consumer impacts reported by trainees – phase 3

A range of benefits for consumers were explored by the trainees. These emerged in three themes:

1. Skills to manage diverse consumer needs
2. Developing skills in working with Aboriginal people
3. Developing services to meet consumer needs

Skills to manage diverse consumer needs included the trainees' perceptions of their growing skills and knowledge relevant to their practice; they felt this was having positive impacts on

consumers. They were able to manage more complex and diverse needs and they learnt about new and alternative intervention options and underlying causes of concern that they previously would not have known about. **Developing skills in working with Aboriginal people** through participation in a cultural topic was noted to be particularly impactful for trainees working with Aboriginal consumers. They felt they could provide a much more culturally appropriate service as a result. **Developing services to meet consumer needs** was described by trainees who felt their participation in projects and service development activities was having a positive impact on consumers.

Table 52: Phase 3 trainee-reported consumer impacts

Theme 1: Skills to manage diverse consumer needs	
Problem-solving	*"I had a really, really good result with her … I knew she had the issue … and in terms of what I was able to do for, that I had to make an orthotic for her, and in terms of pain, that's taken her from an eight out of 10 down to like a two when I spoke to her last, which is awesome." 11* *"Perhaps just makes you stop and reflect and clinically reason your way through what you're doing or whatever else you could do compared to normal practice where you kind of just perhaps a little bit more just keep running." 4*
Deeply investigating consumer needs	
Exploring new intervention options	
Clinical reasoning	
Theme 2: Developing skills in working with Aboriginal people	
Using more open communication	*"It's probably the Aboriginal clients that have positively benefited from my improved approach to communicate with them." 13* *"I probably did learn intensive learning about the cultural context to the community, yes, because I think that makes you more culturally sensitive when interacting with all clients." 1*
Understanding cultural contexts	
Providing more meaningful services	
Theme 3: Developing services to meet consumer needs	
New groups to meet community needs	*"Consumers obviously benefit from having that group up and running, it's probably the most obvious thing." 4* *"Helped increase the sort of efficiency and the consistency, and the longevity of some of our rehab programs. So, that will help some of our community members now and in the future." 3*
Improving efficiencies for consumers	
Improving services to remote communities	
Developing skills for future referrals and service needs	

Consumer impacts reported by service leaders – phase 3

A range of consumer benefits were identified by managers, supervisors and clinical leads, which emerged in three themes:

1. Consumers benefit from skilled rural generalists
2. Managing complex consumer needs
3. Improved consistency and capacity of services

The first theme involved the **trainees' skills and knowledge** developed through the AHRGP having direct benefits for consumers. It was felt that trainees were more client-centred, knowledgeable and skilled for clinical work. Throughout the pathway trainees developed increasing confidence, evidence-based practice and an understanding of organisational processes and services, all of which had positive impacts on consumers. **Managing complex consumer needs** included the managers and supervisors noticing how the trainees were able to work flexibly and manage very complex case loads towards the end of the pathway. They were confidently drawing on relevant evidence and their knowledge of other services to find ways to meet their consumers' needs. **Improved consistency of services** included more indirect consumer benefits of retention and service development activities, which were improving the consistency, effectiveness and quality of allied health services. With higher quality, consistent services available locally, rural consumers will be able to rely less on metropolitan services for their allied health needs.

Table 53: Phase 3 service leader perceived positive consumer impacts

Theme 1: Consumers benefit from skilled rural generalists	
Clinicians being more client-centred	*"Yeah, you can see from the way they talk that they're wanting to improve to be able to support the patients better." 29*
Consumers complimenting allied health services	*"We had a number of compliments that were submitted over the duration from satisfied clients if you like about the delivery of services they are receiving" 42*
Improved knowledge and skills to work with consumers	*"Some positive impact from their gaining confidence and competence hopefully that they've now been able to go on and actually apply those learnings to improved clinical care and health service within their team and across their local health network." 20*
Confident clinicians who believe in their skills	*"I think they're always going to benefit from that increasing confidence. Whether it's like measurable or not is another thing, but when you've got that clinician who 100% believes in themselves and their own abilities, then there's always going to be that little bit more confidence from the consumer in the treatment that they're getting." 23*
Theme 2: Managing complex consumer needs	
Trainees can manage complex consumer needs	*"Both of them are much more independently managing very complex patient conditions and presentations" 28*
Flexible-thinking clinicians	*"Thinking about how to provide a service during COVID and being flexible for some clients, that's where the benefits were shown." 16*
Evidence-based clinicians	*"It keeps looking at evidence-based practice alive, and keeping that research side of things alive, in my opinion, so I think definitely clients would be benefiting from the new information and how to do things better" 49*
Clinicians with better understanding of services and processes	*"Just having a greater understanding of the organisation and being able to explain the processes, yeah, just being able to give that information to consumers." 34*
Theme 3: Improved consistency and capacity of services	
Improved retention results in consistent care	*"In the fact that there's been consistency in that she has remained in the role for quite a long time" 29*
Improving services, processes and flow for consumers	*"There's certainly been an impact on service flow, particularly where the topic has related to a particular client group or client type, or program type. I think there's certainly been benefits as to how some of those referral pathways might work or some of the management pathways, once they've been engaged in that, or consumers have been engaged in that service." 22* *"By default, quality improvement does change or improve our clinical practice hopefully" 50*

Improved capacity of clinicians; less need to travel for specialty services	*"The greater access to services within the regions, particularly, as I said, some of those areas that area slightly more specialised, building that capability within the region and reducing the need to access metro-based services." 22*
Developing resources for consumers	*"I'm aware there's been lots of consumer facing resources that have been developed through the projects as well" 22*
Improving quality of services for consumers	*"If you think about an overall service, I think our quality has gone up, we're actually meeting the need of the consumer much more effectively than maybe we were before with these staff because they're able to do whatever we need them to … I think because they're both advanced in their skills … the quality of service that they're now being able to supply is increased." 18*

Impact of the AHRGP on consumers from the perspective of consumer representatives

After reviewing and updating the factors that contribute to quality allied health services, the consumer representatives were presented with preliminary findings of the AHRGP research. They reflected on the impact these findings would be having on consumers in their communities and their perceptions of the AHRGP implementation in SA. A discussion of these follows.

Development of rural generalist skills

Participants were pleased with the skill, knowledge, confidence and competence development of rural generalist trainees. Having access to local specialised services will have positive impacts on consumer experiences and health outcomes. Efforts to reduce the need to travel to Adelaide because of access to a wider variety of health services in rural and remote areas were warmly welcomed by participants.

> These are all very relevant here because if you've got the higher trained staff in the area, but people don't have to go then to the city and we can … and that's what we're trying to do in our region. Keep as many people in our region as we can because we can provide the services. [55]

Incentives

Further to qualifications, consumer representatives also thought trainees should have incentives for completing the AHRGP to acknowledge the commitment, time and effort that goes into completing the pathway. Participants felt trainees should be eligible for better remuneration or promotional opportunities to recognise their achievement.

> And I think structurally, you really need to think about incentivising the whole program … I think there needs to be recognition of that in terms of remuneration or the level that those people come in at. I think that if you're going to do that, we need to make sure that there is an incentive for people to do that. Either that they get promoted to the next level or there's some kind of other financial incentive. [54]

Qualifications

Consumer representatives enquired about the graduate diploma qualification for level 2 and the lack of formal qualification for level 1; they were interested in exploring whether the level 1 program could also have a formal qualification as an incentive to attract more early career allied health professionals into the pathway.

> Well, if I'm not getting any rural qualification at the end of it and there's another job offered to me that may come with a qualification, why would I stay in this and get nothing … [55]

Relevance of topic material

Participants were concerned that trainees were experiencing challenges with topic content, considering the investment of time trainees were devoting to the pathway and the impact it was having on their work-life balance. They felt reviewing the course material for relevance should be a recurring priority of the education provider.

> Firstly the issue of content of, that isn't relevant I think given the limited amount of time that people have got in terms of work-life balance and so on, you really need to have

> that reviewed on a regular basis and through discussions with the people doing the courses and make sure that the stuff is all relevant otherwise, it's really wasting their time and yours. [54]

Trainee support

Clarity of the support structures and processes was explored, with consumer representatives noting that it was imperative that managers and supervisors understand and enact what is expected of them in terms of supporting a trainee. It was also felt that there should be processes in place to ensure trainees can seek alternative support if necessary.

> I think in terms of lack of clarity around the kind of support that is expected from the supervisor I think, again is something that has to be addressed because particularly the more senior staff are going to be busy and so they really need to understand what kind of supports there are and if they are unable to provide them then there need to be mechanisms where the student can seek that support in a timely fashion some other way. [54]

Protected study time

Recognising the impact the AHRGP had on trainees' time, consumer representatives felt quarantined study time was important and that mechanisms for supporting this time were required to ensure trainees were able to distance themselves from clinical work to focus on study activities.

> I also think that we need to make sure that there is quarantine time if possible for people to continue their studies, whether it be half a day, a week or one day a fortnight or something that people know that they can distance themselves from the day-to-day stuff and actually get this stuff done and that should, I guess, dovetail with the way the course work is delivered and the requirements of completing assignments and so on.[54]

Retention strategies

Consumer representatives were pleased with the outcomes of the AHRGP as a retention strategy but also reflected on the need for additional or alternative retention strategies to keep allied health professionals in rural and remote areas that consider their individual circumstances, needs and desires.

> That's it and work it in with the other areas, if you like, of life. Not just looking at it from this isolated point of view but looking at it holistically. [53]

> If you've got someone who wants to stay here and the wife or the husband can't get a job, you don't keep them. [55]

Summary of consumer representative responses to the AHRGP

In summary the consumer representatives' response to the introduction of the AHRGP reflected their satisfaction with the positive outcomes for trainees, including their developing generalist skills and knowledge and improved retention in rural and remote areas. These align with the consumer representatives' quality allied health service factors described in phase 1. They were concerned about the challenges identified by trainees, managers, supervisors and clinical leads. They felt trainees' study time should be quarantined more effectively, that they should have access to regular clinical and operational support and that trainees should be rewarded for their efforts and commitment.

Chapter key findings

It is imperative to consider consumer impacts in this research since consumers are the recipients of the health care provided by trainees. If the AHRGP was not having a positive impact on consumers, then the investment in time and funding would be questionable. In phase 1, consumer representatives identified a variety of factors that contribute to high quality allied health services, and managers, supervisors and clinical leads described anticipated outcomes of the AHRGP. There were a range of similarities in terms of what the consumer representatives thought were

important and what the service leaders anticipated the pathway would achieve. By aligning these features and anticipated outcomes it is possible to compare desired outcomes against the actual outcomes of the AHRGP.

Table 54: Consumer representative quality allied health factors against service leader anticipated AHRGP consumer outcomes

Consumer representative high-quality rural and remote allied health service features	**Manager, supervisor and clinical lead AHRGP anticipated outcomes for consumers**	**Aligned desired consumer outcomes**
Generalist skills Communication and confidence Client-centred	Trainees will have improved skills and be more knowledgeable to be able to more effectively meet the needs of their consumers	1. Trainees will develop rural generalist skills and knowledge to be able to confidently provide client-centred services
Managing complexity Teamwork	Trainees will be able to better cope with complex consumer needs	2. Trainees will have the skills to manage complex consumer needs and work effectively in teams to ensure care is coordinated and consumers are informed
Personal factors and boundaries Community influences Knowledge of local services Training	Trainees will better understand the needs of their community	3. Trainees will understand the needs of their community and the services available to consumers. They will be supported to live and work in their rural community.
Telehealth and alternative service delivery Monitoring of quality and complaints	Consumers should be able to receive high-quality allied health services closer to home	4. Trainees will help to identify innovative opportunities to meet the needs of remote communities and be responsive to community needs
Continuity and consistency Retention Workforce shortages and wait times Timely services and wait times	5. With improved retention, consumers should receive more consistent and higher levels of care from allied health professionals	

Anticipated consumer outcomes and actual outcomes

1. **Trainees will develop rural generalist skills and knowledge to be able to confidently provide client-centred services**

In phase 2, the service leaders reported trainees were becoming more skilled and confident to work effectively with consumers and were applying their learnings to their clinical work. At the end of the pathway, trainees felt they had developed skills to manage diverse consumer needs during the pathway, while the service leaders reported trainees had demonstrated the development of rural generalist skills that were positively impacting consumers. Consumer representatives were pleased that the trainees had developed rural generalist skills and they thought this would reduce the need for consumers to need to travel to Adelaide to access high quality allied health services.

2. **Trainees will have the skills to manage complex consumer needs and work effectively in teams to ensure care is coordinated and consumers are informed**

In both phases, service leaders reported trainees were demonstrating effective evidence-based practice which was helping them to make informed clinical decisions and improve the care they were providing. In phase 3, service leaders described trainees as being able to effectively manage complex consumer needs; they found they were thinking flexibly and were working with more autonomy, relying less on supervisors or managers to work through problems. Trainees also reported their clinical reasoning had improved through undertaking the pathway, and they were more deeply investigating consumer needs, which was assisting to manage complex needs. Consumer representatives thought that having allied health professionals in rural and remote areas with skills in managing complexity would positively impact health outcomes for consumers.

3. **Trainees will understand the needs of their community and the services available to consumers. They will be supported to live and work in their rural community.**

On completion of the pathway, trainees reported they had developed skills in working more effectively with Aboriginal people, which they thought could positively impact the experience of Aboriginal people accessing health services. In chapter six, trainees mixed experiences of integrating into their local community were outlined. A range of barriers and opportunities were

identified, service leaders also raised issues with professional and personal boundaries in rural areas. In terms of understanding community needs, in phase 2 service leaders reported trainees were working holistically with consumers to deeply understand their needs and find effective ways of working with them. In phase 3, managers, supervisors and clinical leads were noticing trainees had developed a good understanding of their local health service and were able to articulately explain processes and services to consumers. They were also developing information resources for consumers through the pathway. Consumer representatives thought more should be done to support allied health professionals to transition working in rural and remote areas; they felt the AHRGP was one strategy, but more strategies were needed that considered health professionals' individual circumstances and needs. While this outcome has partly been met, more could be done to support allied health professionals to live and work in their local community in the long term.

4. **Trainees will help to identify innovative opportunities to meet the needs of remote communities and be responsive to community needs**

In phase 2, managers, supervisors and clinical leads felt the trainees were beginning to influence system changes and improve the coordination of consumer services. During the first half of the pathway, trainees were using innovative strategies to meet the needs of communities through identifying areas for improvement and innovative ideas to solve these gaps. In phase 3, the trainees continued to develop and improve service provision through projects and contributing to service development. Service leaders reported workflows and efficiencies were improving through trainees putting their learning into practice, which was having positive impacts on the experience of consumers. Trainees themselves described the impact their involvement was having on consumers, including the development of new services and projects. In particular, projects relating to allied health assistants and telehealth services that had improved access for remote communities.

5. **With improved retention, consumers should receive more consistent and higher levels of care from allied health professionals**

Consumer representatives were particularly concerned about the turnover of allied health professionals in rural and remote areas and the negative impact this was having on the consistency and continuity of services for consumers. They were pleased to hear about the retention of trainees in the pathway and the positive impact this was having. While the trainees did not describe retention themselves, the managers, supervisors and clinical leads in phase 2 described a range of ways trainees were increasing the coordination of services for consumers. Trainees were upskilling allied health assistants to provide consistent services to consumers under the direction of an allied health professional. They also described the impact improved retention of trainees had on the consistency and quality of services consumers received. In phase 3, the clinical leaders described the impact that the trainees had through remaining with the regional LHN for an extended period. They had noticed the quality of services to consumers had increased and efficiencies had been achieved. Trainees had more capacity to work across clinical areas and had higher levels of skills, all of which resulted in positive outcomes for communities.

Chapter summary

In this chapter, the impact the AHRGP has had on consumers was explored from the perspective of consumer representatives, trainees and service leaders. This relates to Kirkpatrick's level 4 (results) and the outcomes of the program logic framework. Firstly, the consumer representatives outlined factors for quality allied health services and the service leaders described the anticipated outcomes of the AHRGP for consumers. Secondly, all the research participants explored the actual impacts and outcomes for consumers. Through analysis, the consumer representative quality allied health factors and the anticipated consumer outcomes were synthesised with the actual outcomes in the discussion. This synthesis demonstrated that the AHRGP had a range of positive impacts for consumers through the development of rural generalists who can better meet the needs of their community. In the next chapter the organisational impacts of the pathway will be explored from the perspective of service leaders. Through better understanding the impacts of the pathway on health

services, benefits can be capitalised on, and challenges can be addressed to increase the effectiveness and sustainability of the pathway into the future.

CHAPTER 10: ORGANISATIONAL IMPACTS OF THE ALLIED HEALTH RURAL GENERALIST PATHWAY

Chapter overview

Organisational outcomes and impacts are key aspects of this research because the AHRGP was new and funded with a time-limited government investment. SA Health invested in this research to determine the impacts of the AHRGP and to generate recommendations for future investment and sustainability. The program logic model outlined organisational impacts that will be explored in this chapter, including benefits and challenges for the regional LHNs and the workforce. Kirkpatrick's level 4 (results) explores the organisational changes that a program has influenced (Yardley & Dornan, 2012). In phase 1, service leaders' anticipated organisational outcomes will be described and then the actual organisational impacts they perceived will be outlined from findings in phases 2 and 3. In phase 3, the trainees also described the benefits they felt their organisations were experiencing, which is also described in this chapter. Findings from each phase will be described separately and then discussed collectively at the end of the chapter.

Table 55: Chapter outline

Phase 1
Anticipated organisational outcomes identified by service leaders
Phase 2
Organisational benefits perceived by service leaders
Organisational challenges perceived by service leaders
Phase 3
Organisational benefits perceived by service leaders
Organisational benefits perceived by trainees
Organisational challenges perceived by service leaders
Discussion

Anticipated organisational outcomes identified by service leaders

In phase 1, managers, supervisors and clinical leads were asked to describe the outcomes they anticipated for their organisation and their workforce. The following anticipated outcomes of the pathway were identified:

1. **Informing workforce planning** and impacting on future directions of the organisation
2. **Retention will improve** with trainees having the ability to develop their careers in situ rather than moving to another location
3. **Happier, more passionate and more productive** staff in the organisation
4. **Easier recruitment** if potential new staff know they may have the opportunity to undertake the AHRGP in the future
5. **More skilled workforce** will result in higher quality service provision
6. Developing **a broad culture of learning** amongst staff in the organisation
7. A stronger focus on **evidence-based practice** and innovative practice
8. The workforce will be able **to learn from the trainees** if there is the opportunity to share relevant learnings formally and informally
9. Allied health staff will have **clearer processes, better communication** between staff, **more transdisciplinary care** and relevant resources developed to support their roles through the development of quality improvement and service development projects
10. This first group of trainees will hopefully be able **to mentor future trainees** and be able to promote the AHRGP
11. **The voice of allied health may be strengthened**, with trainees in each regional LHN achieving outcomes and making positive changes

    The opportunity to develop special skills in working in rural communities, so being able to identify areas of service need and then looking at opportunities to develop specialist skills in specific areas 37

Service leaders perceived organisational benefits – phase 2

In phase 2, the managers, supervisors and clinical leads were asked to identify any emerging outcomes for their organisations. At this early stage, five themes emerged:

1. Retention has flow-on effects for the whole team
2. Implementing generalist skills the region needs
3. Sharing of skills and knowledge
4. Quality improvement
5. Demonstrating leadership

In the first theme of **retention and flow-on effects for the whole team**, service leaders were starting to see gains in how long trainees were staying in their regions, which was having a positive impact on the regional health services, they felt the AHRGP was giving trainees a reason to stay and demonstrating to the whole team that the health service was committed to learning. **Implementing generalist skills the region needs** involved supervisors and managers beginning to see trainees implement their learning into practice that benefited the team; for example, trainees using generalist skills to work across a whole region. **Sharing of skills and knowledge** included service leaders noticing the trainees use their learnings to support other team members, and they described the trainees as being excellent team players. The **quality improvement** theme included trainees identifying areas for improvement in their health service and having the opportunity to implement projects. It also included the trainees having skills to support other project and service development activities that would benefit the organisation. **Demonstrating leadership** involved reports of trainees' emerging leadership skills as evident in them taking on higher level roles, supporting other team members and leading change.

Table 56: Phase 2 organisational benefits perceived by service leaders

Theme 1: Retention has flow-on effects to the whole team	
Improved retention has flow-on effects to the whole team and community	*"That all plays a part in it as well. So yeah, if we can have people staying longer and both (name) and (name), and I don't know whether it's part of this program or a combination of things, getting permanency. They're happy here and it's the teamwork, but all of those things together probably helps people to make the decision that 'I want to stay in the region and work'." 28* *"No, and I guess my experience has been that if people have originally come from Adelaide, they sort of stay a maximum of a couple of years then they tend to go back. But considering they've made this commitment to their rural generalise studies, obviously that was something they were interested in, in the first place, I feel it's more likely that they will stay beyond finishing their studies." 34*
AHRGP as a retention strategy, giving people a reason to stay	"*I would like to think that as I mentioned, that this sort of opportunity has really encouraged them to stay working rurally and stay working in (region 4)." 20* *"It demonstrates, from a leadership perspective, our commitment to that and the opportunities that are available for the rest of the employees." 43*
Demonstrates organisational commitment to learning	*"It could be different because every discipline's different, but it shows that the management support that, and that you can actually do that within your work hours, and it will impact on our service delivery, but that commitment is there" 43*
Good to keep them long enough to make a difference in team	*"But then keep them here so they can then pass on those learnings and keep doing great work." 19*
Legitimising rural generalism as a specialty improves retention	*"I've been a very strong advocate for what we see as a rural generalist speciality and I think this provides a really clear kind of identity for that. And if we're looking at a recruitment retention perspective this is something which, as a young clinician, is a way of legitimising what that is and for that person to stay." 45*
Time lost to study at work is gained in capacity and productivity	*"Massive, it was well worth it. I think what we've lost in productivity we've gained tenfold after that, without a doubt. What we've got now in our clinicians is paying dividends massively, so brilliant for it." 19*

Theme 2: Implementing generalist skills the region needs	
An avenue for allied health to learn skills for rural practice	*"The nature of any work in a country setting is it's generalist, but they're going to get whatever comes through the door. If they're in metro, then they're more likely to be in a more specialised area and can just focus on one area, which is great for specialised skill development, but in country, you've got to do and deal with everything from a new grad, whatever comes through the door. So, they've got this great foundation of broad generalist skills, and this program supports that and helps further develop that" 28*
Understanding how the organisation works	*"What's really probably become apparent to me is their overall understanding of clinical governance and the organisational structures and how they fit into that. I think they've gained a lot more understanding of that through doing the program." 34*
Implementing new skills and knowledge in work tasks Using assignments to make changes to their clinical practice	*"Now, they're the face and prioritising who needs to be in the program. So, that's what we have found that they are a bit proactive in that and they've been involved in other non-clinical decisions within the program, deciding on how we can, how that could be improved, the way the team is functioning." 21* *"I mean, it does help us having people going through training, getting updated, getting more skill sets, all that sort of thing, it will benefit our local health network in the long-term" 44*
Using generalist skills to work across the region	*"(Name) has taken on some more outreach work; they feel more confident to actually broaden their work, so they're taking on the learning they've got and been able then to implement that into a more generalist role so when they, we've allocated them a region they've got to pick up everything in that region" 19* *"And because we've been really short staffed in podiatry off and on, we've had some locums here and there, but they've really been picking up a lot of our regional service deliveries, so doing some of the travel to the remote communities in FUN." 28*

Theme 3: Sharing of skills and knowledge	
Sharing learning with team members	*"We've got very junior staff, so how they are able to come in and to being able to guide them, mentor them, and assist them from that generalist point of view is really crucial, because it's quite difficult when you're a new AHP, and they've been able to embed them in really smoothly." 19*
Sharing learning with staff they are supervising	
Fresh perspectives to share	*"I think with what they've learnt so far, they do bring some of those perspectives to team meetings" 16*
Great team players have broad impacts	*"Yeah, I think we get better outcomes for our communities if we've got confident, competent staff that are here for the long run, and overall, that helps to build a stronger team, because your team morale and everything increases, if you've got happy and confident skilled staff to work with." 28*
Teams get great allied health professionals to work with	*"So, I would hope that would be part of the benefit that that team has gained. That they've got a really great physio and a really great person and leader" 20*
Theme 4: Quality improvement activities	
Identifying how services could be improved for consumers through quality improvement initiatives	*"(Name) has used the modules to really support all of the work that they needed to do in terms of the service redevelopment for (region 1), and it's been really good from that, it's given a rigor to what they have needed to do that they wouldn't have necessarily done before, like a lit search on allied health models of care." 17* *"They will come to me as well when they're, so say they're learning about project management, they will come to me and say, Oh, do you know of a good project within our region where I can really spell out the steps of project management and we'll kind of brainstorm that together." 34*
Identifying areas for improvement and making recommendations to management	
Implementing projects benefits whole team	*"I guess I've been pleasantly surprised by the amount of work that people can get done in a subject. Like they're obviously highly motivated so the stuff that (name) and (name) did around the screening tool and training and stuff was pretty impressive" 27* "*I think also some of the projects they've done have been of benefit to the team and to the work that's happening there" 20* *"I think having some support like I guess some really coordinated support for some quality improvement projects is working well" 22* *"I think that our practical outcomes of pieces of work that fit with the broad scope of work that we're doing in country. So, for example, the video training that's come out of it has been a*

	really useful tool. So, some of the practical tools have been good." 27
Organisation will continue to benefit from projects after pathway has ended	*"So, I see that there's certainly some further scope to continue to improve the programs that we're running with some of those quality projects." 22*
Great to have people who can implement projects in the future	*"So, by having someone who's doing this level 2 program and who's really keen to step up in those areas, it just means we've got another person in our physio team who has strengths in those areas, who's able to really lead those projects and take them on, on their own which means overall, we're going to have a much better quality of safer service for our consumers." 23*
Service development	*"The other thing that, I think, has been pertinent about these processes that they've put into place. So, when you're talking about service development, so they're chipping in quite a lot because they've got that understanding and knowledge base around how else they could be looked at." 21* *"(Name) has used the modules to really support all of the work that they needed to do in terms of the service redevelopment for (region 1), and it's been really good from that, it's given a rigor to what they have needed to do that they wouldn't have necessarily done before, like a lit search on allied health models of care" 17*
Theme 5: Demonstrating leadership	
Developing a career path	*"And like I said, (name) now winning the Level 3 role and the feedback I'm getting from the (region 4) where they go up and assists them, is the feedback's really good there, and the team leader up in the (region 4) said, 'I really like (name) coming. It's really positive. We're really gaining from that.'" 19*
Leading change	*"I think especially from (name)'s perspective, 'cause they've got a really good position to actually really make some definite changes and implement the change … And make it sustainable, as well, I think, as well." 24*
Demonstrating leadership	*"They've managed to pull that outreach team together and lead that and they've just really stepped up and done that off her own bat … They have filled in for me as a point of contact at AHP3 level multiple times really over the last 12 months I would say" 23* *"So, it was really, from what I've seen, is how they've grown not just as a clinician, but as a leader … And how they incorporate the, I guess, the rural generalist skills knowledge into the leadership space, as well as just their own individual practice." 24*

Supporting others	*"I think really being able to think about how other people might be learning, particularly in the case where they've had two new staff members, both new grads, one has been able to kind of hit the ground running and one who hasn't. I believe (names)'s been able to really think about, you know, well what does this mean, what does it mean as an adult learner, how might I need to change things up from that." 32* *"In the Riverland we've got very junior staff, so how they are able to come in and to being able to guide them, mentor them, and assist them from that generalist point of view is really crucial, because it's quite difficult when you're a new AHP1, and (name)'s been able to embed them in really smoothly." 19*

Organisational challenges perceived by service leaders – phase 2

Managers, supervisors and clinical leads had experienced challenges for their organisation. These emerged in three themes:

1. Retention of trainees
2. Impact on staffing
3. Challenging to see benefits for organisations

Within the first half of the pathway, project managers and clinical leads who were overseeing all the six regional LHNs discussed the challenge of **retaining trainees**. This was having negative impacts on the regional LHNs who had given trainees the opportunity to participate in the pathway, but trainees had chosen to leave early. **Impact on staffing** centred on managers, supervisors and clinical leads describing the challenge of fitting in study time around the business of the regional LHNs. Time protected to study at work was not backfilled, which resulted in trainees being able to do less clinical work while in the pathway. This impacted other staff who were required to cover the loss of time as well as consumer wait times and organisation key performance indicators. The third theme around the **challenge of identifying benefits for organisations** concerned the lack of awareness of the pathway in regional LHNs, with the benefits for organisations not being obvious in the first half of the pathway. Some supervisors felt the trainees were choosing topics that did not

appear to be relevant or were not sharing their knowledge with teams. It is important to note that these trainees may have been finding the course material challenging to relate to their clinical work in this early stage of the pathway. Service leaders felt the expectations of the trainees in the pathway could have been clearer in terms of tangible outcomes for the organisation.

Table 57: Phase 2 organisational challenges perceived by service leaders

Theme 1: Retention of trainees	
Trainees withdrawing from the AHRGP was an unexpected challenge	*"I guess we've definitely had some challenges along the way with withdrawn trainees … interested in looking into that area more, in terms of some of the factors that are influencing trainees to withdraw from the program, which seems to be largely based around no longer having an intention to work in rural areas. So that's definitely been a challenge." 35* *"And I think obviously having people drop out and not being able to pinpoint, yeah, we don't know exactly why so we can't prevent it but it'd be good to know if there were things we could've done, so that's the challenge." 27* *"But it is hard every time there's a drop out, knowing how best to implement or get another person on board. And we've had quite a few that have linked in and then dropped out fairly quickly afterwards, as well." 24*
Trainees leaving pathway without providing insights into the reasons for withdrawal	
New graduates withdrawing from pathway; identifying ways of supporting them better in the future	
Staff leaving despite the opportunity to do the AHRGP	
Trainees who appeared ideal left the pathway early	
Theme 2: Impact on staffing	
Study time not backfilled	*"Yeah, allocating that 0.2 FTE for study each week as we've had to move through various stages of contingency planning has obviously been difficult at times" 22*
Impact on client wait times and key performance indicators	*"We've got a business model in place, and you know, with Commonwealth activity … Just activity, we were losing on KPIs. So, we did find that quite challenging." 42* *"It's not presented as a problem. At the end of the day, people are still meeting their KPIs and things like that, but they're just very, very busy." 44* *"So, depending on what rosters they work in, that can have a significant impact on waiting lists and both the pressure that the participants feel to see those clients on the waiting list but then also it has a spin-off effect on other clinicians that might be sharing a case load with them." 34*

Impact on other team members who need to manage increase in workload	*"So, it does impact a little bit, but I mean, everyone's got to do training, so that's sort of just something you have to factor in … At the end of the day, people are still meeting their KPIs and things like that, but they're just very, very busy." 44*
Theme 3: Challenging to see benefits for organisations	
Benefits for organisation not obvious	*"And, I think, that bringing something like the rural generalist pathway, awareness to other clinicians to know – because I still don't think there's a whole heap of awareness in that wider team. I don't think – there's probably not the awareness or, I guess, the importance of the value of it" 24* *"(Region 2) have had up to this point, zero value in (name) doing it … The last module I think they did the neurological one, and they chose off the list a neurological assessment that we don't do in Australia, but it was easy, lots of research on it, 'I can just do that.' They've done it very much as an isolated academic tick the box up until now" 17*
Teams not aware of the program or the reasons for participation	
Trainees not making their learning visible to others, doing assignments to meet the requirements of the course only	
Trainee choosing topics that are not relevant to their role	
Expectations about projects not clear	*"So, I think we need to do that better from the operational side of the organisation, and almost setting some clear expectations for the participant, so it's like, 'You're coming into this job. We're going to enrol you on this. Out of this we will want X pieces of work'" 17*

Organisational benefits perceived by service leaders – phase 3

At the endpoint of the pathway, managers, supervisors and clinical leads identified a variety of positive impacts for their regional LHNs and teams. Six themes emerged:

1. Retention
2. Developing rural generalist clinicians for the region
3. Sharing skills and supporting others in the organisation
4. Improving services through quality improvement and service development
5. Developing leaders for the future
6. Raising the profile of allied health and understanding support requirements

Retention included reports of the pathway improving retention for local teams. Supervisors and clinical leads described how trainees had remained in the region longer than usual for an early career allied health professional and that they were impressed with the leadership opportunities that were emerging for trainees. **Developing rural generalist clinicians for the region** included the benefits regional LHNs were experiencing through having a trainee who could confidently work across clinical areas. They reported the skills developed in the pathway were relevant and practical, which was having a real impact on their service. **Sharing skills and supporting others in the organisation** was a flow-on outcome for organisations, with reports of trainees sharing their skills with colleagues and across regional LHNs so that others could benefit from the training. **Improving services through quality improvement and service development** involved the trainees identifying areas for organisational improvement and implementing quality activities that had benefits for the service. Service leaders described the service profile that trainees developed early in the pathway as being particularly beneficial for new staff orienting to the town. They also described the benefits of trainees completing projects that otherwise would not have been completed. **Developing leaders of the future** was discussed with managers, supervisors and clinical leads, who described the benefit of having trainees who could assist them with higher level tasks, take on leadership roles and support less experienced staff. Finally, **raising the profile of allied health and understanding support requirements** was specifically raised by project managers who felt that at a strategic level, the profile of allied health had been elevated through the introduction of the AHRGP and that organisations had developed a better understanding of what supports allied health professionals need at the beginning of their career in rural and remote areas.

Table 58: Phase 3 organisational benefits perceived by service leaders

1. Retention	
Trainees have stayed for the duration of the pathway	*"They've shown a level of commitment to the region that's not usually seen." 17* *"There's always that hope that if we support them to really develop their skills in that rural generalist way of working that they'll feel more prepared, more comfortable, and more confident in maintaining their role in the regions. Consider it as a career rather than a stop off" 22*
Trainees moved around rural areas and were able to continue the pathway	*"Relocated to a regional area … We haven't lost them to metro or private which is a real big benefit I think" 24*
Giving clinicians a career path locally	*"They're still here. So that's really good. And they've come back. They haven't left, they've left (town), but she hasn't left" 49* *"I think that's just going to be so useful for hopefully sustaining these great clinicians working in a rural setting. So, if they can feel like they can progress their career, still be involved clinically but also have a chance to apply their skills in management leadership, project-type roles" 20*
2. Developing rural generalist clinicians for the region	
Targeted program that develops generalist skills	*"I think it comes back to the expectations on physio out here are really high around the varied clinical spaces we work in, the varied physical areas, like locations, that we have to work in, and environments, and like I said before, when explaining our structure of the team, it's an expectation that people really jump between that quite often across sites, across areas and across abilities. So, it couldn't be more of suited really." 23* *"From a generalist point of view, I believe they're there, they've learnt the skills and they can competently meet a consumer's need at that level but it's like now what's next … I'm asking them to look at what is, why is our region different to other regions, what is it that the consumers are telling us they need and they're going to try now and use the skills that they've learnt to see if we can match that need a bit more, of a higher quality standard." 18*
Having clinicians who can work across broad clinical areas	
Suits the generalist case load that is required in rural areas	
Relevant content for practice	
Developing specialist skills in particular areas that the region requires	
Learning skills that would not normally be available to the trainees' discipline	*"You cover so much with that which suits a generalist. Topics are not just confined to the specifics that we know of, it covers a general approach and also in your area" 21*
Learning skills that benefit the organisation	*"There seemed to be enough choice that there were relevant modules and ones that could be applied well in their own health service." 20* *"I think the fact that they are encouraged to choose something that is relevant to the workplace and relevant to their current*

	clinical case load has probably been useful for us as a team and for them to be able to embed their learnings into their clinical practice." 34
Developing better teamwork	*"I think the nature of the topics that they're undertaking are really multi D in nature and so I think they've been able to then share experiences of other professions through the ongoing chat forums and things like that within each topic to get a real sense of where our profession fits and how they can best utilise other professions to complement the care for particular consumers. I see that certainly applied as well." 22*
3. Sharing skills and supporting others in the organisation	
Being a resource person for others	*"it's been wonderful. So, they've become probably more of a resource to, you know, say, less experienced staff." 21*
Sharing evidence-based practice skills	*"Helping them to run groups by giving them research or outcomes of projects and things like that so that our work is more evidence-based. I think they've been able to help facilitate some of that." 34*
Sharing learnings with colleagues	*"I don't believe that when somebody's involved in the program that it's just them, often the conversations that they're actually having within the team or with even other teams, you know, other colleagues, it extends out" 46* *"Really good at sharing the knowledge that they're getting from the project, which everyone really appreciates." 49*
Providing advice to other regions	*"We've seen some great sharing of knowledge of up to date evidence that's been gathered through the different projects and through the different topics that the participants have done. There's certainly been that sharing of information across the team … But certainly, they've all been really happy to share their learning, even those who previously might not have been quite as engaged in networking type activities." 22*
Encouraging others to pursue the pathway	*"They have promoted to others in their area. And all of them are very reflective of the practice, the clinicians and OTs that have gone through." 24*
4. Improving services through quality improvement and service development	
Understanding organisational systems and processes	*"It also made them explore the region in sort of particular areas, so understanding our demographic with a couple of the subjects which was really great" 16* *"(Name) did a project probably in the first half of her pathway, and it was around the demographics and the organisation, so it was our community demographics, our organisation, structure and how it's set out. Just last week, I used that in an orientation format, so I was able to give that out to one of our new physios …*
Developing service profiles helps staff understand local services and options for consumers	

	It was a great easy way for them to get a snapshot of some of the things that are actually probably pretty important to know as a clinician working out here." 23
Bringing systematic thinking to the team	*"You know, that understanding of using systems to get things, whereas she had a very clinician approach of well, it's just because it's the right thing to do for the client. It's like yeah, that doesn't always swing it." 17*
Quality activities benefit the whole organisation	*"Through the course they had projects and things that they needed to have a look at and what we were mindful of at that time is to pick, if you're going to learn a skill, pick an area that's relevant for our region. What we did we made sure that when they did a project in whatever it was it was relevant to our service and our consumer group … They both came to me saying … I want to do something that benefits our department and I thought that was courageous of them to say I need to think of something that, I don't want to do something that's meaningless. By doing that we have information that is really meaningful and credit to them too for doing that, they did a superb job in that." 19*
Developing new service models	*"(Name) has used the modules to really support all of the work that they needed to do in terms of the service redevelopment for (region 1), and it's been really good from that, it's given a rigor to what they have needed to do that they wouldn't have necessarily done before."17*
Identifying areas for improvement for the organisation	*"They were offering some quality improvement in each area, and they did identify where the gaps were in outreach side. They were not reluctant in bringing up idea, saying you know, we might be able to improve the clientele or identifying any risks" 42*
Developing high functioning teams	*"They've built to a team of four now, whereas we were single-handed on the (region 1) for five/six years. You know, and it's becoming the area of choice … and part of that is really significantly how she's changed the culture … their team is awesome" 17*
Generating outcomes that benefit other regions too	*"Some of that QI work done that normally gets pushed off to the back burner. I guess that would be an advantage … because that helps other LHNs. It helps our own service provision." 50*
Completing projects that otherwise would not have happened	
5. Developing leaders for the future	
Growing our own leaders	*"I think the fact with been able to grow a clinician into a more leadership position … it has probably impacted on their leadership skills for the future. A sort of domino effect on those that they are supported in that learning." 24*

Succession planning	*"I'm quite comfortable that if I was to step away, the team is in good hands, I don't have to worry about something not being done which is what happens … So that for me showed that I've got a leader within the team that I can rely on." 21*
Bringing different perspectives to situations	
Having other team members who can support less experienced clinicians	*"They became a little bit more of a go to person during that time as well. So, for myself it meant that I could perhaps direct people to them if they had certain questions" 34*
Trainees can assist managers with higher level tasks	*"You've got someone that's doing the pathway, that's kind of where their mind is set a little bit more. So, they're able to prompt towards some of those activities that may get missed on the norm. They come at the service with a different frame of mind." 23*
6. Raising the profile of allied health and understanding support requirements	
Raising the profile of allied health at a strategic level	*"It recognises and promotes the allied health workforce alongside medical and nursing. So, whilst their different workforce strategies are different from the medical rural generalist pathway and from the nursing transition to professional practice program, it enables a focus on the allied health workforce I suppose. So, I think that it has actually raised that profile which has been good and provided a focus on early career skill development and has helped also for us to look at the factors impacting retention and I think that's then helped us to focus on various elements of that as part of the overall rural workforce strategy." 37*
Supports that early career allied health professionals require are becoming clearer	*"To some LHNs in particular, it might have been a known issue, but I think having a focus on the program has really highlighted the need for supervision and support for early career graduates."* 36
Recognising the importance of onsite support for new clinicians	*"There are some lessons learnt in the importance of onsite supervision and support, in terms of the retention of trainees." 37*

Organisational benefits perceived by trainees – phase 3

Trainees identified several ways the organisation was benefiting from their involvement in the pathway. These were categorised into five themes; however, they were raised by a small number of trainees and should be considered in conjunction with findings from other participants. The themes are:

1. Developing allied health professionals who are organisation focused

2. Improving retention
3. Quality improvement activities
4. Skills for managing complexity
5. Sharing skills and knowledge

Throughout the pathway, trainees became **focused on the needs of the organisation** and how their involvement in the AHRGP could positively impact the organisation. They recognised that they had **continued to work in their organisation** for an extended period, which they felt was benefiting the organisation in terms of having a consistent, skilled worker. Trainees described ways in which they were **initiating, planning and implementing quality improvement projects** that enabled their organisation to reap benefits while they were learning. They had improved processes, solved complex problems and developed efficiencies that they would previously not have had the skills to do. Some trainees also recognised that they were more skilled in terms of **managing complex clinical problems**, a skill which they felt they had gained through the pathway. Trainees were committed to **sharing their learning** with colleagues to ensure others also benefited from the AHRGP. They described a range of ways they had done this.

Table 59: Phase 3 trainee perceived organisational benefits

Developing allied health professionals who are organisation focused	
Allied health professionals undertaking the pathway to benefit the organisation	*"I think our (professional development) hours are a lot of personal and professional development, whereas this is sort of … I think benefits the organisation a lot more. You're still doing career growth and getting your own development, but it also benefits the organisation at the same time." 5* *"Yeah, whereas you can go and do a uni degree and it just be about you are getting those skills, which you're then meant to implement at work, but this, they tie in a lot of the projects to what client's you're seeing or what's happening at work, or how could this be implemented in your region. So, I think that's the benefit, overall, of the program." 5*
Improving retention	
Satisfied trainees are more likely to stay longer	*"Having staff who stay and are better trained has got to have benefits for the organisation … I think through supporting me, hopefully it will lead to me being a better clinician" 3*
Quality improvement activities and solving complex problems	
Identifying gaps / priority areas for the organisation and community	*"Allowing the time to really look at what the organisation's doing or where the gaps are, or how we can do service improvement … So often you're doing stuff that relates to what the consumers might need here, or what the organisation needs, more than you going and doing something for your own development." 5* *"Having the time for me to actually do quality improvement projects. It's probably good for the service that I've actually had the chance to be able to do that" 10* *"I think there were a couple of really great project development things within some of the subjects which translated really nice to workplace and just current priorities at work at the time" 4* *"And a lot of it has been that kind of using research and evidence-based practice, strength in decision-making, communication skills." 13* *"Then especially with COVID coming in, how telehealth can then impact on the service and what kinds of things you need to take into account … I think it was something I didn't feel like I knew a lot about, so I think it was a good*
Identifying areas for service development and quality improvement	
Having quality activities designed for implementation when resourcing allows	
Developing relevant resources for the service	
Understanding local community demographics and challenges	
Understanding how care can be delegated to others	
Developing skills in telehealth	
Adapting services to meet evolving needs of the health service	

	opportunity to learn a bit more and broaden my horizons a bit as well." 10
Sharing knowledge with others	
Sharing learnings at team meetings / regional meetings	*"And I've done a few PD presentations and had a look at those service changes. Obviously, that will help the (clinicians) that are involved in those programs." 3*
Sharing knowledge with supervisors	*"Being able to share that with other people as well, and being able to help new staff understand why we're doing what we're doing and how we fit in. " 5*
Helping others manage their own projects and new initiatives	*"I think just that self-reflection on the skills that I've learnt around management, around projects, and then being able to talk through … like all those parts of the project, to be just scaffolding that and helping that learn." 12*

Organisational challenges perceived by service leaders – phase 3

At the end point of the pathway, managers, supervisors and clinical leads reflected on the challenges their organisation faced. These emerged in three themes:

1. Staffing challenges
2. Service development projects
3. Sustainability of the pathway

Staffing challenges concerned the impact of the study time on workload and outputs of the trainee and other team members. It was also recognised that the pathway was important, and time needed to be found to support it. Trainees leaving in the second half of the pathway was a challenge for managers who had invested in staff to undertake the training, and changes to organisational structures were a factor impacting on how much time teams could devote to the pathway. **Service development project challenges** involved the projects being planned for as part of the pathway that were not implemented or were not developed collaboratively with the team. This resulted in less tangible benefits for regional LHNs. The third theme, **sustainability of the pathway**, was raised by managers and project managers who had concerns about how the

pathway would be funded in the future. Some managers were concerned they did not know enough about the pathway to promote it to future trainees.

Table 60: Phase 3 organisational challenges perceived by service leaders

Theme 1: Staffing challenges	
Staffing and challenges of allocating study and quality improvement time	*"There's no real space to do lots of quality improvement or looking at trialling new things. It's all about just getting people in and out and trying to keep our head above water." 49*
Finding a balance between supporting staff to do the pathway and meeting organisational demands	*"If we don't support our staff to participate in these kind of development activities or I guess leadership activities or extra study or whatever, then it has a really big impact on job satisfaction as well. As an organisation, you have to get a balance with all that stuff." 50*
Study time impacting on workload outputs and colleagues' workload	*"Recruitment and the staffing was the main challenge experienced by all the staff and that did impact on their ability to do some other stuff, other than the case loads." 42*
Trainees not continuing with the pathway	*"Obviously it's their right to go, but we would benefit if we could retain the workforce." 42*
Changes to management structures	*"We also had sitting higher than our team some changes in management styles … our local health network also had a realignment about what Country Health Connect looked like … then in the context of COVID where we're already sort of stressed and alone and grieving losses of different things"16*
Theme 2: Service development project challenges	
Project proposals not being actioned in teams	*"And even locally sometimes it doesn't even continue because they just don't have the staff or the management to support that maintenance of a good idea … it's just having capacity for staff to actually pick up the good work that's been done or that's been started in these projects and take ownership for it and continue it. It's just staffing levels but it's also leadership or management and if people see the value of those projects and that work that has been started, then actually it needs to be continued somehow" 20*
Projects not always relevant to organisation	
Projects not shared across regions	
Some trainees not collaborating with team, manager or supervisor on projects	

Managers not aware of projects being undertaken	*"And I think there is awareness as well of the participants that they don't want to make it too onerous on other people so that kind of maybe go away and just try and work on it themselves" 34* *"It just gets a bit challenging there, so how can I then share with the board or the CEO the benefits of this, when we're not really seeing any changes on the ground" 43*
Theme 3: Sustainability of the AHRGP	
Challenge of funding the pathway into the future	*"When you look at nursing TPPP program, they actually have positions that are on top of – whereas we are trying to fill a vacancy, a clinical need, and the people are getting the opportunity to extend their skills as part of that" 35* *"Big difference of the models between the workforce is with the AHRGP they're effectively losing FTE (full-time equivalent staff) to be able to do the pathway whereas nursing, for example, they're gaining positions who are also doing training. So, it's almost the reverse" 52*
Identifying ongoing funding sources	
Exploring how the pathway will be coordinated in the future	
Structure of pathway is challenging compared to similar programs with supernumerary training positions	
Benefits for organisation not realised by all managers makes it difficult to promote	*"Got no reports, I didn't see anything … For all I know, they've all dropped out, you know? So, I just … yeah. And then I worry that people don't realise the value of that, how important it is to report that up." 43*

Chapter key findings

Organisational outcomes identified by managers, supervisors, clinical leads and trainees aligned well with the anticipated outcomes from phase 1 and were very similar across phases 2 and 3.

1. Informing workforce planning and impacting on future directions of the organisation

While service leaders did not specifically describe an outcome around informing workforce planning, in phase 3 project managers did outline the benefits of having a better understanding of what early career allied health professionals really need in terms of clinical governance and support structures.

2. **Retention will improve with trainees having the ability to develop their careers in situ rather than moving to another location**

Retention was a strong theme in both phase 2 and 3, with service leaders reporting the pathway was having a positive impact on how long trainees were staying in rural areas. They noted the pathway was giving trainees career advancement opportunities, which encouraged them to stay for longer. Managers felt the pathway could be used as a retention incentive for future trainees and participants described the benefits increased retention was having on their regions, including the improved quality and consistency of services and the positive flow-on effects to other team members. Some of the trainees also described that continuing to work in a rural area for an extended period was having a positive impact on their organisation.

3. **Happier, more passionate and more productive staff in the organisation**

Service leaders spoke very highly of the trainees throughout phases 2 and 3. They described them as well liked, good team players, highly skilled and knowledgeable. In terms of happiness, some service leaders noted the trainees were happy enough to stay in a rural or remote area, which they thought was positive. While productivity was not addressed directly, managers, supervisors and clinical leads described a range of clinical and project activities that trainees had been involved in.

4. **Easier recruitment if potential new staff know they may have the opportunity to undertake the AHRGP in the future**

While the scope of this research is concentrated on a group of allied health professionals who had already been recruited before starting the pathway, some managers thought this the pathway could have a positive impact on future allied health professionals being recruited into regional LHNs if it was available.

5. **More skilled workforce will result in higher quality service provision**

This anticipated outcome was consistently described across phases 2 and 3 as an actual outcome by service leaders and trainees. Reports of trainees developing relevant skills that had direct benefits for the organisation were described at length, including the development of generalist

skills. As a result, trainees were able to work across broad clinical and geographical areas, which was increasing organisational capacity. Trainees reported they felt more competent in managing complex clinical problems and using evidence-based practice, which was having a range of positive impacts for the organisation and consumers.

6. Developing a broad culture of learning amongst staff in the organisation

This anticipated outcome was not widely discussed although managers, supervisors and trainees described relevant learnings that had been gained through the AHRGP. Some managers described the hope that the support that this cohort of trainees received demonstrated to other staff that the organisation was committed to staff learning and development, although they did not have evidence that this had been achieved and nor was it widely discussed.

7. A stronger focus on evidence-based practice and innovative practice

Service leaders had noticed trainees were using evidence-based practice to improve consumer outcomes, and they described innovative improvements they had made for the organisation. Trainees themselves described routinely using evidence in their practice as a result of the pathway. Trainees have developed new and innovative ways of working with remote communities, improved team processes and implemented telehealth services through the learnings from the pathway.

8. The workforce will be able to learn from the trainees if there is the opportunity to share relevant learnings formally and informally

The sharing of skills and knowledge was realised widely by service leaders, with reports of trainees being open and keen to sharing their skills with colleagues. Trainees also described ways in which they had shared their learning with their teams and disciplines across regional LHNs. This sharing happened throughout the pathway formally through in-services and service development and informally through sharing of ideas and resources and when trainees were supervising others.

9. **Allied health staff will have clearer processes, better communication between staff, more transdisciplinary care and relevant resources developed to support their roles through the development of quality improvement and service development projects**

The development of projects and service development activities had a positive impact on the regional LHNs. Service leaders identified multiple projects that had been undertaken by trainees or that were planned and ready for implementation time permitting. Trainees' projects were relevant to the organisation and well thought out. Supervisors and managers also reported that it was beneficial to have allied health professionals in the team who could assist with future projects.

10. **This first group of trainees will hopefully be able to mentor future trainees and be able to promote the AHRGP**

Although trainees mentoring future trainees was not specifically described by trainees, managers, supervisors and clinical leads, this could be in scope for future iterations of the pathway. There were several examples where trainees described sharing what they had learnt from the pathway with colleagues.

11. **The voice of allied health may be strengthened, with trainees in each rural region achieving outcomes and making positive changes**

A variety of positive changes and outcomes by trainees were described by managers, supervisors, clinical leads and the trainees themselves. The project managers had noticed that the profile of allied health had become stronger through the introduction of the AHRGP at a strategic level. This was not raised by managers in regional LHNs, but some managers did question their involvement in the pathway in research question 3 and reflected on how they could have supported trainees better in the future. This outcome is emerging and there is not sufficient evidence with this cohort to demonstrate whether it has been met.

Challenges for organisations

Managers, supervisors and clinical leads described a range of challenges for organisations. Similarities and differences emerged across the phases and between the groups. In all phases, the service leaders described time as being a negative impact on organisations. Quarantined study

time impacted on clinical outcomes, waiting lists and other team members who were required to manage the additional work. Some thought the study time should be backfilled to reduce the impact on organisations. In phase 2, the managers, supervisors and clinical leads were concerned about the number of trainees who had discontinued as this was having a negative impact on workforce outcomes; this was not as much of a feature in phase 3 as there were a lot less trainees leaving. In phase 3, the service leaders described the challenge of projects being designed by trainees but not implemented. This was frustrating for organisations who were investing in trainees' time but seeing limited immediate outcomes. In both phases there were a range of reports of additional challenges for organisations to benefit directly from the pathway in terms of knowing what the trainees were learning and how it was impacting service delivery. This was particularly challenging for managers who had not been working with trainees from the beginning of the pathway. Service leaders who had participated in all three phases of the research appeared to be more aware of the changes trainees had made to services and practice but discussed the importance of making this more impactful in the future. This highlights the importance of orienting and involving new service leaders in the pathway when they start so that they understand the purpose and expectations of the pathway and can advocate for trainees as needed. It also highlights the importance of making sure trainees have enough time and support to implement their learning and projects to enable organisations to benefit directly. In phase 3, the project managers described the challenge of sustainability of the AHRGP in terms of identifying future funding streams. They felt there was a commitment by regional LHNs to continue supporting trainees, but funding was not secured. If the outcomes for organisations were more obvious, it may be easier to make a case for securing funding in the future.

Chapter summary

A wide range of impacts and outcomes for employing organisations have been described. These include workforce outcomes, changes in workplace culture, capacity and quality of services provided. Challenges for organisations were also described; these related to time, expectations, workforce and sustainability. In the next chapter, contextual factors which may improve the success of the AHRGP in the future will be explored.

CHAPTER 11: CONTEXTUAL FACTORS FOR SUCCESS

Chapter overview

A range of contextual factors were explored across the research phases to define for whom and under what circumstances (Astbury, 2018) the AHRGP was working in rural and remote SA. The factors explored in this chapter are shown in Table 61.

Table 61: Chapter outline

Rural background of trainees and community immersion
Locations suited to the AHRGP
Professions suited to the AHRGP
Timing for enrolment into the pathway
Personal attributes suited to the AHRGP
Temperament and characteristics of trainees
Discussion

These factors will be mapped and described in this chapter to draw conclusions and make recommendations for future selection of trainees and organisational resources.

Rural background of trainees and community immersion

In phase 1, trainees were asked to identify whether they grew up in a rural or metropolitan area and whether they spent their weekends in the rural location in which they worked or regularly travelled out of town. Of the five level 2 trainees, four had grown up in a rural area. The metropolitan-raised trainee worked in a rural area close enough to allow them to commute from Adelaide each day, and they viewed working in a rural area close to home as a favourable long-term opportunity.

Of the 10 level 1 trainees who started the pathway, all three who completed were raised in metropolitan areas. Four rurally raised and three metropolitan-raised level 1 trainees withdrew from the pathway. One of the completing level 1 trainees also commuted from Adelaide each day to a regional centre and found this to be a favourable option for their personal circumstances and work opportunities.

Other than the two trainees who commuted each day to the regional centre, the completing trainees reported that they had integrated into the rural community in which they worked. They played sport locally, had family who lived nearby or described enjoying the rural lifestyle. Most of the trainees that left the pathway before completion also reported staying in the rural area on weekends, with only two of them reporting that they returned to metropolitan areas most weekends. Of the five trainees who discontinued the pathway and reported spending their weekends in the rural area, two were from interstate and lived too far away from their social network to travel back on weekends, and the other three participated in the pathway for a short period of time. It is also important to note the trainees were undertaking the pathway during COVID-19 restrictions, which may have impacted on their ability to travel, integrate into the community and leave town on weekends.

Table 62: Trainee demographics

	Commenced AHRGP	**Discontinued AHRGP**	**Completed or continuing AHRGP**
All trainees	15	7	8
Mostly leave rural area on weekends	4	2	2 (both commuting daily)
Mostly stay rural on weekends	11	5	6
Metropolitan raised	7	3	4
Rural raised	8	4	4

Locations suited to AHRGP

The AHRGP was offered in all six regional LHNs across SA. The trainees who completed the pathway at the end of 2022 worked in regions 2 (Flinders and Upper North regional LHN) and 4 (Riverland Mallee Coorong regional LHN). Two of the trainees who completed the pathway in region 4 commuted from the metropolitan centre each day, and the remaining trainees lived and worked in the rural area.

In discussion with managers, supervisors and clinical leads in phase 3, there was a consensus that any rural or remote region would suit hosting an AHRGP trainee, and the managers were particularly keen to get more trainees in their regions. Service leaders recognised the need for rural and remote allied health professionals to have generalist skills to manage the wide variety of clinical cases and high level of complexity presenting to their services, which is a strong indication for the need for rural generalist training.

> They have to be able to manage whatever comes through the door. It's very different from metro … the case load is often very broad and very diverse. So, anything that we can do to help skill them and prepare them for that, I think, is really helpful, especially when they're going off to do that outreach … it's just so diverse and a bit unknown what's going to walk in the door and present on that day, so help them being able to think on their feet and manage that diversity on a daily basis. [28]

Factors relating to the suitability of a location to host AHRGP trainees described by service leaders include:

- the ability for organisations to offer a generalist case load so trainees can experience a broad clinical practice areas while undertaking the pathway
- the availability of consumers with wide-ranging conditions relevant to the study activities
- a level of complexity that suits the advancement of generalist skills and knowledge
- the ability of teams to cover lost time due to study leave
- the availability of clinical and managerial support for trainees.

In terms of offering generalist case loads, wide variety of clinical presentations and complexity, all of the participating regional LHNs appeared to have these opportunities, and trainees did not report issues with these. In contrast, some trainees and supervisors felt the education provider course should be adapted to be more appropriate to the types of presentations allied health professionals were working with in SA. The two remaining factors of study time and support were more variable in this study.

The education provider recommends trainees have three to four hours of study time per week at work per module to participate in work-related study activities. Trainees may be undertaking one or two modules at time. They are also expected to have onsite or highly accessible supervision from the same discipline for 60–90 minutes per week (James Cook University, 2022).

Trainees had varying experiences in terms of quarantining their study time, with some finding it particularly difficult to find time at work to undertake study-related activities. All eight of the completing or continuing trainees had access to regular clinical supervision, but only three had regular meetings with a line manager.

When identifying appropriate locations for future trainees, it will be important to consider whether this resource can be factored into the trainee, manager and supervisor's time.

Professions suited to the AHRGP

Trainees were recruited from occupational therapy, physiotherapy, podiatry, speech pathology and social work. Completing trainees included occupational therapists, physiotherapists, one speech pathologist and one podiatrist. When considering the professions that were best suited to the AHRGP, managers, supervisors and clinical leads reported in phase 3 that the pathway was well suited to professions that offered a broad range of clinical services.

> Because our practice is so broad as rural generalist physio clinicians, there's been something there that they could all apply, and they all had access to consumers that would fit the topics for their case studies and those sorts of things. [22]

Professions or positions with a more specialised or narrow case load were discussed as potentially being less suited to the pathway in its current form, with other training options potentially more relevant. For example, in podiatry there are postgraduate courses in nail surgery or high-risk foot care that may be more suited to rural podiatrists. In comparison, some service leaders felt that the broad nature of the AHRGP training was also well suited to specialised scopes of practice in terms of developing more strategic, evidence-based, broad and flexible thinking. They described the importance of trainees understanding the purpose of the pathway before participating; for example, trainees should not expect to develop technical or discipline-specific skills but can expect to develop broad knowledge and skills related to rural and remote practice.

> Because I think there is a very different, and I think it's, again, it's a very podiatry thing, because we're a very technical profession, it's about wanting to be able to do things better. So, you know, having them have a clear understanding of actually you're not going to get high-level debridement skills out of this, that's not what it's about. [17]

Service leaders recognised that even professions that tended to traditionally work to a narrower scope of practice were working in broad roles in rural areas because of the vast geographical distances and clinical areas allied health professionals were working across.

> All of them. I'm an AHP and I think this is relevant for all my allied health particularly because of the environment that they're working in is broad, it is complex, we don't have the luxury to say actually I only want to see this tiny little bit. [19]

Targeting professions that have difficulty retaining staff was also discussed as a priority, but across the six regions, managers were reporting retention challenges with all profession groups, so this does not narrow the list of recommended professions.

Timing of enrolment into the program

Trainees' years of experience working in a rural or remote area before commencing the AHRGP ranged from three months to six years. The level 2 trainees had more experience than the level 1s

(at least three years). Most of the level 1 trainees who discontinued started the pathway very early in their career, with an average of seven months experience, while those who completed the level 1 pathway had on average 15 months of experience before starting.

Table 63: Trainee months of experience before commencing the AHRPG

	Months of experience prior to commencing pathway	Range of experience prior to commencing pathway
Level 1 continuing trainees	15.3 months	4–24 months
Level 1 discontinuing trainees	7.4 months	3–19 months
Level 2 continuing trainees	41.0 months	27–60 months

When asked in phase 3 to make recommendations for how much experience a trainee should have before commencing the AHRGP, managers' responses were heterogenous, with recommendations of three months through to two or three years of experience. It is important to note that not all of the managers had worked with trainees since the beginning of the pathway. All of the supervisors and clinical leads in phase 3 who were supervising level 1 trainees felt allied health professionals should have at least 12 to 18 months experience working in a rural area before commencing the pathway (see Table 64 for the breakdown of recommendations). It was identified that the first year of working is a challenging time of transition and that the pathway would add extra pressure that would not be helpful. Service leaders discussed that choosing potential trainees who intended to stay in a rural area long term was important. Considering the drop off of earlier career allied health professionals in this cohort, it may be worth considering delaying trainees until they have worked for at least 12 months and are intending to stay for an extended period of time.

> I think it would be a great opportunity to offer a clinician once they've completed that new graduate sort of phase and that transitional year from student to functioning clinician. [16]

> Somebody who has somehow displayed that they are keen to stay rural. So, while two years is a reasonable time frame … There's no point having a whole lot of people who end up just going back to metro after the investment in this program. [20]

The clinical supervisors who were supervising level 2 trainees reported allied health professionals should have at least three years' experience or be working towards a promotional role. Some supervisors and level 2 trainees also recommended that allied health professionals who were already working in a senior level 3 role may be less suited to the AHRGP as they would be managing high-level responsibilities that were less likely to be flexible when juggling study requirements.

> *"Level 2s, I would probably say someone who is working towards an AHP2 reclass or applying for a level 2 job. So was that, about four years out or something" 34*

Table 64: Service leader recommended years of experience before commencing AHRGP (average)

	Level 1	Level 2
All service leaders	12.7 months	31.1 months
Managers	9.0 months	24.0 months
Supervisors and clinical leads	16.3 months	39.0 months

In summary, service leaders recommended that level 1 trainees have at least 12 months experience before commencing the AHRGP and that level 2s have around three years' experience working in a rural or remote area.

Personal attributes suited to the AHRGP

The AHRGP is a comprehensive training pathway that requires significant investment in time and commitment from the trainees and their employing organisation. In phases 2 and 3, managers, supervisors and clinical leads reflected on the personal attributes and circumstances that they would recommend for future trainees based on what has enabled and prevented success with this

first cohort of trainees in SA. These were largely consistent across the two phases, as summarised in Table 65.

Table 65: Service leader perceived desired personal attributes of trainees

Desire to grow professionally	Not easily overwhelmed
Commitment to learning	Investing in both community and own learning
Desire to develop rural generalist skills	Understanding self / reflective
Motivation/drive	Confident and advocating for self
Flexible thinking	Passionate about rural health
Organised, time management / self-directed	Intention to stay
Skills to share learnings	Commitment to change improve services
Awareness of other pressures, able to balance responsibilities	Having goals or direction they are wanting to follow

Although these attributes were not specifically explored with the trainees, it is interesting to note the similarities of these personal attributes with the goals set by trainees in phase 1. Related goals included improving confidence and competence, sharing skills with team members, making a difference to their local community and contributing to quality improvement. Some of these desired attributes could be included in the selection of future trainees; for example, trainees could describe how long they intend to work in a rural area, what strengths they bring to the pathway, how they plan to use the pathway to benefit their organisation and community and any challenges they may face along the way.

Temperament and characteristics of trainees

In phase 1, all trainees completed the Temperament and Character Inventory (TCI) (Cloninger, 1994) to explore their individual and collective personality traits. It was anticipated that trainees who completed the pathway and remained working in rural areas might have trait profiles similar to those previously identified in the literature as conducive to rural and remote work success (Campbell et al., 2013; Eley et al., 2011; Eley et al., 2015; Eley, Young, & Shrapnel, 2008). It was

also envisaged that trainees would gain insights into their own personality and how this might have impacted their experience in the pathway. Finally, it was thought that the trait profiles might add useful information to the literature for identifying future trainees who were likely to succeed. The seven temperament and character traits defined in the TCI, and as discussed in the methods chapter, are outlined in Table 66.

Table 66: TCI traits and characteristics

Temperament traits	**High scorers**	**Low scorers**
Novelty seeking	Exploratory and curious Impulsive, disorderly Extravagant and enthusiastic	Indifferent, reflective Frugal and detached Orderly and regimented
Harm avoidance	Worrying and pessimistic Fearful and doubtful Shy, fatigable	Relaxed and optimistic Bold and confident Outgoing, vigorous
Reward dependence	Sentimental and warm Dedicated and attached Dependent	Practical and cold Withdrawn and detached Independent
Persistence	Industrious and diligent Hardworking Ambitious and overachiever Perseverant and perfectionist	Inactive and indolent Gives up easily Modest and underachiever Quitting and pragmatist
Character traits	**High scorers**	**Low scorers**
Self-directedness	Mature and strong Responsible and reliable Purposeful, self-accepted Resourceful and effective Habits congruent with long-term goal	Immature and fragile Blaming and unreliable Purposeless, self-striving Inert and ineffective Habits congruent with short-term goals
Cooperativeness	Socially tolerant Empathic, helpful Compassionate and constructive Ethical and principled	Socially intolerant Critical, unhelpful Revengeful and destructive Opportunistic
Self-transcendence	Patient Creative and self-forgetful United with universe	Impatient Pride and lack of humility Scientific/objective

(Eley et al., 2011) (Adapted from Cloninger et al., 1994)

One trainee who participated for a short time in the pathway did not complete the TCI so for the purposes of this analysis, 14 trainees will be described rather than 15.

The temperament and character profiles of the trainees who participated in the AHRGP were variable, and limited patterns or trends emerged that could be used determine to why they had chosen to work in a rural or remote area, why they chose to participate in the AHRGP and why they chose to continue to work in a rural or remote area or not. When analysed as a group, scores were average, except for self-transcendence, which was low. Low self-transcendence scores are linked to scientific and objective thinking, which is relevant to choosing a scientific-based profession such as allied health.

Table 67: Average TCI scores for all trainees

	Temperament			Character			
Sample size	Novelty seeking	Harm avoidance	Reward dependence	Persistence	Self-directedness	Cooperativeness	Self-transcendence
14	Average	Average	Average	Average	Average	Average	Low

Breakdown of TCI ratings

As a small sample, these average ratings do not support an overall trainee profile as has been reported with larger samples in the literature. However, the results of participants on individual traits across relevant factors will now be provided. These factors include trainees who were completing compared to those who discontinued the AHRGP, trainees who nominated to participate in the AHRGP compared to those who initiated their own application and trainees who were raised in rural or metropolitan areas. Table 68 presents these results. Note that the table anonymises the trainees to protect their identity by using A-N assignments with no alignment to the trainee numbers assigned in the remainder of the results. The table does not include a breakdown

of level 1 and level 2 trainee ratings because there were no obvious profiles, and any differences are accounted for within the other factors.

Table 68: Temperaments and characteristics of trainees including completing/non-completing, nominated/self-initiated and rural/metro background

				Temperament			Character			
Participant	Completing / discontinued	Nominated / self-initiated application	Background rural / metropolitan	Novelty seeking	Harm avoidance	Reward dependence	Persistence	Self-directedness	Cooperativeness	Self-transcendence
A	Completing	Nominated	Rural	Very high	Low	Low	Low	Very low	Average	Average
B	Completing	Nominated	Rural	Average	Very low	Very low	Average	Average	Very low	Very low
E	Completing	Nominated	Rural	Low	Average	Low	Average	Average	Average	Low
J	Completing	Nominated	Rural	Average	High	Low	Average	Average	Low	Very low
G	Completing	Nominated	Metro	Average	High	Average	Average	High	Very high	Very low
N	Completing	Self	Rural	Very low	Very high	Very high	Low	Low	Average	Very low
M	Completing	Self	Metro	Very low	Average	Average	Very high	High	Very high	Average
C	Completing	Self	Metro	Average	High	Very high	Average	Average	High	Very high
K	Discontinued	Nominated	Rural	Very low	High	Very low	Low	Average	High	Very low
D	Discontinued	Nominated	Rural	Average	Very high	Very high	Average	Average	Average	Average
F	Discontinued	Nominated	Rural	Average	Average	High	Average	High	Very high	Average
L	Discontinued	Nominated	Metro	Very low	Very high	Very low	Average	Average	Average	Very low
H	Discontinued	Nominated	Metro	High	Very high	Very high	Very low	Low	Average	Average
I	Discontinued	Self	Metro	Low	Average	High	Very high	Average	Average	Low

Completing and discontinuing trainees

When comparing the TCI results of trainees who discontinued with those who completed or are continuing the AHRGP, their collective traits are the same as the average ratings for all trainees who initially enrolled (which were mostly average). Looking at the temperament trait ratings individually, most trainees had average to very low ratings of novelty seeking, which relates to reserved, tolerant, reflective, uninquiring tendencies. Of the eight completing trainees, four were high or very high in harm avoidance, which is related to being shy, worried, passive or pessimistic. In terms of reward dependence, two trainees rated very high, one very low and the others average

or low. This would indicate that these trainees did not necessarily thrive on reward, affirmations or feedback to succeed in the pathway. Most completing trainees rated average in persistence, with one rated as high and two low. It could be assumed that completing trainees required persistence to have completed the pathway even though this was not strongly rated in the inventory. In terms of character traits, completing trainees were mostly average in self-directedness, which is supported by reports from service leaders, indicating behaviours such as balancing workload around study, completing modules and associated service development activities. The trainees demonstrated mixed results for cooperativeness and self-transcendence, so it is not appropriate to describe these collectively.

The trainees who discontinued the pathway also presented with varied levels of the traits but did appear to have higher harm avoidance and lower self-transcendence than the completing or continuing trainees. This would indicate that the trainees who discontinued the pathway were on average more worrying, pessimistic and shy than those who completed the pathway. Potentially, people who are average or low in harm avoidance with a tendency to be easy going, optimistic and confident may suit the pathway.

Nominated versus self-initiated trainees

Trainees were either nominated by their organisation to participate in the pathway or they self-initiated their application via expression of interest. When we look at these groups separately, three of the four self-initiating trainees scored high or very high in reward dependence and the other was average. Reward dependence relates to a bias towards social reward, social dependability and attachment. In comparison, six of the 10 trainees who were nominated by their organisation were low in reward dependence, relating to less of a need for approval by others and a bias towards practicality, objectivity and independence. Additionally, the self-initiating trainees rated higher for persistence, perhaps indicating a higher level of ambition and determination, which may have motivated them to apply for the pathway. Both groups had similar ratings for the other traits.

Of the four trainees who self-initiated their participation in the pathway, three completed. Of the 10 trainees who were nominated by their employer to participate, five completed or are completing the

pathway. This is a small sample size, but it is interesting to note that 75% of those who initiated their participation went on to complete and this may be worth consideration in the future.

Rural versus metropolitan background

Seven of the 14 trainees were raised in rural areas and seven in metropolitan areas. When comparing the average ratings of these two groups, there are no obvious differences, with all traits collectively rated as average other than self-transcendence, which was low for rurally raised trainees. Considering the ratings individually, five of the seven metropolitan-raised trainees rated high or very high for harm avoidance while just three of the seven rurally raised trainees rated highly in this area, perhaps relating to a slightly more relaxed, easy going, outgoing group of rurally raised trainees. Ratings for novelty seeking and reward dependence were highly variable across both groups, indicating no patterns for the rural versus metro-raised trainees. Rurally raised trainees were mostly average in their ratings of persistence, self-directedness and cooperativeness while the metropolitan-raised trainees were slightly more variable in these ratings, with some very high and one very low rating across these characteristics.

Trainee reflections on TCI results

The trainees' trait profiles did not suggest an overall profile for an AHRGP trainee; however, it was interesting to consider the completing trainees' own reflections and perceptions of their traits and the influence these have on their experience in the pathway and working rurally or remotely.

Novelty seeking

Trainees spoke of their preference for structure and predictability in their lives; they noted that rural areas offered stability in terms of permanent job roles and appreciated the time to take a measured approach to the services they offered. They recognised that they needed to be flexible and adapt to different situations but that they liked to know what was happening in the day, who was booked in and what they needed to do. One trainee who had moved regional locations during the pathway felt their novelty seeking trait may have related to them feeling like their workplace was stagnant and a desire for something different.

> I think I'm quite; I wouldn't say I'm completely risk adverse, but I do like to take a measured approach to things. So, I'm certainly not a gambler or anything like that. And, I guess, within a work context, I enjoy having safety with my work, or security, and that sort of stuff. [3]

> (Working rurally) kind of allows me breathing space and clear head to be able to do other things personally. I like it here and I'm happy. What do I need to forego of that to go and do something. I don't have to throw myself out into this really like uncomfortable space. For some people that's where their happiness comes from which I feel like is not necessarily for me. I can find ways to challenge myself here. [4]

Harm avoidance

Trainees discussed harm avoidance in terms of them being introverted, realistic and at times pessimistic. Some had noticed changes in themselves over the last three years in becoming more optimistic and confident since originally completing the TCI. They reported it was important to have a level of optimism to reap the benefits of the pathway. One trainee also linked the harm avoidance trait to wanting to do well in assignments and avoid failing.

> I feel like I'm fairly laid-back now, especially at work, I suppose, I feel like I know what I'm doing, I feel confident in myself to be at the position that I am now, and I know what I'm doing. I don't feel like I'm faking it or have to wing it. I feel like I know what I'm doing. So, I'd probably say I'd definitely moved and had that growth over the last couple of years. [5]

> Just being like not everything is going to be perfect for me or going to be all about me, or is going to be tailored to me, but just to be optimistic enough to be like, I'm probably going to learn something with a good attitude, and to just go around there, and no-one owes me anything. [12]

> But, you know, at the same time, I was trying to be really positive with the study and looking at all the things that I would get out of it, through sacrificing that time. And, I guess, that kept me motivated to continue. [3]

Reward dependence

Trainees reflected on the notion that most people like to be told that they are doing a good job and that they also appreciated feedback on their performance. They described a tendency to seek out feedback from others for self-growth and assurance if they weren't getting adequate feedback. Some trainees also discussed not relying on affirmations from others to know they were on the right track instead relying on other mechanisms to monitor their practice.

> Like I think I'm quite resilient and I can compartmentalise those feelings about myself to get stuff happening. So yeah, I'd love it if people were invested in my projects and have approval and all of that sort of stuff. But that's not going to stop me from being independent enough … Yeah. I've learnt to not rely on it, because it's more important to me that things get done, and get done well and right, than to go along with the agenda of others, probably. [12]

> I probably don't seek people to tell me you are doing such a good job. Not in that direct way. It'd probably be more, I think probably in our setting here from a clinician point of view, we just work like dogs, and you don't seem to get much. I've said this to (supervisor), I don't expect people to say that (name), you've changed the (profession) service, you're f…g amazing. It would just be nice if someone was like, I've noticed that (profession), the wait times aren't as much anymore. I think because, like I had a tough couple of years where we had to change a lot. I would have been – if it wasn't for (supervisor), I would've been out in six months. [2]

Persistence

Persistence was recognised as an important character trait for completing postgraduate study; the trainees recognised they had stayed in a rural area for an extended period of time and completed

the AHRGP, which both required a degree of persistence. Trainees reflected on wanting to finish what they had started with the pathway and reaping the rewards of undertaking complex, challenging work and study which required diligence and hard work.

> I mean in terms of that and coming here for the work, I'm still here because of the work, because while it is hard, I do recognise that it gives me more opportunity, and I've done stuff outside of my scope that someone two and a half years out shouldn't have, and consistently do. [11]

> Yeah, so the hardworking one is probably my reason for why I undertook it. It's probably more who I am as a person to actually be able to do that. [10]

> I do know that there were a few people that dropped out. Whereas, once I had started the course, I really wanted to see it through and not make it a wasted opportunity. [3]

Self-directedness

Trainees mostly rated as average for self-directedness; they felt they were quite independent in the pathway and were able to get on and get things done. One trainee commented that they were quite goal oriented, which helped them to stay on track with responsibilities, while another felt it was their responsibility to find their own opportunities rather than focusing on the things they could not control.

> I think in most of my life I've been fairly independent and just get on with it and do stuff. I like to think I'm some of those aspects. [5]

> I was trying to be really positive with the study and looking at all the things that I would get out of it, through sacrificing that time. And, I guess, that kept me motivated to continue, because I do know that there were a few people that dropped out. Whereas, once I had started the course, I really wanted to see it through and not make it a wasted opportunity. [3]

Cooperativeness

The completing trainees were very mixed in their cooperativeness ratings and reflections. Some felt it related to roles outside of work while others commented on needing to be cooperative in their teams at work. Another trainee felt cooperativeness was imperative for their work with consumers. They did not relate this specifically to the pathway or their retention in a rural or remote area.

> That's the skills that probably help you in healthcare and the kind of skills you need to have to be able to empathise with people and sit there and listen to patient and client stories and be helpful and go out of your way to do things. So, I think that's the kind of skills that you need as a health professional to be able to succeed and be client-centred as well. [10]

> Yeah. I think I've always grown up in like a team aspect and that sort of stuff, so I think you have to have those elements of your personality to be a good team player, even if it's outside of … like I've always been in a multi-d sort of aspect at work, but I've captained sporting teams and stuff like that. I think you have to have those elements to do that. [5]

Self-transcendence

Generally, the trainees rated low in self-transcendence, and they did not feel it related well to the AHRGP other than being scientific in their thinking and being pragmatic in their approach to work.

> I probably wouldn't have rated it that low on that one, because I think I am quite reflective and contemplative, and probably more spiritual than sceptical. But probably definitely not idealistic or imaginative, quite this is how life is and we have to deal with life as it is … Interesting. [12]

> Whether that is working in a science-based profession, you're probably more likely to be on that side. [11]

Chapter key findings

A range of contextual factors were analysed to explore who, where and what circumstances were suited to the AHRGP. The rural background of trainees was explored. Most of the level 2 trainees were raised in rural areas whereas the trainees in the level 1 program who completed were raised in metropolitan areas. The trainees who did not complete the pathway were from a mixture of rural and metropolitan backgrounds. More interestingly, the trainees who completed or continued the pathway were embedded in their community and did not often travel to a metropolitan centre other than the two trainees who commuted to a regional area from Adelaide each day. Trainees who were less connected to a location, who generally left on weekends or were not embedded in community activities were less likely to complete the pathway.

The service leaders all felt their location was appropriate for the AHRGP and were hopeful of the opportunity to train more allied health professionals in the future. Location attributes were identified that suit an AHRGP trainee. The locations that had trainees complete the pathway mostly met these attributes; such locations had the ability to offer trainees broad clinical experiences, high levels of complexity and the availability of clinical supervisors. Quarantining study leave and the availability of managerial support were variable for trainees in these regions. Trainees that did not continue the pathway had limited managerial support but also had issues with their supervision arrangements.

The professions that are suited to the AHRGP were discussed. Research participants felt that as long as trainees had a generalist or broad scope of practice the pathway would be suitable for them. Speech pathology and podiatry trainees did find the training problematic at times as content often appeared to be directed at physiotherapy or occupational therapy. If there were more relevant topics, resources or content relevant to these professions, then the AHRGP would be well suited to them as well.

The years of experience working in a rural or remote area before commencing the pathway was described as an important factor for success. Trainees' various levels of experience before starting

the pathway; some had worked in a rural area for three months while others had worked for several years. Although the perceptions were varied, most research participants felt level 1 trainees should have around 12 months of experience before working in a rural area and around three years for the level 2 pathway. Some of the trainees felt they had started too early and some too late, but generally participants felt it was important that trainees were settled in their jobs before enrolling and planning to stay in the rural or remote area for an extended period of time.

Managers, supervisors and clinical leads explored personal attributes they felt trainees should have in order to be successful in the AHRGP. These generally related to motivation, flexibility in thinking, self-management skills, commitment to rural communities and confidence. Interestingly, trainees' goals in phase 1 were similar to a range of these attributes. In the future it would be useful to consider how these attributes can be considered in the selection of trainees into the pathway.

Chapter summary

This chapter described contextual and personal factors contributing to the experience of trainees undertaking the AHRGP. While it is interesting to review individual traits, the profiles of trainees were varied, and no single character or temperament trait appears related to the degree of success or challenge experienced by the trainees in this sample. The other contextual factors explored in this chapter did impact on trainees' experience and should be considered in the recruitment of future trainees. These include the availability of supervision and management support and the opportunity for trainees to participate in a broad, complex scope of practice and service development or quality improvement projects. Reflecting on personal attributes and life circumstances and how these align with postgraduate training and rural and remote work could also be a valuable exercise for individuals to participate in when considering undertaking the AHRGP. Trainees who nominated to participate in the pathway themselves were more likely to complete the pathway than those who were nominated by their employer; this is a useful finding for planning future selection processes. In terms of supporting allied health professionals more broadly, it may be useful for managers and supervisors to consider how they can account for the

personality traits of early career allied health professionals in their teams to best adapt the supports provided. In the next chapter an economic analysis of the AHRGP will be undertaken to outline and analyse the costs and consequences of the pathway. This will conclude the results of this study.

CHAPTER 12: ECONOMIC ANALYSIS

Chapter overview

A cost-consequence analysis of the AHRGP has been completed to ascertain the direct and indirect costs and benefits associated with the pathway. The data for this analysis was collected across the three phases of this research; the direct costs and turnover data were reported by the RSS project team and the indirect costs, and the benefits were reported by the participants in this study through survey and interviews.

Wage cost calculations are based on the South Australian Public Sector Enterprise Agreement (Chief Executive, 2021; South Australian Employment Tribunal, 2017) and were costed separately at phase 2 and phase 3. Project manager and tuition costs were provided by the RSS. For the 15 trainees who commenced the pathway during 2019 and 2020, costs and benefits considered are described in Table 69.

Table 69: Costs and benefits considered in analysis

Direct costs	Tuition
	Project manager wages and on-costs
Indirect costs	Trainee time studying at work
	Cost of supervision, management and clinical lead time
Benefits	Workforce turnover including recruitment costs and intention to stay
	Progression in employment classification
	Time spent undertaking service development projects
	Confidence and competence
	Job satisfaction

Direct costs

Direct costs of the pathway include the tuition fees to James Cook University and the wages of the project manager. The 0.5 FTE project manager role supported a new cohort from 2021, so total cost for the role was adjusted for the portion of time allocated to the 2019–2020 cohort versus the 2021 cohort. These direct costs are outlined in Table 70.

Table 70: Direct costs

James Cook University tuition fees		
Original budget		$199,805
	Total estimated cost 2019 – June 2022	$162,777
Project manager wages and on-costs (for 2019–2020 cohort)		
	January 2019 – June 2020	$79,016
	July 2020 – June 2022	$64,482
	Total estimated cost	$143,498
Total direct costs at June 2022		**$306,275**

Indirect costs

Quarantined study time

The AHRGP requires employing organisations to allow trainees to have quarantined time in work hours to undertake study-related activities between three and eight hours per week or 15 to 30 hours per month (James Cook University, 2022). The trainees in phases 2 and 3 were asked to quantify how many hours they spent studying at work per month. Table 71 outlines the average hours trainees reported undertaking study-related activities at work, and the associated costs (Chief Executive, 2021; South Australian Employment Tribunal, 2017). These are also included in the total summary of costs (see Table 82).

Table 71: Study costs (during work time)

	Phase 2		Phase 3	
	Average study hours per month	Average cost per month	Average study hours per month	Average cost per month
Level 1 (AHP1)	21.2	$932	10.0	$372
Level 2 (AHP2)	20.8	$994	19.2	$1322

Supervision time

Trainee time

The SA Health Allied Health Clinical Supervision Framework (SA Health, 2014) outlines the minimum standard for allied health professional clinical supervision. These recommendations were utilised to calculate any additional supervision costs associated with the AHRGP. Table 72 outlines the average hours trainees reported undertaking supervision per week.

Table 72: Trainee-reported supervision hours

	Phase 2			Phase 3		
	Recommended supervision per month	Average supervision received per month	Range	Recommended supervision per month	Average supervision received per month	Range
Level 1	2–4 hours	2.7 hours	2–4 hours	1–4 hours	1.8 hours	1–2 hours
Level 2 new to senior role	2–4 hours	4.0 hours	4.0 hours			
Level 2 in established role	1–4 hours	1.3 hours	1–2 hours	1–4 hours	1 hour	1–2 hours

* Recommended supervision hours reported as a range depending on the level of experience the supervisee has as well as the complexity of their job role and other responsibilities.

Considering the complexity of the roles that the trainees were working with in terms of multiple service types and funding arrangements, COVID-19, major service restructures and recruitment and retention challenges, a wide variety of supervision support needs could be anticipated. Anecdotally participants did not report a burden in terms of extra supervision required for the

pathway. The Clinical Supervision Framework (SA Health, 2014) makes allowances for additional supervision time in “circumstances requiring the acquisition of new skills or moving into an new work setting” beyond the expectations outlined in the framework (SA Health, 2014 p. 6). Based on the hours reported in table 72, supervision hours will not be reported as a cost in this evaluation as they are within the range recommended within the framework.

Clinical supervisor time

During phases 2 and 3, clinical supervisors were asked to report the number of hours they spent supervising AHRGP trainees and any other associated hours they spent supporting the trainees with the pathway; this may have included additional meetings and administrative tasks. Table 73 outlines the average hours clinical supervisors reported supporting the trainees as well as the recommended hours according to the supervision framework. In the first half of the pathway, supervisors spent considerably more time than the second half. Anecdotally in phase 2 the supervisors reported attending regular meetings with the project team and trainees, but in the second half their time was reported to be mainly related to direct supervision and assisting with service development projects, course work and attending occasional meetings. It should also be noted that three of the level 2 supervisors were also clinical leads and so were providing supervision but also overseeing the pathway for their discipline.

Table 73: Supervisor-reported supervision time

	Phase 2			Phase 3		
	Recommended supervision per month	Average supervision received per month	Range	Recommended supervision per month	Average supervision received per month	Range
Level 1	2–4 hours	3.8 hours	0.3–4 hours	1–4 hours	1.7 hours	1–2 hours
Level 2 new to senior role	2–4 hours	4.0 hours	2–4 hours			
Level 2 in established role	1–4 hours	3.7 hours	1–4 hours	1–4 hours	1.6 hour	0–4 hours

The time clinical supervisors reported providing supervision to trainees was generally considered within the normal expectations of their role. Initially clinical supervisors provided more supervision as trainees become established in the pathway, but their time commitments decreased during the second half of the pathway. Considering the supervision hours fit within the recommended range in the clinical supervision framework (SA Health, 2014), the hours of supervision and associated costs will not be calculated as an additional cost.

Manager and clinical lead time

In phase 2, managers reported spending between zero and two hours per month supporting the trainees in their team. They reported this to be usual practice for them, with some managers meeting individual allied health professionals in their team regularly and others not. Similarly in phase 3, managers reported spending between zero and one hour per month with their trainees. In both phases of the research, it was the same managers who were regularly meeting the trainees, and the other managers reported not having a regular time to catch up. Considering the small number of hours reported and the reported lack of additional hours, manager time will not be calculated as a cost.

Three of the six clinical leads involved in the evaluation were also supervising level 2 trainees, and all clinical leads reported providing in-direct or informal support to other trainees. The amount of support they provided reduced over time, although this was challenging to quantify. The clinical leads felt that supporting any new allied health venture including the AHRGP was a core and valuable part of their job; as such these hours will not be included as a cost in this analysis.

Total cost analysis

To calculate the costs overall, the types of costs shown in Table 74 were included.

Table 74: Included costs

Tuition
Project manager wages and on-costs
Trainee time studying at work

The total months each trainee spent undertaking the pathway was used to calculate the cost of the hours spent studying; this ranged from three months to 42 months and accounts for the significant differences in costs. As shown in Table 75, over the follow-up period and averaged over the 15 trainees who participated in the AHRGP, the average cost of supporting one trainee position regardless of whether they completed or not was $37,599.

Table 75: Summary of average costs per trainee

	All trainees (n = 15)	**Completed level 1 trainees (n = 3)**	**Completed/completing level 2 trainees (n = 5)**
Average individual cost of tuition	$11,633**	$9,600	$26,100***
Cost of project manager 2019–2022 (per trainee)	$9,567		
Average months in the pathway	18.6 months	19.9 months	32.5 months*
Average study costs (during work time)	$16,399	$15,708	$34,802
Average overall cost per trainee	**$37,599**	**$34,875**	**$70,469**

* Months to complete for completing level 2 trainees does not include one level 2 trainee who deferred study as they did not have a planned end date at the time of this report.
** Average cost here represents the individual cost calculated using a ‘bottom-up’ approach; i.e., it represents the cost of the individual modules each participant completed, including for those participants who did not complete the whole program.
*** The level 2 pathway modules had varying costs, depending on the modules; $26,100 is the standard cost for the level 2 pathway, but some extra tuition fees may have been attributed if trainees chose more expensive modules.

Benefits

A range of benefits have been described in this thesis. In this chapter, benefits which are able to be quantified for analysis will be outlined, as shown in Table 76. Primary benefits include those that can be calculated in monetary terms. In this study this has included workforce turnover and associated cost savings. Secondary benefits include outcomes which are not as easily calculated economically but demonstrate benefits that may be relevant to different audiences.

Table 76: Included benefits

Primary benefits
Workforce turnover including recruitment costs and intention to stay
Secondary benefits
Progression in classification/promotion
Time spent undertaking service development projects
Confidence
Competence
Job satisfaction

Primary benefits

Workforce turnover

One of the goals of introducing the AHRGP was to improve retention for allied health professionals working in regional LHNs. The RSS collected data in phases 2 and 3 regarding the length of stay of all regional LHN allied health professionals between 2016 and 2022 by allied health professional classification. This length of stay data has been used to compare against the 2019–2020 cohort of AHRGP trainees to ascertain whether there has been a benefit. Table 77 outlines the length of stay for allied health professionals currently employed compared to AHRGP trainees.

Table 77: Workforce length of stay for regional LHN allied health professionals compared to AHRGP trainees

	Current staff length of stay (years)	Resigned staff length of stay (years)	Overall average (years)	Overall median (years)
Average data across all six regional LHNs (January 2016 – December 2021)				
AHP1	1.5	1.3	1.4	1
AHP2	9.4	7.2	8.4	6
AHRGP trainee data (June 2022)				
AHP1	4.4	1.3	2.6	1.8
AHP2	6.5		6.5	6.5

As of the follow-up date, overall, the AHP1s participating in the AHRGP have an average length of stay 82% greater than the general allied health AHP1 population working across the six regional LHNs (2.6 vs 1.4 years). Of the 10 AHP1s who started, 40% are continuing with a rural or remote region beyond the follow-up date compared to 35% of all AHP1s across the six regional LHNs.

The AHP2s participating in the AHRGP had stayed for an average of 6.5 years at the follow-up date. It is pleasing to note that of the five AHP2 trainees, four continue to be employed beyond the pathway, while one person is seconded interstate but retains their substantive role. Whether there are any benefits for length of stay for the AHP2 clinicians is not yet clear, because the average length of stay for AHP2 in the six regional LHNs in general is longer (8.4 years) than the follow-up period for this evaluation. Any impact on length of stay will become clearer in the next few years.

To provide more context to AHP2 trainee retention, data on the rates of turnover of AHP2s across six regional LHNs (per year) for the period of the evaluation enables a comparison to be made to the five level 2 trainees (Table 78). On average, there has been a 17.6% turnover of AHP2s per year across the six regional LHNs from 2019 to 2022. In comparison, there has been no turnover of AHP2 trainees in the AHRGP (noting one trainee is seconded but retains their substantive role).

Table 78: AHP2 yearly turnover data across the six regional LHNs compared to level 2 AHRGP trainees

	AHP2 across the six regional LHNs			AHRGP data
Timepoint	Total employees	Resigned employees	Yearly AHP2 turnover	Yearly AHP2 trainee turnover
30/6/2020	283	50	17.7%	0%
30/6/2021	303	57	18.8%	0%
20/6/2022	307	50	16.3%	0%
Average AHP2 yearly turnover			17.6%	0%

Recruitments costs

Retaining existing clinicians in rural and remote areas saves employers considerable costs relating to attracting and recruiting new staff. Although many researchers have reported the benefits of retention (Battye et al., 2019) it is challenging to measure retention in terms of costs and benefits. In 2011, Chisholm and colleagues measured the cost of allied health professionals turning over in regional, rural and remote areas (Chisholm et al., 2011) in Australian dollars. Their costings included vacancy costs (locums, overtime of other staff working during the vacancy), recruitment costs (advertising, attracting applicants, interviewing and relocation costs) and costs relating to orienting and training new allied health professionals once recruited. Chisholm et al.'s cost calculations will be used in conjunction with the average turnover data for the six regional LHNs and the AHRGP trainee retention data to approximate the cost benefits of the AHRGP.

Chisholm measured the associated costs separately for regional, rural and remote services and also combined the costs as an average (all health services) as outlined in Table 79. The costs increase as remoteness increases, with regional services experiencing significantly lower costs than remote services. Key economic statistics from the Australian Bureau of Statistics were used in phase 2 to update these costs from the 2011 study to 2020 prices. For consistency the 2020 prices shown in Table 79 will be used in this current analysis.

Table 79: Average costs of recruitment reported by Chisholm et al. (2011)

	Average total cost of recruiting a new allied health professional (2011)	Average total cost of recruiting a new allied health professional (2020 adjusted)
All health services	$26,721	$32,867
Regional health services*	$23,010	$28,302
Rural health services*	$26,721	$32,867
Remote health services*	$45,781	$56,311

* Regional (less than 200 km from metro with a population of more than 10,000), rural (more than 200 km from metro with a population of than 5000), remote (more than 200 km with a population of less than 5000) (Chisholm et al., 2011).

According to this classification, the trainees in this evaluation are all based in rural areas except for two towns which were considered regional. Considering Chisholm et al.'s cost calculations and classifications it is possible to generate the following approximations in terms of the economic benefits relating to the high retention rate of trainees compared the usual retention rate of allied health professionals across rural SA as reported by SA Health.

AHP1 turnover

Based on the data presented in Table 78 on length of stay, the level 1 AHRGP trainees had an 82% longer length of stay compared to the overall regional LHN AHP1 average. Considering the up-front cost to recruit an AHP1 is $32,867 and the length of stay of a regional LHN AHP1 average is 1.4 years, the rate of return on the recruitment investment in a position can be calculated as:

Regional LHN AHP1 position:

$32,867 / 1.4 years = $23,476 per year

By comparison, given the average length of stay of 2.6 years in the program, the rate of return for a AHRGP AH1 position is:

AHRGP AHP1 position:

$32,867 / 2.6 years = $12,889 per year

Therefore, the saving per AHRGP AHP1 position during the three-year follow-up period can be calculated by subtracting the annual turnover costs for the AHRGP AHP1 positions from the regional LHN AHP1 turnover costs:

$23,476 – $12,889 = $10,587 per year of the program

This evaluation was conducted over a three-year follow-up period June 2019 to June 2022, therefore the savings per AHRGP AHP1 position are calculated as:

$10,587 × 3-year follow-up period = $31,761

With the 10 participating AHRGP AHP1 trainees the total AHP1 turnover benefits is:

$31,761 × 10 trainees = $317,610 over the 3-year follow-up period

AHP2 turnover

In the three years between 2019 and 2022, 157 AHP2s across the six regional LHNs resigned, which equated to 17.6% of the population per year. In this first cohort of trainees there were five AHP2s involved and there was no turnover. As none of the AHP2 trainees resigned the following savings were made:

5 AHP2s × 17.6% turnover = 0.88 AHP2 from turning over each year

(prevented 0.9 of an AHP2 from resigning compared to the whole AHP2 population)

This resulted in a reduction in the costs of recruitment of approximately:

$32,867 (average turnover costs for regional, rural and remote services)

× 0.9 AHP2 per year from the program

0.9 AHP2 turnover × $32,867 turnover cost = $28,923 per year in the program

Over the three-year follow-up period the saving is:

$28,923 × 3 years = $86,769

Total turnover benefits:

AHP1 trainees $317,610 + AHP2 trainees $86,769 = $404,379

Secondary benefits

Secondary benefits are described in terms that are relevant to the particular benefit rather than in monetary terms. The reader is encouraged to consider the impact of the various benefits to organisations, trainees and communities as relevant.

Intention to stay

In phase 3, the seven completed AHRGP trainees were asked to project how long they intended to remain working in one of the six regional LHN after completing the pathway. On average the AHP1s planned to work rurally for an additional 2.3 years (range 1.5–4 years) and the AHP2s planned to work rurally an additional 7.25 years (range 4.5–10+ years). The level 2 trainee who deferred their study for an interstate opportunity was not included in these calculations.

According to the six regional LHN calculations, AHP1s on average stay in the regional LHNs for 1.4 years and AHP2s stay for 8.4 years. If we consider how long each trainee has already worked in a regional LHN plus the number of years they intend to remain working in a regional LHN, it is projected that the AHP1 trainees will work for on average 5.4 years in a regional LHN and the AHP2 trainees will work for 13.8 years.

This data is specifically related to the trainees who have completed the pathway or are continuing and does not include the trainees who discontinued before finishing the training. For every trainee who does complete the AHRGP the following benefits can be realised if the trainees stay as long as projected:

- AHP1s who have completed the pathway will have a length of stay 385% longer than the general allied health population working across the six regional LHNs
- AHP2s will have a length of stay 47% greater than the general allied health population.

Table 80: AHP2 completed/completing trainees' intention to stay vs AHP2 across regional LHNs

Six regional LHNs data (December 2021)		
	Current allied health length of stay (years)	Number continuing in regional LHN
AHP1	1.5	132
AHP2	9.4	299
AHRGP data		
	AHRGP trainee **projected** length of stay (years)	Number continuing in regional LHN
AHP1	5.4	3
AHP2	13.8	5

Progression in classification/promotion

From 2019 to the follow-up date all completing trainees have been promoted to one higher level than they started on; that is, the level 1s have moved from AHP1 to 2 and the level 2s have been promoted from AHP2 to AHP3. All trainees progressed to a higher classification between June 2019 and June 2022, either within their region or to another regional health service. This provides a range of benefits for trainees and the rural health services as trainees are able to provide more senior level leadership with higher levels of responsibility, supervision of others and service development responsibilities. Research suggests that allied health professionals with career advancement opportunities in rural and remote areas are more likely to intend to stay than those who have limited career options (Dymmott et al., 2022).

Service development projects

Trainees were involved in various service development projects as outlined earlier in Chapter 7. Some of the service development work was undertaken in study time as it related to topic assessments, but trainees also spent additional time implementing these projects while

undertaking the pathway. Some topics were more focused on service development than others. Anecdotally the trainees tended to undertake these service development type projects in the first half of the pathway, with more clinical or elective topics in the second half.

The time trainees spent implementing these projects benefited the organisations and teams in which they worked as well as the consumers the projects related to. Without the AHRGP, managers and supervisors reported these projects may not have been completed. To quantify the benefit of this, Table 81 outlines the total reported hours spent on service development work across all trainees who participated in phases 2 and 3 and associated costs of these hours. See pathway enablers (Chapter 7) for further details of projects undertaken.

Table 81: Service development benefits

	Total service development hours	Total cost benefit of service development time
Level 1 (AHP1)	158 hours	$5702
Level 2 (AHP2 and 3)	2300 hours	$119,819

Confidence, competence, job satisfaction

As discussed earlier in chapters 7 and 8, trainees were asked to rate their confidence as rural generalists throughout the three phases of research, and their managers and supervisors were asked to rate their competence and confidence in each phase. Trainees also rated their job satisfaction throughout the pathway. Increasing confidence and competence has a range of benefits for the trainees but also for their organisation and consumers they work with. As stated earlier, job satisfaction was relatively stable throughout the pathway but was slightly lower at the end, which could have been attributed to COVID-19, staff shortages and organisational changes. These benefits are outlined in Table 85.

Chapter summary

Costs and benefits of the AHRGP have been explored. Table 82 summarises these for consideration. On average the pathway cost $37,600 per trainee who enrolled in the program whether they completed or not. Considering 15 trainees participated, this is a total cost of $563,985 over the three-year follow-up period. When calculated only for trainees who completed or who were planning to complete, the level 1 program cost ($37,599) was approximately half the level 2 program ($70,469); this is mostly attributed to significantly higher tuition costs and more time required to complete the study.

When considering one primary cost benefit for the program, relating to turnover of staff, average cost saving per level 1 AHRGP position was $31,761 and $75,430 per level 2 AHRGP position during the three-year follow-up period. In summary considering the average cost saving and the number of allied health professional positions involved, the program produced a saving in recruitment costs of $694,759 within this first cohort. It should be noted that this considers the saving during the three-year follow-up period. Given most trainees were expecting to stay working with their region, it is expected that these savings on recruitment will continue to grow, with the expected length of stay of the AHP1s who have completed the pathway calculated as 385% longer than the general allied health population working across the six regional LHNs and the AHP2s estimated to have a length of stay 47% greater than the general allied health population.

There is also a range of secondary benefits outlined in Table 82 which cannot be costed in the same way but demonstrate significant value and may also benefit the regional LHNs. These include:

- Increased intention to work in a rural area and high proportion of trainees continuing to be employed in a region beyond the pathway completion
- 100% of all trainees were promoted during or immediately after the pathway
- The AHRGP had a high completion rate (especially for level 2 trainees)

- The service development projects that trainees engaged in provided benefits for the organisation, and without the training, these may not have otherwise been undertaken
- Perceived confidence and competence of trainees improved over the time of the pathway

Given these multiple quantifiable benefits as well as the qualitative benefits outlined earlier in this report, the program is expected to provide an excellent return on the original relatively small investment in cost.

Table 82: Overall costs and benefits summary

	Completing level 1 trainees	Completing level 2 trainees	All trainees (including non-completing)
Costs (3 years to June 2022)	**Mean (SD)[a]**		
Cost of tuition ($)	9,600 (0)	26,100 (0)	11,633 (11,017)
Cost of trainee study time ($)	15,708 (3,647)	34,802 (23,398)	16,399
Cost of project manager time ($)	9,567	9,567	9,567
Total cost ($) per trainee	37,599 (3,647)	70,469 (23,398)	37,600 (28,646)
Primary benefits	**All level 1 trainees**	**All level 2 trainees**	**All trainees**
Saving in recruitment costs ($) per 3-year period	317,610	86,769	
Secondary benefits (all trainees)	**All level 1 trainees**	**All level 2 trainees**	**All trainees**
Average intention to stay in rural area beyond end of training (years)	2.3	12.3	5.1
Proportion of trainees promoted (%)	100	100	47
Proportion of trainees completed pathway or continuing (%)	30	100	47
Proportion of trainees continuing to be employed in rural region (%)	40	100*	53
Total hours of service development undertaken (hours)	158	2300	2458
Average increase in confidence over follow-up period (%) (trainee measured)	12	10	12
Average increase in confidence over follow-up period (%) (supervisor and manager measured)	14	4	17
Average increase in competence over follow-up period (%) (supervisor and manager measured)	9	3	9

[a] Mean and standard deviations reported unless otherwise specified.
One trainee is on secondment interstate but retains their substantive position.

CHAPTER 13: SYNTHESISED FINDINGS

Program logic grid

This research utilised a program logic framework and the intended influences, resources/inputs, activities, outputs, outcomes and impacts were described in the methods chapter. Table 83 on the following pages shows the populated framework based on the actual findings from this research.

Kirkpatrick's four levels of evaluation

The research was also guided by Kirkpatrick's four levels of evaluation; this enabled the research to consider multiple levels of impact. The Kirkpatrick model and elements included in this study are described in the methods chapter. Table 84 describes the synthesised findings relating to the four levels.

Table 83: Completed program logic framework

Context		Implementation		Results	
Influences	**Resources/inputs**	**Activities**	**Outputs**	**Outcomes (individual trainee level)**	**Impacts (organisational/ community/ system)**
Welcoming, supportive teams	Supervision consistent with the SA Health Clinical Supervision Framework guidelines	15 trainees enrolled in the AHRGP between 2019 and 2022	7 trainees completed the pathway, 1 deferred and planning to continue in 2023	Rural generalist skills and knowledge: evidence-based practice skills, knowledge of rural and remote health, health conditions, assessments and intervention options	100% graduates still working rurally
Variable location of family and friends and community integration challenges	Average study time was calculated to be between 10 and 21 hours per month per trainee	Service leaders and project managers provided guidance and support to trainees throughout the pathway	30% level 1s and 100% level 2s completed or continuing	Challenges: time to study and busy workloads, impact on work-life balance, getting adequate support from managers/supervisors, time to implement learning, limited peer support and interaction	Reduced recruitment costs with less staff turning over
Limited incentives to move to rural areas	Manager support not an additional expense	Level 2 trainees reported more hours engaged in service development projects than level 1s	Trainees designed various service development/ quality improvement projects/ resources for their services	Variable feedback on transferable skills and knowledge for practice	Trainees were equipped to work with a wide range of clinical presentations locally and on remote visits
Broad clinical experiences and diverse learning opportunities	Project team support was measured to be $9600 per trainee	Trainees participated in clinical, operational, service development, quality improvement, education, culturally responsive, evidence-based practice modules	Difficult to find time to implement and evaluate projects	Confidence and competence increased	Trainees shared their learnings with others in the organisation
Workload challenges, complex scope of practice, high levels of autonomy	Tuition fees were approximately $9600 per completing level 1 and $26,100 per level 2 trainee			Job satisfaction decreased	Consumers benefit from skilled, knowledgeable, consistent, passionate allied health professionals
Variable clinical and managerial support				100% completing trainees were promoted permanently or temporarily but felt pathway completion should be incentivised	Implemented projects had a positive impact on teams and consumers

Table 84: Completed Kirkpatrick evaluation levels

Kirkpatrick level	Outcomes from research
Level 1 – Reactions	• Satisfaction with AHRGP was relatively consistent over the follow-up period (decrease of 6% phase 2 to 3) • Reactions were largely positive although trainees reported challenges maintaining motivation and finding time to study • Wide range of benefits and challenges identified – sometimes contradictory across trainees • Most trainees were pleased they had completed the pathway but felt it was a significant impost on their work-life balance • Topics were generally interesting, trainees could choose what interested them, they liked being able to deep dive on relevant clinical cases and engage in work-integrated activities • Relevance of learning activities and resources was consistently raised as an issue, some topics were better than others, trainees some were not specific enough to rural generalism or their expectations for the topic were not met • Challenges accessing adequate support from the organisation, peers and education provider were raised
Level 2 – Learning	• Trainees set goals around gaining skills, confidence, knowledge and career advancement • All trainees were able to identify knowledge and skills they had gained throughout the pathway, particularly around rural generalist practice, evidence-based practice and project management • Trainees perceived confidence working as rural generalist increased over the three phases • Positive impacts on attitudes and perceptions of rural generalism
Level 3 – Behaviour	Trainees implemented their learning into practice: • Trainees' confidence to work as a rural generalist increased • Service leaders' perceptions of trainees' competence and confidence increased or was steady over the phases • Trainees described aspects of training they had implemented at work including project skills, evidence-based practice, innovative service delivery models • Service leaders identified rural generalist skill acquisition that was evident in trainees' ability to manage clinical complexity, solve problems, support others, work in remote locations that they attributed to the pathway • Trainees identified a range of barriers to implementing learning: content of training was not always relevant, difficult to find time to implement learning, not having clinically relevant clinical presentations • Some managers were not aware of a trainee's behavioural changes because they were not working directly with them

Kirkpatrick level	Outcomes from research
	Projects implemented: • Trainees implemented a range of service development and quality improvement projects while participating in the AHRPG • Service leaders reported projects would not have happened without the trainees' input • Projects increased access to services for consumers, developed new group programs, developed remote service models for allied health assistants and developed training and resources for staff • Trainees experienced barriers implementing projects they had planned, including time to implement once the project had been planned, funding and resources and organisational approval. Organisations did not prioritise project work during the pandemic, particularly in 2020. Service leaders impacts: • Supervisors and clinical leads identified a range of learnings for themselves which they had been able to put into practice, including learning more about rural generalist practice, service development, how to improve their supervision skills and more about the AHRGP • Managers did not report on learning they could put into practice themselves but did report learning more about how to support a trainee in the future
Level 4 – Results	Consumer impacts – trainees, service leaders and consumer representatives identified a range of impacts for consumers including: • Better access to services particularly for remote communities • More consistent services through increase retention • Benefits from working with competent, confident rural generalist health professionals who can manage complexity • The development of innovative service options for consumers Organisational impacts: • The economic analysis found the AHRGP to be a cost-effective option considering the significant workforce benefits and the comparably small investment required

Kirkpatrick level	Outcomes from research
	Trainees and service leaders identified outcomes for organisations: • Improved retention and more skilled workforce • Productive, passionate trainees benefit the whole team • Increasing evidence-based nature and quality of work undertaken • Improving the culture of learning in regions • Trainees sharing skills with other teams and regions and supporting other staff • Improved processes, resources and teamwork • Strengthening the voice of allied health Challenges for organisations were described including: • Impact of study time on wait times for consumers, other staff workload and key performance indicators for the organisation • Challenge investing in training that was not always relevant to local context or trainee needs • Not all trainees completed, negative impact on workforce • Benefits not always visible for organisations • Limited guidelines around support structures and expectations of pathway

Summary

Utilising a program logic framework (WK Kellogg Foundation, 2004) and Kirkpatrick's four levels of evaluation (Kirkpatrick & Kirkpatrick, 2016) has enabled this research to consider the AHRGP's multiple levels of impact after its introduction in rural and remote SA. The program logic framework ensured the context for the research was defined as well as the various resources that were required. The outputs and outcomes for individuals and organisations were described across four distinct research phases which ensured the synthesised findings were relevant to a broad range of stakeholders and in the generation of new research evidence. The utilisation of all four of Kirkpatrick's evaluation levels enabled the training pathway to be measured for impact, from trainee reactions and learning through to changes in implementing the learning into practice and results for organisations and consumers. Both frameworks identified positive and negative aspects of the AHRGP, which have been outlined throughout the preceding results chapters.

CHAPTER 14: DISCUSSION

This research has explored the experience of health professionals working in rural and remote areas generally and specially examined the experiences, resources and outcomes of the AHRGP. Initially previous research relating to the experiences of allied health professionals and doctors working in rural and remote areas were synthesised. The findings of this review were used to shape the focus of the primary research study and to make recommendations for future research and workforce policy. In the primary research study, a cohort of rural generalist trainees in SA along with their supervisors, managers, clinical leads and consumer representatives from LHN advisory boards were recruited to participate in a large study examining the experiences and impact of the AHRGP.

Rural and remote workforce challenges and opportunities

The experiences of rural and remote early career allied health professionals and doctors in published papers are comparable with the experiences of the allied health professionals included in this research. The review identified a range of personal and organisational opportunities and challenges relevant to allied health professionals and doctors. Previous published rural and remote workforce reviews have reported on health professionals' experiences collectively (Buykx et al., 2010; Wakerman et al., 2019; Wilson et al., 2009), assuming the different professional groups were cohesive and comparable. This current systematic review revealed that while there are a range of similarities in the experience of early career allied health professionals and doctors, there are also significant differences that should be considered in workforce planning and policies to ensure strategies are inclusive of different needs and circumstances. An example of one of these differences identified was that rural doctors had definitive training pathways available to them that led to specialisation and career advancement opportunities that were not available for allied health professionals (Dymmott et al., 2022).

Personal influences for early career allied health professionals reported by trainees and service leaders in this research were largely consistent with the findings from the systematic review. These indicated that while workplace teams were welcoming and people were friendly, it was challenging being away from family and friends and difficult to maintain social networks while living in a rural area. The systematic review findings described the challenge of allied health professionals integrating into the community, and this did not appear to be a challenge for the doctors. In the systematic review and this current research, sport was an enabler for integration and challenges were faced when individuals were not interested in sport or were travelling back to metropolitan areas regularly on weekends (Dymmott et al., 2022). Both the review findings and service leaders in this research identified personal professional boundaries as challenging in early career, but this was not identified by the trainees themselves or the doctors in the review (Dymmott et al., 2022). Perhaps this a broad issue for allied health in rural and remote areas but not specifically challenging for the trainees in this research.

The experiences of family influences for early career doctors were different to the allied health professionals in the systematic review. Doctors reported bringing their families with them to the rural area and had concerns about their needs being met while allied health professionals appeared to have either moved to a rural area away from family or moved to a rural area to be closer to family (Dymmott et al., 2022). The results of this AHRGP research were consistent with the experience of allied health professionals in the review, and trainees who discontinued the pathway all cited family or partner influences as contributing to their decision to leave (Dymmott et al., 2022). Trainees who were considering leaving in the future also reported family influences as being a significant factor in their intention to leave. Trainees who were intending to stay rural long term generally had family living in the region. These findings are important to consider in workforce planning in terms of influencing long-term retention of allied health professionals.

Organisational influences explored with research participants were comparable to the findings for doctors and allied health professionals in the systematic review. Both the systematic review findings and trainees described the broad nature of clinical work as being a significant benefit of

rural practice. They also described the challenges of being thrown in the deep end and working across broad clinical areas early in their career. Both the review participants and trainees reported feeling professionally isolated at times and experiencing demanding and complex workloads. Limited staffing and retention issues were significant across both the review and this current research, with the expectation of managing the workloads of vacated positions being particularly stressful. High levels of autonomy were also described by all groups as being a benefit and a challenge; in particular doctors in the review enjoyed the opportunity to do more hands-on work in rural and remote areas but reported feeling out of the depth at times (Dymmott et al., 2022). The nature of rural and remote practice will continue to be broad, but it would appear that organisations could do more in supporting health professionals to manage their workloads.

Consistent with the findings of the systematic review, there was a wide variety of experiences with clinical governance and support structures. Some trainees were afforded appropriate levels of supervision and management support in their work while others received inadequate support. Trainees who reported challenges accessing adequate supervisor or manager support were also more likely to discontinue the AHRGP early. In contrast, most of the findings in the review found doctors had clear and supportive clinical governance structures in place (Dymmott et al., 2022). These differences are important to consider in workforce planning as it should not be assumed that allied health professionals are able to access the supervision and support that they require.

Access to training and professional development was highly valued by allied health professionals in this current research and the systematic review. Consistent reports of barriers to accessing training opportunities were reported in review findings and by trainees (Dymmott et al., 2022). It is important to note that the trainees in this research were afforded funding to access the AHRGP, and the systematic review findings did not reference the AHRGP as the pathway was new at the time the review was conducted. The doctors in the review were all in structured postgraduate training programs with definitive career pathways; this is considered standard practice in medicine and leads to positive workforce outcomes (McGrail et al., 2023; Worley et al., 2019). The challenge

of limited allied health training pathways that lead to career advancement in Australia was widely reported in the systematic review and with the trainees in this research.

In summary, the findings from the systematic review and this current research have found that the experience of doctors and allied health professionals in rural and remote areas are both similar and different. The opportunities available to newly qualified health professionals enable the development of broad skills with high levels of autonomy and complexity earlier than may be available in larger health services. Access to training, supervision and support are highly valued but sometimes difficult to access. Doctors have access to incentives to work in rural and remote areas, including structured training and associated career pathways; however, allied health professionals are not afforded the same incentives. Workforce initiatives should take into account the needs of allied health professionals. It is possible to learn from successes and challenges in medicine, including training pathways, work arrangements and incentive schemes (Schoo et al., 2013), but it is also important to continue to consult with allied health professionals to build an ongoing understanding of what would encourage them to work in rural or remote areas and what factors would encourage them to stay.

AHRGP outcomes

This research took a pragmatic, multistage, multilevel mixed methods approach to explore the experience and impact of the AHRGP across six rural and remote regions in SA. Methods were chosen based on what was practical and relevant to ascertain ‘what works’ for each of the stakeholder groups in line with the pragmatic approach. Trainees, supervisors, managers, clinical leads and consumer representatives participated across four research phases to collect rich data for analysis. Qualitative and quantitative data were analysed separately across phases and then brought together for discussion, comparison and convergence at the end of each chapter. A range of similarities and differences in terms of experiences and outcomes were identified across phases and stakeholder groups.

Over the three-year follow-up period 53% of trainees completed or are continuing the AHRGP; these results are comparable with other states in Australia. Seven AHRGP trainees completed the pathway, one was continuing and seven had discontinued at the follow-up date. All of the level 2 trainees were either completed or continuing and three of the 10 level 1 trainees completed. In comparison, when the pathway was first developed in Queensland but before the formal rural generalist training was introduced, 100% of the trainees completed the pathway and 78% of trainees were working in rural or remote areas six months after completion (Nielsen et al., 2017). These Queensland trainee positions were recruited supernumerary to the allied health teams. The appointment of positions above the normal staffing level and the absence of a formal training program in Queensland may have influenced these result differences.

The evaluation of the AHRGP in NSW identified significant structural differences to this current research which makes it difficult to compare to this current research, but some of the outcomes were similar (McMaster et al., 2021). The NSW trainees were all early in their career (on average 1.8 years' experience) but only one of the five completed the level 1 rural generalist training and none of the trainees engaged in the level 2 program. In this current research all of the level 2 trainees completed or were planning to complete but there were also a large proportion of level 1s who discontinued. On average the NSW trainees were retained for 2.9 years (range 0.3–3.9 years) and in this current research, level 1 trainees stayed on average 2.6 years (range 0.8–5.5 years). Three of the SA level 1 trainees are continuing beyond the follow-up date, so this average is expected to increase over time. It was not clear how many of the NSW trainees were continuing to work rurally beyond the follow-up date. The NSW trainees were all physiotherapists while three of the 15 trainees in this research were physiotherapists. NSW trainees completed on average six of the 12 level 1 program modules (range 0–12) and the level 1 trainees in this research completed on average 5.4 modules (range 0.5–12), which is comparable.

Comparing the results of the AHRGP across jurisdictions is helpful in building a deeper understanding of the impact of the pathway more broadly. There appear to be significant challenges for the level 1 trainees to complete the pathway, but the average length of stay of

trainees in rural or remote areas is longer than the standard one to two years that health services usually experience (Chisholm et al., 2011). Although the AHRPG trainees do not always complete the pathway, it would appear that it is still having a positive impact on their retention. It is also interesting to consider that the Queensland program had no trainees drop out before the training program was introduced and it would be useful to hear how the introduction of the generalist program introduction has impacted the retention of trainees.

Once the rural generalist program was introduced with the education provider in 2017, a formal evaluation was undertaken across Australia by Barker and colleagues (2021) investigating the training aspect of the pathway specifically. The results of this study are relevant to this current research, which has considered the pathway more broadly but in SA specifically. An analysis of the total number of enrolments was completed over a two-year follow-up period, and most of the participants had not completed the pathway at the time of the publication (Barker et al., 2021). Considering the number of trainees who had completed in comparison to those who withdrew and discounting those who were still studying beyond the follow-up date, a higher percentage of level 1 trainees completed the pathway nationally (55%) compared to this current study (30%). The reasons for this difference in completion rates are unknown since different jurisdictions have introduced the pathway in different ways (Barker et al., 2021). This research is generating new knowledge in this area, but more is needed in terms of trends across states and territories. Barker and colleagues found that all of the level 2 trainees were continuing or had completed the rural generalist program at the follow-up date (Barker et al., 2021), which is consistent with this current research. This suggests the level 2 pathway is having more success in retaining trainees, but it is important to note that the level 2 program is significantly more expensive and a longer study commitment than level 1.

Undertaking a comprehensive evaluation of training enabled the consideration of the experience and impact of the pathway at a range of levels. Each of Kirkpatrick's levels are important for different reasons; for example, although level 1 reaction to the training may appear to be basic elements of evaluation (Kirkpatrick & Kirkpatrick, 2016), reactions are important because if service

leaders and trainees do not react positively to the pathway, they will not recommend it to others and it will not be successful in the future. It can be challenging to evaluate the degree to which training has been implemented by participants and subsequent organisational impacts because significant investment and time is required, which organisations do not usually factor into training budgets (Rouse, 2011). The organisational and consumer impacts are also challenging to measure as other factors may contribute to these impacts (Steensma & Groeneveld, 2010); for example, the regional health services were restructuring how they provided clinical governance and operational support while the trainees were undertaking the AHRGP, COVID-19 emerged nine months into the pathway and personal and professional factors impacted on trainees' intention to stay in the rural or remote area. A recent systematic review investigating allied health postgraduate clinical education found that training programs are likely to result in allied health professionals gaining knowledge but are less likely to demonstrate changes in behaviour and clinical outcomes (Windfield-Lund et al., 2023). In this research project, concerted effort was employed to investigate the impact of the pathway for the individual trainees, their managers, supervisors, employing organisations and consumers.

Outcomes of the pathway for consumers, organisations and trainees

Results of this research indicate the AHRGP had significant and wide-ranging impacts for trainees undertaking the pathway, and there are also a range of outcomes for organisations and consumers. Positive outcomes for trainees were described consistently across stakeholder groups, including the development of confidence and competence to work as rural generalist allied health professionals. Trainees described gaining skills in evidence-based practice which they found to be highly valuable in their practice. They also had the opportunity to learn more about specific clinical conditions that were relevant to consumers they were working with to identify new and effective assessment and intervention modalities. Linked to these findings, service leaders found trainees had developed their critical and flexible thinking skills to be able to manage complexity and solve problems. They also felt trainees developed a broader understanding of rural and remote practice through participating in the AHRGP. In the first cohorts in Queensland, trainees also developed skills and knowledge in rural and remote practice (Nancarrow et al., 2015) although the majority of

the research was focused on organisational outcomes. In NSW, the evaluation also focused on service development and access for consumers rather than outcomes for the trainees (McMaster et al., 2021). Barker and colleagues investigated trainees' experiences but mainly focused on the education component of the pathway. Consistent with the findings in this current research, they found trainee knowledge and skill improved in evidence-based practice, managing complexity and problem-solving (Barker et al., 2021). This research has comprehensively examined the experience and outcomes of the AHRGP across multiple levels of stakeholders and over four distinct phases, which brings new knowledge and understanding for allied health and employing organisations.

Trainee retention and career advancement

Reduced turnover of allied health professionals was a priority of the rural and remote health services. This research demonstrated that level 1 trainees stayed on average 1.2 years longer in rural and remote areas compared to allied health professionals working at the same pay level across the same rural and remote regions. The level 2 trainees had no turnover in the three-year follow-up period compared to 17.6% of allied health professionals at the equivalent level who were not participating in the AHRGP. Poor retention of allied health professionals negatively impacts organisations and communities (Australian Institute for Health and Welfare, 2018; Mason, 2013), so these turnover outcomes cannot be overstated. This reduction in workforce turnover resulted in a saving of $404,332 during the follow-up period, and this is expected to increase as the graduates of the pathway continue to work in rural and remote areas. Intended length of stay was also measured across the four phases, and it was demonstrated that trainees intend to stay longer in rural and remote areas on completion of the pathway than they had intended to on commencement. While a range of factors impact on intention to stay (O'Toole et al., 2010) this was a very positive finding.

On completion of the pathway, all of the trainees were working in permanent positions and had either permanently or temporarily advanced their employment classification level since the beginning of the pathway. Six months after the AHRGP, one trainee was working in a team leader

role and others were working as clinical seniors or had moved into different clinical areas. One trainee reflected on the learning they had acquired during the pathway that had given them the confidence and drive to explore different clinical areas, apply for promotional positions and continue to learn new things. Others recommended that in the future the pathway could have clearer career advancement pathways; they felt graduating from the pathway was not recognised by their organisation and there was a lack of pathways for continued advancement on completion. It was recommended that graduates be linked to industry mentors and project and career advancement opportunities to add value to the pathway outcomes. The challenge of career advancement in allied health emerged in the systematic review and it was clear that this was more structured for rural doctors (Dymmott et al., 2022). Further work is required to determine career advancement structures that link to completing the pathway to ensure allied health professionals who are better able to meet the needs of their community are appropriately recognised and remunerated.

Challenges of the pathway

Challenges for trainees identified in this research are comparable with those found in previous studies, and additional challenges were also identified for this cohort. The comparable challenges include protecting study time, developing generalist skills across a broad scope of practice, professional isolation, workload pressures (McMaster et al., 2021), insufficient feedback from academics, higher than expected study load, irrelevant learning activities and time taken away from clinical work to study (Barker et al., 2021). This research identified additional challenges that had not been identified in previous research. Some trainees experienced difficulties accessing adequate clinical and managerial support while undertaking the pathway, and all of the trainees who discontinued the pathway early cited support mechanisms as one of their contributing factors for leaving. All of the trainees reported significant challenges with finding enough time to study at work, and the impact this had on work-life balance and overall wellbeing was also widely reported. This was especially challenging in the second half of the pathway as trainees reported challenges with motivation and a desire for the pathway to be completed. As trainees were promoted to different roles during the pathway their priorities and time available to study also changed. Average

job satisfaction reduced over the three phases, and it was lowest for trainees who discontinued the pathway within the first half of the AHRGP. Job satisfaction is influenced by a range of factors, including professional identity, team dynamics, available resources, case load and professional personal boundaries (Cosgrave, 2018). It is important to note that in addition to these challenges, trainees also experienced others such as COVID-19, staff vacancies, organisational restructures and the AHRGP was also taxing on their work-life balance. This new knowledge will be particularly helpful for organisations and allied health professionals considering the AHRGP in establishing structures and routines to enable success.

Study time and service development projects

Trainees in this research were allocated between half and one day of quarantined study per week; however, there were mixed experiences of this across the 15 trainees in this study. The LHNs did not receive funding to backfill study time. This resulted in one of three scenarios: other team members did extra work, consumers waited longer for services or trainees did not study at work. Trainees and service leaders reported experiences of these scenarios throughout the research phases. Some trainees found it easier to quarantine their study time than others. In some instances, teams rostered the time off in trainees' consumer bookings diary while trainees who managed their own diary could choose when they studied. Trainees who were working in senior level roles (level 2 program) found it more difficult to protect their study time, as did trainees who worked with consumers in hospital where the clinical priorities were generally seen as urgent and unpredictable. With the lack of backfill, trainees reported clinical work would still need to be done and so study time was often not prioritised. Interestingly, during the COVID-19 pandemic, some trainees found more time to study and implement project work when projected case numbers were not reached. The participation of existing staff in the AHRGP in SA was a key difference in this research compared with NSW and Queensland cohorts, which appears to have impacted the outcomes achieved. In the future it would be useful for health services identifying and implement strategies to protect study time that is manageable for the trainee but and the organisation.

The implementation of service development projects was successful in some circumstances but quite challenging in others. Participants reported that while a range of great projects were designed during their training, it was challenging to find the time to implement them. When the AHRGP was introduced in Queensland, there was a strong focus on service development and quality improvement because the training positions were supernumerary, resulting in more time to engage in these activities. Interestingly, Queensland trainees still encountered difficulties around the expectations of project work and study while participating in the pathway (Queensland Health, 2017) despite the additional positions. In NSW project work centred on service development, particularly for services that had not been able to recruit physiotherapists for some time, and the new roles were pivotal in developing sustainable services for local communities (McMaster et al., 2021). Again, these positions were new, which may have contributed to more success in participating in project work. Because trainees in SA did not have dedicated time to implement the projects, there was often a mismatch in expectations between the trainees and their managers. Throughout the research phases, it became apparent that trainees spent their study time engaging in the education activities and completing assignments, which left no spare time to work on implementing and evaluating projects. In the instances where projects were implemented successfully, trainees reported they chose very small and achievable projects or those that were a high priority for their organisation and so were resourced appropriately. It could be helpful for managers and trainees to work together to identify project work that is achievable, prioritised and resourced to ensure success and satisfaction in the future.

Stakeholders at all levels and phases described the development of trainees' project management skills as a key outcome for organisations. Having team members who have the skills and knowledge to plan, undertake and evaluate projects and service development activities was highly valued. While previous research focused on trainees' implementation of project work as a major finding (McMaster et al., 2021; Queensland Health, 2017), the trainees in this research reported that although they did not have time to implement projects while studying, they were looking forward to using their new skills to make improvements for their organisations and consumers in the future. Service leaders reported they were already asking trainees for advice and input on new

initiatives in their teams. Allied health professionals are more likely to implement their learning from training into practice if they have the opportunity to practice their skills while they learn (Windfield-Lund et al., 2023). Considering the investment of resourcing for the AHRGP, organisations have the potential to benefit more if trainees have the opportunity to participate in service development projects while they study.

Consumer impacts

The AHRGP was found to have a range of impacts for consumers through the improvement of workforce and quality outcomes. In Queensland and NSW, the introduction of new AHRGP training positions saw tangible positive impacts for consumers, with increased accessibility and availability of allied health services, services closer to home and the introduction of telehealth and other innovative service improvements (McMaster et al., 2021; Queensland Health, 2017). These results were generated through the quantitative measurement of clinical activity associated with the new training positions and the description of consumer-related service development projects. As there was not an increase in allied health positions in SA, the research into the impact on consumers had a different focus. A qualitative approach was used, with consumer representatives describing the features of quality allied health services and how they felt the AHRPG was impacting consumers and communities in their regions. The trainees and service leaders also reflected on the impact of the AHRGP on consumers, including relevant service development projects and learning activities. These multilevel findings over multiple phases were then analysed together to draw conclusions about consumer impacts. This was an effective research approach for this context while also meeting the parameters of the health services. Utilising clinical activity data would have generated more comprehensive findings (Hall et al., 2018), but this was not feasible in the current study considering the large number of health services the trainees were working across, the wide-ranging clinical work they were engaged in and lack of resourcing for backfill of trainee time.

Consumers are engaged in research and evaluation projects in varying ways and the ways in which they are involved are context specific (Miller et al., 2017). Consumer representatives in this

research provided valuable insights into allied health service provision in their communities which were not previously known. Their perceptions of the AHRGP impacts were consistent with service leader and trainee perceptions, despite not being directly involved in the pathway. The consumer representatives demonstrated deep understandings of the needs of their communities and how the AHRGP and allied health services were helping to meet these needs. They were particularly concerned with the high turnover of allied health professionals and were pleased that the pathway was having a positive impact on retention and consistency of allied health services. Future research could investigate additional ways in which consumers are involved in the evaluation of workforce initiatives to ensure their input is considered in the planning, implementation and evaluation of new initiatives.

Personal factors for success

This research explored personal factors that contributed to trainees either completing the AHRPG or discontinuing part way through. These included rural background, community integration and personal attributes. These factors are multifaceted, and no one factor predicted an individual's likelihood to succeed or leave.

Trainees had a mixture of rural and metropolitan upbringings. Although previous research has linked a rural background to improved retention (Beccaria et al., 2021; Carson et al., 2015; Dymmott et al., 2022), this was not a predictor of completion of the pathway in this research. Of the trainees who did complete the pathway, those who intended to stay the longest did have a rural background, while those who were raised in a metropolitan area had plans to leave within three years of completing the pathway. The trainees who discontinued the pathway early but had a rural background described partner or family reasons that contributed to them leaving as well as organisational factors.

Community integration in a rural area was described as a positive retention factor in this research, which is consistent with the systematic review findings (Dymmott et al., 2022). Trainees who completed the pathway and lived in a rural or remote area described participating in community-based activities on their weekends rather than travelling away regularly. In comparison, most of the

trainees who discontinued also stayed in the rural area on weekends, but they did not necessarily report being integrated in their community. They cited personal and organisational reasons for leaving consistent with the findings of previous studies (O'Toole et al., 2010).

This study explored desirable trainee personal attributes identified by service leaders for future AHRGP cohorts. Nancarrow and colleagues also identified desirable personal attributes for trainees, but it was not clear where these had been derived from in the research process and they were generated before the formal training program was introduced. The desired personal attributes described by service leaders in this research were extensive but consistent across phases 2 and 3 and service leader groups. The attributes expanded on the traits identified in Nancarrow's research (Nancarrow et al., 2015). Common and consistently described attributes across both studies included motivation, initiative, flexibility, confidence, insight, organisation and commitment to rural health. Sharing these attributes with organisations and potential AHRGP trainees could be helpful during selection processes and help trainees to determine whether they have the necessary attributes for pathway success.

Temperament and character traits of AHRGP trainees were explored for the first time in this study. This builds on previous research investigating individual traits of rural and remote health professionals in other contexts utilising the Temperament and Character Inventory (TCI). The AHRGP trainees in this study had varying TCI ratings from very high to very low rankings across the seven traits, but when pooled for reporting as a group, their results are largely average compared to the normative sample (Cloninger, 1994). In comparison, similar trait patterns have been reported across four different rural and remote health professional studies. These patterns included high to very high reward dependence, persistence, self-directedness and cooperativeness and average novelty seeking (Campbell et al., 2013; Eley et al., 2011; Eley et al., 2015; Eley, Young, & Shrapnel, 2008). While these studies did not investigate the impact of these traits on retention or postgraduate training programs, they did explore the traits of health professionals who chose to work in a rural or remote area. These patterns were not evident in this current research. Even when removing the trainees who left the pathway early, the completing trainees' average

ratings were different to the four studies. As the cohort size in this study was very small, it is not possible to draw conclusions from these ratings.

Since drawing conclusions about the TCI results was not possible, the completing trainees engaged in a reflection of their traits and how these related to their experience of the AHRGP and working in a rural or remote area. This novel approach allowed trainees to ruminate over the results of the TCI. Some trainees agreed with their ratings while others felt they had grown and changed since phase 1 when they completed the inventory. Character traits are influenced by environment and life experiences whereas temperament traits are less modifiable (Cloninger, 1994). It could be argued that rural and remote allied health professionals require a degree of persistence, self-directedness and cooperativeness to be effective practitioners and to complete postgraduate study while working full time. Trainees generally agreed that they felt they had strengths in these areas and that they were relevant to the training. Furthermore, in the systematic review it was identified that rural allied health professionals required high levels of autonomy (related to self-directness), teamwork (related to cooperativeness) and an ability to manage high and complex workloads (related to persistence) (Dymmott et al., 2022). The trainees reported the process of reflecting on their traits was interesting and insightful. While the perfect profile was not identified, it could be helpful for future allied health professionals to undertake a personality trait inventory when starting the AHRGP. This could be used to facilitate a discussion about how trainees will approach the pathway, what support they might need and what strengths they will bring to the program.

Organisational factors for success

Organisational factors for success with the AHRGP were explored, including support mechanisms, study time, opportunities to implement learning, professional groups, locations, recruitment and trainees' years of experience. Clinical supervision and managerial support were discussed at length by trainees and service leaders as significant enablers of the AHRGP. This is consistent with findings from the systematic review which identified support mechanisms as highly variable but valued (Dymmott et al., 2022) and previous AHRGP studies (McMaster et al., 2021; Nancarrow

et al., 2015) which described the supports in place. Trainees in this research who had regular support from a supervisor and a manager described a range of ways in which this support had positively impacted their participation in the AHRGP.

Quarantined study time was described at every phase of the research and by stakeholders across each group as a key enabler of success. Trainees' access to quarantined study time at work is an expectation of the education provider as the study-related activities are intended to be highly relevant to workplace and require access to organisational documents and colleagues (James Cook University, 2022). Trainees who had difficulty finding time to study at work reported challenges completing the required work and benefiting from the pathway while those who were supported to quarantine their time reported this as a significant benefit of participating in the pathway. The research undertaken in Queensland and NSW also reported study leave as a key enabler of the pathway, but it was difficult for trainees to find the time to dedicate to study and supervision at work despite having permission to do so (McMaster et al., 2021; Queensland Health, 2017). It was suggested that managers and supervisors should advocate for trainees to be able to manage their study time in flexible ways around other workplace demands (Queensland Health, 2017). Organisations that are considering hosting an AHRGP in the future should consider how they are going to ensure the trainee has adequate managerial and supervisor support. They should also consider how they will protect trainee study time so that it is prioritised alongside other workplace demands.

The opportunity to implement quality improvement and service development projects was described by research participants as an important aspect of the pathway in order for trainees to implement their learning and positively impact their organisation and community. This opportunity was not linked to trainees completing or not completing. Trainees who had the opportunity to implement projects, those who did not successfully complete the pathway and trainees who had implemented projects also discontinued. Despite this factor not being associated with completion, it was widely discussed by trainees and service leaders as being imperative for future cohorts, especially in terms of improving satisfaction with the pathway. The AHRGP implementation in

Queensland had a strong focus on quality improvement projects, which had very favourable outcomes for organisations and consumers (Queensland Health, 2017), and Barker and colleagues found that the supernumerary training positions were a significant enabler for implementing and evaluating service development projects into workplaces (Barker et al., 2021). This research has added to knowledge by outlining a range of strategies suggested by service leaders and trainees to enable AHRGP trainees to engage in these activities more purposefully in the future within current staffing levels.

Professions and locations suited to the AHRGP were explored, and this had not previously been evaluated in other studies. In NSW the experiences of physiotherapists were explored (McMaster et al., 2021), and in Queensland a range of professions (Nancarrow et al., 2015; Queensland Health, 2017) were included but not explored more deeply. Furthermore, the locations of AHRGP trainees were described in the NSW and Queensland papers, the findings did not include recommendations for types of locations that suited the AHRGP. Although the results of this current research did not identify particular regions or professions that were more suited to the AHRGP than others, characteristics of suitable locations and professions were identified by trainees and service leaders. These centred on professions and locations that had the opportunity for rural generalist scope of practice, the opportunity to engage in project work and the availability of supports for trainees.

There were differences in terms of the recruitment of trainees between this study and the AHRGP implementation in other states, which may have impacted the experience of the pathway for stakeholders. In SA, the trainees were recruited from existing roles within local regions; they could either apply to participate in the pathway themselves or be nominated by their organisation. When the AHRGP was introduced in Queensland and NSW, new positions were created to be rural generalist training positions; as a result, applicants to the positions knew they were applying to undertake the AHRGP. Therefore, the context for this study is different and the subsequent experiences of stakeholders are influenced by different factors. Interestingly, the trainees who applied to participate in the pathway in this research were more likely to complete than those who

were nominated by their organisation. Evidence from a recent systematic review found that when allied health professionals self-select to participate in training, they are more likely to implement learning into practice (Windfield-Lund et al., 2023). In the future it may be more suitable for allied health professionals to apply to participate than for organisations to identify who they think should participate in the pathway.

The number of years of experience working as a rural or remote allied health professional before commencing the pathway was discussed by participants in phases 2 and 3 of this research. The rural generalist program education provider recommended level 1 AHRGP trainees have up to three years of experience working in a rural or remote area and at least two years' experience for the level 2 program (James Cook University, 2022). NSW and Queensland governments recruited new staff to undertake the pathway. In Queensland trainees were mostly new graduates, and all of the trainees completed the pathway but they did not have access to the formal training at that point (Queensland Health, 2017). In NSW the trainees had on average 1.8 years' experience, while four trainees stayed longer than 12 months, just one had completed the level 1 program within the four-year follow-up period and no one participated in level 2 (McMaster et al., 2021).

This current research is the first to analyse years of experience and completion rates as well as qualitative data exploring recommended levels of experience for participation. Consistent with previous workforce research, the highest levels of turnover were evident for trainees who started the pathway very early in their career (Chisholm et al., 2011). All of the level 2 trainees had at least three years' experience and there was no turnover. Service leaders recommended trainees have at least 12 months experience before undertaking the level 1 program and around three years for level 2. Interestingly, this is consistent with the actual experience of the trainees who completed the pathway. Trainees with less than 12 months experience were less likely to complete the pathway, and some of trainees with more than three years' experience reported challenges with the training being pitched at a low level and difficulties balancing high level responsibilities at work around study time. Above all, service leaders described a preference for trainees to be settled and committed to working in a rural or remote area regardless of how long they had worked there. This

information will be useful for organisations that are considering hosting trainees and for allied health professionals who are considering participating in the AHRGP in terms of readiness for enrolment.

Influencing intention to stay

Rural and remote retention is an ongoing challenge, and health services and individuals' intention to stay is impacted by multiple interwoven and complex factors. A study by Stagg and colleagues in 2009 categorised the decision-making characteristics of medical graduates choosing to work in rural or metropolitan areas; similarities in their findings can be extrapolated from this new allied health research. The first category was 'true believers', which includes individuals who decide early in their career or training to pursue a long-term rural career. Some trainees in this current research fit this category; they described a range of personal reasons for living rurally and some reported they would have stayed in a rural area long term regardless of the AHRGP.

The study identified a second group as 'the convertibles' – individuals whose experience living and working in a rural area either during training or on graduation converts them to pursuing a rural or remote career (Stagg et al., 2009). In this research we had a range of metropolitan-raised trainees who found the benefits of rural or remote work matched their goals and aspirations, and the AHRGP may have played a role in developing a rural career path for them. Potentially the trainees who were always going to live in a rural area long term regardless of the AHRGP are not the individuals that should be the focus of future investment if they are going to stay anyway.

A third group identified by Stagg et al. were 'the frustrated', who had originally planned to work rurally long term but then are negatively influenced while studying or working rurally. Again, this research identified a number of trainees who had a rural background but who chose to discontinue the pathway early, and each of them expressed organisational challenges that impacted on their intention to stay. Lastly Stagg et al. identified 'the metro docs', who had no intention to pursue a rural career long term and had limited rural exposure (Stagg et al., 2009). A couple of the trainees who discontinued the pathway and had a metropolitan background fit this category; they came to a rural area briefly and then pursued a metropolitan career once an opportunity arose. These

findings could be valuable for organisations who are planning to recruit allied health trainees in the future. Considering who are the convertibles could be a useful strategy as it would appear they are worth investing in in terms of improving intention to stay, but there may be some allied health professionals in the frustrated category who could be positively influenced to stay longer with appropriate organisational supports and structures. Lastly, it is important to invest in the true believers, who wish to stay in rural or remote areas long term, to prevent them becoming frustrated but also to give them reasons to stay, a fulfilling career and the opportunity to make a lasting impact on their community.

Economic analysis

A cost-consequence analysis of the AHRGP was conducted to outline the costs and benefits of the pathway for the rural and remote regions in this study. This approach to analysis does not feature in allied health training and workforce research although other industries have utilised similar approaches to measure the impact of workforce initiatives (Nguyen et al., 2019; Villar & Strong, 2007). While the cost of tuition for the RGP is available from the education provider for organisations or individuals who are considering the AHRGP, associated costs were previously unknown, and the economic benefits had not been described in previous research findings. This research outlined the costs relating to tuition, quarantined study time and project manager time. Time devoted to supervision and management of trainees was found to be within normal expectations and not an additional cost to be factored in. This is an interesting finding considering trainees and service leaders reported challenges in the provision of supervision and management support. Potentially if supervisors and managers were providing a higher level of support that met the needs of the trainees, then the costs would need to be factored into the economic evaluation calculation.

Cost benefits of the AHRGP were found to be extensive, including primary and secondary benefits. A study conducted by Chisholm and colleagues (Chisholm et al., 2011) outlined the costs associated with turnover of allied health professionals in rural and remote areas. This study was used as a basis for calculating turnover costs of trainees in the pathway, compared to allied health

professionals employed in the same regions, at the same employment classifications, at the same time who were not participating in the pathway. The research found that AHRGP trainees had a lower turnover rate compared to the rest of the allied health population, which was then calculated as a benefit in dollar terms. Multiple secondary benefits were also described, including competence, confidence, intention to stay, career advancement, completion rates and contribution to service development. These provide valuable insights into benefits that were realised for trainees as well as the organisations.

From this research, the relevant or important factors for context and circumstances should be considered when weighing up the benefits and costs of the pathway. Turnover savings were also calculated in a study investigating the economic value of introducing a formalised mentoring program for early career teachers; the study identified costs and benefits, including the cost benefit of reduced turnover of teachers who participated in the program (Villar & Strong, 2007). The researchers also listed secondary benefits, including improving teacher effectiveness, which is similar to this current research measuring increasing confidence and competence of trainees. There is a scarcity of research investigating the cost benefits of workforce training, and this current research offers a novel approach for future research to consider.

Limitations and source of bias

A range of limitations have emerged through this research. The small number of participants is a limitation in generalising findings; 15 trainees attempted the AHRGP but only seven completed, with one continuing. Furthermore, seven level 1 trainees discontinued and only three completed. To overcome this limitation, the level 1 and 2 trainees' perspectives and experiences were generally reported together to ensure the findings and associate quotes could be de-identified appropriately and a collective experience could be reported. As a result, the quantitative results alone do not provide definitive results or recommendations and should be viewed with caution. The use of qualitative methods provided rich data based on the participants' experiences and is presented concurrently with the quantitative data to complement and add depth to the research.

There were limitations with the managers involved. Not all managers consented to participate, so some trainees were not represented by a manager in the data. Several managers responsible for trainees changed over the research phases. This resulted in a lack of consistency of experiences reported across the phases. Some managers did not work closely with trainees and had difficulty answering some of the interview questions, particularly the rating of confidence and competence and describing the activities the trainees had engaged in. In contrast, most of the supervisors and advanced clinical leads who participated were consistent and were able to provide more consistent perspective across the research phases. They appeared to work closely with the trainees and could provide in-depth answers to the questions. Two of the line managers who were consistent across the phases provided in-depth insights into the AHRGP, and the remaining managers provided new and interesting perspectives based on what they knew and how the pathway was impacting them directly.

The trainees were working across geographically diverse locations and across multiple allied health professions. As a result, the context in which they were working was very different. Some had a manager who checked in regularly while others did not. Some had an onsite supervisor and others met remotely. The case loads, roles and responsibilities of the trainees were different, as was their ability to quarantine study time. As a result of these contextual differences, the trainee and service leader experiences and perspectives were varied. These varied perspectives were described at each phase and at times the results appear to conflict; however, this conflict is required to present the various perspectives and experiences.

The chief investigator's rural background and professional relationships with some of the participants were a potential source of bias. Having lived and worked in some of the regional LHNs included in this study and having been involved in workforce development projects in the past, there was the potential for bias towards the AHRGP being a success. The interview and survey questions were co-designed with the AHRGP project management team and were consistent across all groups and phases. The interviews were transcribed by an independent transcription service and then coded by the chief investigator. The first two transcripts were also coded by the

primary research supervisor and found to be consistent with the chief investigator. The chief investigator kept reflective notes after each interview to identify any potential areas of bias and discussed these with the research supervisors. All three supervisors critiqued research findings and the presentation of results, as did the SA Health project management team throughout the four research phases. The consumer representatives independently reviewed the focus group findings in phases 1 and 3 to ensure their voices were not misinterpreted. These strategies reduced potential biases emerging during the collection and analysis of data.

Although the AHRGP has been introduced across a rural and remote areas in Australia, there is limited research exploring its effectiveness. This research focused on the pathway introduction in one state across six regions. Allied health practice and structures are different across jurisdictions and the findings from this research may not be generalisable in different contexts, depending on the wide-ranging personal and organisational factors that have been outlined throughout this research. To ensure a broad range of factors were considered throughout this research, a systematic review was undertaken to explore workforce opportunities and challenges more broadly. The synthesised findings from the review were largely consistent with the perspectives of trainees in this study, which suggests the findings from this current research may be relevant in other contexts. The systematic review also outlined a range of similarities and differences of experience between allied health and doctors for workforce planners and policymakers to consider when developing strategies for allied health professionals in the future.

In summary, this research has added insights into the experiences of allied health professionals working in rural and remote areas as a distinct group with similarities and differences to their medical peers. It has also thoroughly researched the AHRGP outcomes and impacts in SA. While the findings were similar to other AHRGP research, this study has added new insights and a deeper level of understanding at multiple levels across four distinct phases.

CHAPTER 15: CONCLUSION

This chapter summarises the research findings especially with respect to implications for practice. It will also outline a range of recommendations and opportunities for future research.

Implications for practice

This research has offered new insights into rural and remote allied health workforce and training in the following ways: Mixed multiphase multilevel methods are appropriate in comprehensively exploring and measuring the experience and impact of rural generalist training in allied health and workforce initiatives more broadly. A pragmatic approach to data collection and analysis enables researchers to choose practical research methods that are relevant to the research questions and answer wide-ranging questions. Collecting qualitative and quantitative data from participants concurrently reduces the burden on participants and allows them to reflect on their responses and describe their perspectives and experiences in different ways. This was evident when the service leaders were rating competence and then describing how and why they rated trainees in particular ways. Analysing mixed methods concurrently at each phase allows researchers to build a robust picture of a phenomenon at a point in time and explore how this develops and changes over each phase. This was evident while measuring trainee retention at the same time as exploring reasons for staying and leaving.

This research explored a range of personal and organisational factors that contributed to trainees completing the AHRGP and achieving positive outcomes. These insights provide guidance and recommendations for future organisations and trainees. In particular, the first year of rural and remote practice was found to be a significant time of transition and learning, it was recommended that allied health professionals do not start the AHRPG during this time. Rather, it is preferable that new graduates settle into their work role and the rural community before undertaking the pathway to give them the best chance of success.

The costs and benefits of introducing the AHRGP were comprehensively outlined using cost-consequence methodology, providing new insights for funding bodies. The AHRGP was found to be a very cost-effective initiative, with the primary benefits measured and the secondary benefits described.

While the pathway was cost-effective and positively impacted workforce outcomes, challenges emerged for trainees and the employing organisations. While service leaders were largely positive about the outcomes of the pathway, it was challenging for trainees to balance work and study commitments, and the training was not always relevant to their practice and learning needs. In addition, service leaders identified challenges in terms of lost clinical time and tangible outcomes for teams. In contrast, all participants were able to identify positive aspects of the AHRGP for trainees, consumers and organisations. This balance of challenges and benefits is multifaceted and conflicting at times and was varied throughout the four phases. Future trainees and participating organisations should be aware of the benefits and challenges so they can make an informed decision about their participation.

As this research is drawing to a close, an allied health rural generalist accreditation council is being established to accredit education providers who are offering rural generalist training programs. This will inevitably improve the quality of training provided, which will benefit trainees and organisations in the future. Participating rural and remote health services also acknowledged that this was the first time the AHRGP had been introduced in their regions, and they planned to make a range of improvements to the ways in which the pathway will be offered in the future.

A stable rural and remote workforce is a complex challenge, and the AHRGP is just one strategy amongst many to recruit and retain allied health professionals. In the systematic review and in phase 1 of this research, a range of workforce challenges and opportunities were explored. It is important that allied health employers, workforce planners, tertiary education providers and government bodies work together to develop and support multifaceted workforce strategies that attract allied health professionals and give them the incentives and passion to stay. The AHRGP is in its infancy, small numbers of trainees have completed the pathway and there are limited career

advancement opportunities and incentives that align with the completion of the pathway. This research found that trainees were advancing their careers through participating in the AHRGP, but they were doing so by applying for higher level jobs in the organisation, not by staying in their clinical roles and being promoted in recognition of their specialised skills and qualification, which is the case for rural doctors. For the AHRGP to be sustainable and effective, it needs to be recognised by employers as a career advancement strategy with clear processes in place to allow graduates of the program to progress their career and take on higher levels of clinical complexity and responsibility that their advanced skills and knowledge allow them to manage. Without these workforce changes there will be limited incentives for allied health professionals to participate in the pathway.

Workforce recommendations

The following rural and remote allied health workforce recommendations emerged from this research:

- Continue to offer the AHRGP as a postgraduate opportunity for allied health professionals in order to develop generalist skills and knowledge, to develop clinical leaders and to raise the profile of rural generalism in rural and remote areas.
- Consider appointing future AHRGP trainees who are committed to rural practice and demonstrate relevant attributes for success in the pathway.
- Investigate sustainable funding for continuing to offer the AHRGP to early career allied health professionals in rural and remote areas.
- Organisations and trainees should continue to work closely with the education provider to ensure topics offered are relevant to all rural and remote areas and allied health professions, that there is adequate variety in topics for all professions and that trainees receive adequate support and feedback from academic staff.

- Clarify support structure expectations with future supervisors and managers to ensure trainees receive adequate support while undertaking the AHRGP. These should also be reviewed when clinical supervisors or line managers change during the pathway.
- Explore mechanisms for better protecting quarantined study time while not disadvantaging organisations and consumers to enable trainees to undertake the pathway, including opportunities for backfill.
- Clarify service development project expectations for organisations and trainees to ensure there are benefits for all stakeholders and adequate resourcing and support is provided. Identify opportunities for projects to continue across multiple topics where possible.
- Consider incentives on completion of the AHRGP in terms of career advancement and retention strategies to recognise the effort and commitment trainees have put into their professional development and the investment they have made in their regions.
- Consider broader workforce implications of having AHRGP graduates working in an organisation, how employers accommodate the expanding skills and expertise of their staff and the next steps for graduates to continue to see them grow and develop beyond the pathway.
- Continue to explore other workforce opportunities for individuals or organisations for which the AHRGP is not an effective strategy so that there are more options for allied health professionals to develop a career in rural and remote areas while meeting their personal and professional needs.

As the AHRGP is new and research is emerging, more research is required in order to continue to strengthen the evidence base around rural generalist training and workforce. The following research is recommended:

- Continue to research the experience and outcomes of the AHRGP in different regions and professions to build the evidence around rural generalist training and to keep refining the training, pathway and outcomes.

- Explore the impact on consumers working directly with trainees to investigate the consumer experience more deeply.
- Continue to monitor workforce outcomes to measure long-term impacts of the AHRGP for employing organisations.
- Compare the outcomes of the AHRGP with the outcomes of the medical rural generalist training pathway to identify ways in which the AHRGP could have a stronger impact on workforce outcomes.
- Explore and measure the impact of other allied health workforce initiatives so that more is known about their effectiveness and impact on outcomes.

In summary, this research developed new and innovative approaches to comprehensively investigating the experience, context, impacts and outcomes of the rural generalist pathway. The pragmatic research drew on approaches from program logic (WK Kellogg Foundation, 2004), training evaluation (Kirkpatrick & Kirkpatrick, 2016) and economic evaluation methodology . Using these pragmatic approaches enabled the research to investigate multifaceted workforce challenges and strategies using the most appropriate mixed methods to investigate what works. These methods have applicability for the investigation of other new and emerging workforce initiatives. This research has generated a range of workforce and research recommendations in order to continue to strengthen the outcomes and understanding of allied health rural generalist training initiatives into the future.

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APPENDICES

Appendix 1: Systematic review protocol

Dymmott, A., George, S., Campbell, N., & Brebner, C. (2021). Experiences of working as early career allied health professionals and doctors in rural and remote environments: a qualitative systematic review protocol. *JBI evidence synthesis*, *19*(12), 3301-3307. https://doi.org/10.11124/JBIES-20-00553

Experiences of working as early career allied health professionals and doctors in rural and remote environments: a qualitative systematic review protocol

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ABSTRACT

Objective: The objective of this review is to investigate the experiences of working as an early career allied health professional or doctor, and the factors that influence this experience in rural or remote environments.

Introduction: Recruitment and retention of health professionals in rural and remote areas is challenging, with a range of strategies used to attract and retain them, which vary by profession and jurisdiction. Workforce recommendations are often based on the collective experience of all health professions. This review will explore the experiences of early career allied health professionals and doctors and compare and synthesize the evidence in order to better understand the individual and collective factors to generate relevant recommendations.

Inclusion criteria: This review will consider qualitative studies that include early career allied health professionals' or doctors' experiences of working in rural or remote areas and the personal and professional factors that impact on this experience.

Methods: CINAHL, Embase, MEDLINE, Web of Science, Informit, ProQuest Dissertations and Theses, Google Scholar, and WorldWideScience.org will be searched to identify published and unpublished studies. Studies published since 2000 in English will be considered for the review. Identified studies will be screened for inclusion in the review by two independent reviewers. Studies for inclusion will be critically appraised by two independent reviewers. Data will be extracted using a standardized tool and reviewers will discuss any disagreements. Data synthesis will adhere to the meta-aggregative approach to categorize findings. The categories will be synthesized into synthesized findings that can be applied as evidence-based recommendations.

Systematic review registration number: PROSPERO CRD42021223187

Keywords: allied health; early career; experiences; medicine; rural and remote

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Introduction

Rural and remote health services face significant challenges recruiting and retaining health professionals, including doctors, nurses, and allied health professionals.[1] Having a high turnover of staff negatively impacts health service provision and health outcomes for those in rural and remote environments, particularly vulnerable groups.[1,2] A range of systematic and scoping reviews have investigated workforce challenges for health professionals, and most have highlighted the wide range of studies that relate to doctors, while a limited number explore the challenges specifically to allied health professionals.[1,3,4]

The Australian allied health workforce landscape has changed, with an aging population and the introduction of the National Disability Insurance Scheme in 2013.[5] Public and private health and disability services have grown and diversified as a result.[6,7] In order to better meet the complex needs of these consumers in rural environments, allied health retention must be addressed.[5]

Allied health professionals are tertiary-qualified health professionals with expertise in preventing, diagnosing, and treating health conditions. Allied

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health is often described as health professions that do not include nursing or medical professionals.[8] Allied health professionals come to rural and remote areas for a range of reasons: the novelty, lifestyle, desire to improve health outcomes, opportunity to move back to a rural area after university, desire to work across a broad range of clinical areas, or in response to a positive clinical placement experience.[9,10] The majority of these clinicians stay in rural areas for up to three years, with approximately 25% turnover each year.[2,11] The literature suggests they leave for a range of personal and professional reasons, including limited social supports, attractive job opportunities, and the perception of better support and training opportunities in metropolitan areas.[10,12] A range of workforce retention strategies have been used to reduce allied health attrition, with training being a key element, as well as improving career progression opportunities.[9,10]

Nationally, rural doctors also have training and career progression opportunities, and more is known about the effectiveness of these strategies on retention,[3,4,13] with doctors staying in rural areas for seven years on average.[13] Early career allied health professionals have different working conditions to doctors. These differences include varying education, training, registration, and regulation requirements[8,14]; highly variable support mechanisms and processes; limited access to relevant training and education opportunities[15]; reduced job security[12]; lower pay; and reduced entitlement for reimbursement of relocation expenses.[16,17] Allied health professionals also achieve more autonomy within their clinical workload earlier than doctors,[18,19] and postgraduate training and professional development do not necessarily align with specialization or career advancement.[14]

A systematic review published in 2010[1] examined the impact of retention incentives for allied health professionals, nurses, and doctors in rural and remote areas. Although the evidence for effective retention strategies was limited, the results did show that a range of factors were influential and that no single factor was critically effective.[1] Recommendations included stable team staffing, appropriate infrastructure, adequate remuneration, supportive management and supervision, recognition of effort, and effective social supports.[1] This review is currently being updated[20] and will include quantitative examination of the impact of strategies on length of retention.

A recent study by Wakerman *et al.*[21] measured the current workforce turnover and retention of health workers in remote areas of the Northern Territory in Australia, and also reviewed international research investigating retention strategies for rural and remote health workers. This review found that no single retention strategy was relevant to all situations, but three broad themes emerged. Firstly, health professionals in rural and remote areas need appropriate educational opportunities and career pathways; and barriers that prevent Indigenous and rural people from undertaking health courses need addressing.[21] Secondly, health professionals need a safe and supportive work environment[21]; and, thirdly, workers require support for themselves and their families to remain in rural and remote areas.[21] This analysis brought findings from medicine, nursing, and allied health together for analysis.[21] As with Buykx *et al.*,[1] the majority of the papers were focused on medicine.

With more evidence related to rural and remote retention strategies being available for medicine, research findings are often generalized to inform retention to other health professionals, including allied health and nursing, despite the differences in contextual factors.[1,3,4,22] There is a need to systematically explore whether the experiences of early career allied health professionals and doctors is similar or different. Findings may be used to help develop evidence-informed workforce retention strategies.

No current or planned systematic reviews comparing the experiences of early career allied health professionals and doctors were identified in a preliminary search of PROSPERO, MEDLINE, the Cochrane Database of Systematic Reviews, or *JBI Evidence Synthesis* in October 2020. Several reviews were identified on exploring retention and turnover of staff in rural and remote areas,[1,3,21,23] but no reviews have investigated whether the experiences of early career allied health professionals and doctors are similar or different; whether they come to, stay in, and leave rural and remote areas for the same reasons; or whether it is appropriate to make generalizations about both groups.

This review will synthesize the collective and individual experiences of allied health professionals compared to doctors, and examine the personal and professional factors that influence these experiences in rural or remote environments. This will generate an understanding of whether the experience of early

career rural or remote doctors and allied health professionals should be compared and reported on together, or if there are significant differences that should be considered when generating workforce planning strategies and recommendations. The JBI meta-aggregative approach to data analysis will be used during data synthesis, which is based on a philosophy of pragmatism and develops lines of action, informing clinicians' and policy-makers' practical decision-making.[24]

The objective of this qualitative systematic review is to evaluate, synthesize, and compare the literature on the experiences of early career allied health professionals and doctors working in rural and remote environments, to identify similarities and differences between the two professional groups. The findings will be used to generate recommendations for policy and practice for retention strategies for rural health services.

Review questions

i) What are the experiences of early career allied health professionals navigating professional and personal factors when working in rural and/or remote environments?
ii) What are the experiences of early career doctors navigating professional and personal factors when working in rural and/or remote environments?
iii) Which personal and professional factors and working conditions are similar and different for early career allied health professionals and doctors in rural and remote areas?

Inclusion criteria

Participants

The review will consider studies that include early career allied health professionals and doctors. There is not an agreed universal definition of allied health professions.[8,25] Allied Health Professions Australia provides a comprehensive list in their definition that includes art therapists, audiologists, chiropractors, dietitians, exercise physiologists, genetic counselors, medical radiographers, music therapists, occupational therapists, optometrists, orthoptists, orthotists and prosthetists, osteopaths, perfusionists, physiotherapists, podiatrists, psychologists, rehabilitation counselors, social workers, sonographers, and speech pathologists.[25] These professions will be included in this review as well as the overarching term "allied health." International variations of these professions will be included in the search terms. Studies that include nursing will be excluded from the review unless data for nursing are reported discretely. The exclusion of nursing is intentional as a large number of studies investigate the experience of nurses working in rural and remote areas, and is beyond the scope of this project, which aims to generate recommendations specifically for allied health. Early career doctors will include, but not be limited to, medical interns, registered medical officers, general practitioners, and rural generalists. The review will consider studies that include allied health and medical workforce studies in high-income countries as defined using the World Bank criteria,[26] including, but not limited to, the United Kingdom, the United States, Canada, Australia, New Zealand, Japan, and European countries. The inclusion of studies from high-income countries will generate recommendations that are relevant to the Australian context, as working conditions and personal and professional factors are more likely to be relevant. Studies with a mixture of low-, middle-, and high-income countries will be included if the data from high-income countries are reported separately.

Phenomenon of interest

This review will consider studies that explore the experience of working in a rural or remote community early in a health professional's career (within the first five years). This may include perceptions of working and living in a rural or remote area, reasons for working in a rural or remote area, career trajectory, training requirements, workplace conditions, reasons for leaving, perceptions of confidence and competence, caseload, and levels of autonomy and supervision.

Context

The context is rural and remote workplaces that employ allied health professionals or doctors. "Rural" and "remote" will be classified according to the Australian Statistical Geographical Standard.[27] Equivalent classifications will be utilized for studies from other countries; where classifications do not exist, the authors' descriptions will be used to determine rural or remoteness.

Types of studies

This review will consider studies that focus on qualitative data including, but not limited to, designs

such as phenomenology, grounded theory, ethnography, action research, qualitative descriptive, or any qualitative methodology that explores the research questions. Mixed methods studies will only be considered if data from the qualitative components can be clearly extracted.

Methods

The proposed systematic review will be conducted in accordance with JBI methodology for systematic reviews of qualitative evidence.[28] The review title has been registered with PROSPERO (CRD42021223187).

Search strategy

The search strategy will aim to locate both published and unpublished studies. An initial limited search of MEDLINE was undertaken in conjunction with a research librarian to identify articles on the topic. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles were used to develop a full search strategy for MEDLINE (Ovid; Appendix I). To locate relevant articles, the search strategy included relevant database features, such as searching the title, abstract, and author keywords using the field codes tw,kw; Boolean operators to combine synonyms; MeSH and concepts; and included proximity operators to find keywords within a certain distance of each other.

Only studies published in English and from 2000 onward will be considered for inclusion in the review in order to enact currency of knowledge, which will be useful in developing recommendations to support policy and practice.

The databases to be searched include: CINAHL (EBSCO), Embase (Elsevier), MEDLINE (Ovid), Web of Science, and Informit.

The search for unpublished studies and gray literature will include ProQuest Dissertations and Theses, Google Scholar, and WorldWideScience.org

Study selection

Following the search, all identified citations will be collated and uploaded into Covidence systematic review software (Veritas Health Innovation, Melbourne, Australia) and duplicates removed. Titles and abstracts will then be screened by two independent reviewers for assessment against the inclusion criteria for the review. Potentially relevant studies will be retrieved in full and their citation details imported into the JBI System for the Unified Management, Assessment, and Review of Information (JBI SUMARI; JBI, Adelaide, Australia). The full text of selected citations will be assessed in detail against the inclusion criteria by two independent reviewers. Reasons for exclusion of full-text papers that do not meet the inclusion criteria will be recorded and reported in the systematic review. Disagreements between the reviewers will be resolved through discussions or with the assistance of a third reviewer. The results of the search and the study inclusion process will be reported in full in the final systematic review and presented in a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram.[29]

Assessment of methodological quality

Eligible studies will be critically appraised by two independent reviewers for methodological quality using the standard JBI critical appraisal checklist for qualitative research.[28]

All studies, regardless of their methodological quality, will be included and undergo data extraction and data synthesis (where possible) in order to employ an inclusive approach with diverse studies and datasets as the authors are not expecting to find a large number of relevant studies. The impact of the methodological quality of the studies will be addressed in the discussion and considered in the generation of recommendations.

Authors of papers will be contacted to request missing or additional data for clarification, where required. Any disagreements that arise between the reviewers will be resolved through discussion or with a third reviewer. The results of critical appraisal will be reported in narrative form and in a table.

Data extraction

Qualitative data will be extracted from studies included in the review by one reviewer and checked by the second reviewer using the standardized JBI data extraction tool.[28] The data extracted will include specific details about the populations, phenomenon of interest, context, culture, geographical location, study methods, and outcomes of significance to the review questions and objectives. Findings in verbatim format and their supportive illustrations (eg, direct quotes from participants) will be extracted and assigned a level of credibility. Any disagreements that arise between the reviewers will be resolved through discussion or with a third

reviewer. Authors of papers will be contacted to request missing or additional data, where required.[28]

Data synthesis

Qualitative research findings will, where possible, be pooled using JBI SUMARI with the meta-aggregation approach.[28] This will involve the synthesis of findings relating to the first two research questions to generate a set of statements through assembling the findings and categorizing these findings on the basis of meaning. These categories will then be subjected to a synthesis in order to produce a comprehensive set of synthesized findings that can be used as a basis for evidence-based practice. Where textual pooling is not possible, the findings will be presented in narrative form. The synthesized findings for questions 1 and 2 will be compared and contrasted, and reported narratively to explore research question three. All authors will collectively participate in the synthesis of findings. Only unequivocal and credible findings will be included in the synthesis.[28]

Assessing confidence in the findings

The final synthesized findings will be graded according to the ConQual approach for establishing confidence in the output of qualitative research synthesis and presented in a Summary of Findings.[30] The Summary of Findings will include the major elements of the review and detail how the ConQual score is developed. Included in the Summary of Findings will be the title, population, phenomenon of interest, and context. Each synthesized finding from the review will then be presented, along with the type of research informing it, scores for dependability and credibility, and the overall ConQual score.[30]

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Appendix I: Search strategy

MEDLINE (Ovid)
Search conducted March 11, 2021

Search	Query	Records retrieved
1.	("early career" or residency or "junior doctor*" or graduate* or registrar* or intern* or trainee*).tw,kf. OR "Internship and Residency"/	1082,351
2.	(physician* OR doctor* OR practitioner* OR GP*).tw,kf. OR (medical adj (personnel OR staff OR professional* OR worker*)).tw,kf. OR "allied health"/ OR rural generalist*.tw.kf. OR art therapist*.tw,kf. OR audiologist*.tw,kf. OR chiropractor*.tw,kf. OR (dietician* OR dietitian*).tw,kf. OR genetic counsellor*.tw,kf. OR music therapist*.tw,kf. OR nutritionist*.tw,kf. OR occupational therapist*.tw,kf. OR optometrist*.tw,kf. OR (orthotist* or prosthetist*).tw,kf. OR orthoptist*.tw,kf. OR pharmacist*.tw,kf. OR (physiotherapist* OR physical therapist*).tw,kf. OR podiatrist*.tw,kf. OR psychologist*.tw,kf. OR (radiographer* OR sonographer* OR radiation therapist*).tw,kf. OR rehabilitation counsellor*.tw,kf. OR (speech pathologist* OR language pathologist* OR speech therapist* OR language therapist*).tw,kf. OR ((health OR healthcare OR health care) adj (personnel OR worker* OR staff OR professional* OR workforce OR provider*)).tw,kf.	963,351
3.	((rural OR remote OR non-metropolitan OR nonmetropolitan OR regional) adj (communit* OR area* OR region* OR province*)).tw,kf. OR ((rural OR remote OR nonmetropolitan OR non-metropolitan OR regional) adj (health service* OR health care OR healthcare OR medical service* OR medical care OR workforce)).tw,kf. OR (rural OR remote OR non-metropolitan OR nonmetropolitan OR regional adj (setting* OR clinic* OR hospital* OR health service*)).tw,kf. OR rural Health/ OR rural hospital*, rural/ OR rural population/ OR rural health service*	142,677
4.	1 AND 2 AND 3	3211
5.	((("semi-structured" OR semistructured OR unstructured OR informal OR "in-depth" OR indepth OR "face-to-face" OR structured OR guide) adj3 (interview* OR discussion* OR questionnaire*)) OR (focus group* OR qualitative OR ethnograph* OR fieldwork OR field work OR key informant)).tw,kf. OR interviews as topic/ OR focus groups/ OR narration/ OR qualitative research/	416,304
6.	4 AND 5	575

Appendix 2: Trainee goal attainment

Trainee	Level 1/2	Trainee goals phase 1	Goal attainment phase 3
2	2	• Develop and manage more sustainable health programs	Yes • Developed and implemented a remote allied health assistant service model which made a significant difference to the organisation • Recruited, supported and retained a larger discipline team over an extended period of time
3	1	• Learn project management skills • Involve myself in local quality improvement projects • Build extended scope clinical skills • Apply for reclassification	Yes • Gained skills in project management • Participated in a range of projects • Extended scope of practice • Promoted to a leadership role
4	2	• Increased knowledge across multiple fields of physio • Increased skills with leadership and management	Yes/No • Gained knowledge in multiple areas of practice • Undertook higher level roles • Did not pursue leadership roles permanently as wanted to focus on generalist roles • Didn't feel the AHRGP was adequately recognised as a specialty in their organisation
5	2	• Implement service strategies learnt throughout the program within the workplace • Educate others with information I have learnt/gained • Increase knowledge in specialist areas of OT	Yes • Shared their learnings with team • Developed a new service model • Gained knowledge and strategies to manage COVID-19 service challenges • Gained clinical knowledge

Trainee	Level 1/2	Trainee goals phase 1	Goal attainment phase 3
10	1	• Increase my knowledge base in a wide range of health conditions and client populations • Increase my confidence to work in a variety of settings and expand my skills to competently work in a rural setting • Improve my clinical skills, increase my capabilities to manage my workload and work across a range of areas	Yes • Gained knowledge in health conditions and rural health • Researched new areas of practice • Skills in managing clinical workload • Expanded scope of practice • Slight increase in own confidence ratings • Manager and supervisor reported significant gains in confidence and competence
11	1	• Improve knowledge and skills in dealing with patients in a rural/disadvantaged setting • Fast-track general development as an allied health professional	Yes/No • Gained skills and knowledge but not to extent they had hoped for • Applied nuggets of knowledge to consumer care • Increased knowledge of conditions • Opportunities for broad clinical opportunities • Limited impact on communities • Promoted to a higher level position at end of pathway; frustrated this had not happened earlier
12	1	• To further my clinical skills in the weaker areas of my rural generalist practice • To be able to use my learnt skills in the development and improvement of rural health and outcomes for rural communities	Yes/No • Did not feel they had developed clinical skills • Developed skills and knowledge in leadership, management and projects • Promoted to senior leadership roles • Learnings assisted during transition to higher level roles
13	2	• To improve my capacity to work proficiently in a rural generalist role, both clinically and in leadership	Yes/No • Moved into a specialised role which impacted their ability to put their generalist learning into practice • More proficient in evidence-based practice, communication skills, project management and leadership skills

Appendix 3: Service development project enablers

<table>
<tr><th colspan="2">Theme 1: Supportive organisations</th></tr>
<tr><td>Colleagues willing to share their knowledge / try ideas out</td><td rowspan="9">“I think the enablers are having very supportive staff around me that are willing to share their learnings and their previous work with me to be able to then utilise that for what I needed to do” 10

“I had good accessibility to my line manager and my team leader, and obviously, to get their approvals and having them involved in the project and allocating roles to other staff members, that was a really important one.” 3

“they’re like, choose just super small, smaller than you think it should be, because it’s not about the overall outcome, it’s about the process, and I forget what topic that was linked to, but actually that was really good” 12

“I think as well, just having those sort of scheduled catch-ups with everyone within country health that was doing the pathway and just being able to hear where other people were up to” 7</td></tr>
<tr><td>Manager and supervisor support</td></tr>
<tr><td>Time allocated in workload to implement projects</td></tr>
<tr><td>Access to relevant information, equipment, resources</td></tr>
<tr><td>Access to the right consumers</td></tr>
<tr><td>Encouragement to take on small, manageable projects</td></tr>
<tr><td>Peer support from other trainees</td></tr>
<tr><td>Projects chosen that teams were keen to implement</td></tr>
<tr><td>Support from project managers</td></tr>
<tr><th colspan="2">Theme 2: Course content with topics building on each other</th></tr>
<tr><td>Project processes taught by the education provider are clear, high quality and practical</td><td rowspan="4">“I definitely probably now understand the process that goes behind that and who to kind of talk to.” 8

“The program topic … has sort of led me into the chronic conditions topic. Those are the two I really used that tied into this … The health program was more about like why it would be beneficial … so that sort of helped tie into the chronic conditions … That last topic allowed me to look at the basics of a cost-benefit analysis, like the very basics of it, but if it needed to go further, that would be the next step” 5</td></tr>
<tr><td>Topics scaffolded projects</td></tr>
<tr><td>Utilising different topics for different aspects of the projects</td></tr>
<tr><td>Lecturers flexible with projects</td></tr>
</table>

Appendix 4: Service development project barriers

Theme 1: Organisational support for projects	
Challenge of knowing who to get support from	*"We went around and round in circles on a local level with approvals … What one person said, and we were pursuing that process and then all of a sudden, this next person was like, 'What are you doing? It needs to be going down this other pathway', and it was like starting all over again." 4* *"And I guess, like I have a really great relationship with both of my supervisors, but obviously their understanding of what a project is and what the core of the project needs to be, and even just their general experience of managing a project, it's quite variable." 12* *"So, I feel like there's been this big pressure of, how have you implemented your service projects? But it's not that easy. They're not small things, they're big things." 13* *"I progressed to the point of the assignment had finished. I had sent it to the ACL and to my senior, and it was essentially, that was it." 11*
Limited knowledge in organisation about project management processes	
Bureaucracy requiring multiple levels of approval for projects	
Manager turnover creating barriers for implementation	
Pressure to implement projects without adequate resourcing/funding	
Projects submitted to management but not actioned	
Projects too big; multiple stakeholders and geographical areas to include	
Limited time for project implementation	
Theme 2: Topics limitations with project implementation	
Topics not linking or allowing building on each other for consistent projects	*"Every subject wants you to do and come up with some kind of project so that at the end of this two years, you end up with eight different projects that you can potentially run with." 13* *"I feel like I've started a lot of projects, but then haven't been able to finish them properly … Well, the way that it's written in the course, is, you know, we would write 'All right, these are the things that we'll do with this timeline' which could be six months down the track, and then once the course finishes, being an AHP1, there's an 80 per cent client face-to-face case load in that, so there's – I'm not really sure who's going to follow that work up." 3*
Project proposals developed as a requirement of topic but not implemented	
Challenge of choosing projects that fit with topic concepts and requirements	
Theme 3: Time limitations	
Finding time to implement projects after the topic had finished	*"So, although you get that time allocated to the rural generalist project, all of that time is kind of spent, for me, actually doing the modules, and I don't really have a lot of spare time to actually be implementing the projects, if that makes sense." 13* *"I think we've implemented some really good changes, but yeah, we haven't been able to do our proper feedback collection and make recommendations and those sorts of things, just to round everything off." 4*
Lack of time to evaluate projects that were implemented	
Project is big with multiple stakeholders; trainee has limited time	