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South Australian Allied Health Rural Generalist Pathway Evaluation: Phase 3

November 2022

Flinders University

South Australian Allied Health Rural Generalist Pathway Evaluation

Phase 3 Report - September 2022

This report was completed as a result of a partnership between SA Health and Flinders University, with funds provided by the Rural Health Workforce Strategy (Government of South Australia).

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Flinders and Upper North Local Health Network
Yorke and Northern Local Health Network
Limestone Coast Local Health Network
Riverland Mallee Coorong Local Health Network

Cover page: Allied health professionals departing for outreach from Port Lincoln airport

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Abbreviations

ACL	Advanced Clinical Lead
AHA	Allied Health Assistant
AHP	Allied Health Professional
AHRGP	Allied Health Rural Generalist Pathway
FTE	Full time equivalent
JCU	James Cook University
LHN	Local Health Network
RSS	Rural Support Service
SA	South Australia
SA Health	Department for Health and Wellbeing, South Australia
SARRAH	Services for Australian Rural and Remote Allied Health
TCI	Temperament and Characteristics Inventory

The term Allied Health Profession includes but is not limited to:

Audiology, dietetics, medical radiation, occupational therapy, pharmacy, physiotherapy, podiatry, psychology, social work, speech pathology.

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 2 male trainees, the male pronouns in quotes have been changed to female

Executive Summary

Introduction

In 2019 The Government of South Australia's Rural Health Workforce Strategy funded a range of projects to improve health workforce and service outcomes for rural and remote South Australians. This funding enabled SA Health regional Local Health Networks (LHNs) to introduce the Allied Health Rural Generalist Pathway (AHRGP) in South Australia.

The AHRGP is a post graduate training program for rural or remote allied health professionals (AHPs) designed to develop rural generalist specialist skills and knowledge. Rural generalist trainees have access to both dedicated profession specific supervision and quarantined study time at work. There is also an expectation that they will participate in service improvement projects related to rural generalist service strategies.

Aims

The aims of this research are to evaluate the impact of the AHRGP in regional LHNs and to explore rural and remote allied health workforce challenges and opportunities in South Australia (SA).

Methods

In 2019 Flinders University was contracted by SA Health to formally evaluate the AHRGP implementation in SA. This research is utilising a mixed methods approach over four distinct phases and is focused on the first cohort of trainees in SA who commenced training from 2019-20. In 2021 a second AHRGP training cohort commenced in SA and is not included in this current study.

Phase 1 was completed in December 2019 exploring the early perceptions of the AHRGP. Phase 2 was completed in September 2020 exploring the outcomes and experiences of the AHRGP at the midpoint of the pathway for the 2019-2020 cohort.

Phase 3 (this report) was conducted between July 2021 and June 2022 and explores the final outcomes of the AHRGP from the perspectives of the 2019-20 trainee cohort, their clinical supervisors, line managers, ACLs, the project management team and consumer representatives. A cost benefit analysis data was also completed. Phase 4 will be completed in 2023 and will review the trainees' perceptions of the pathway and long term impacts 6 months after completing the AHRGP.

Results

Fifteen AHPs enrolled in the pathway, six have completed and 2 are continuing. Trainees who discontinued were in the level 1 program and were earlier in their career. A range of benefits were realised by the trainees, their line managers, clinical supervisors, ACLs and project managers throughout the pathway:

- Growth in **confidence**, in their approach to work, to seek help, to raise concerns and to solve problems
- **Broad skill and knowledge** development relevant to their work roles
- Increased ability to manage **diverse caseloads**, to work in **complex and challenging situations and with more autonomy**
- Skills to participate in **service development activities**
- Development of **leadership skills and career advancement** in rural areas
- Increased focus on **evidence based in their practice**
- **Sharing of learning** widely within teams and across regional LHNs
- Contributing to a range of service development **projects** to improve organisational processes and efficiencies and outcome for consumers.

A range of challenges were experienced by research participants including;

- Challenge of **quarantining study time at work**, resulting in trainees doing more study out of hours than they had anticipated
- Impact of study out of hours on **work life balance**
- **Relevance of coursework** for the SA context
- Opportunity to **implement learning into practice**
- **Staffing challenges** impacting on trainees' workload and organisational pressures
- **Clarity of expectations** for line managers and clinical supervisors' roles when supporting a trainee
- Outcomes for trainees in terms of recognition of AHRGP achievement and associated career advancement not yet established.

A cost consequence analysis was undertaken. The total average direct and indirect cost of the pathway was found to be $34,875 per level 1 trainee and $70,469 for each level 2 trainee. Direct costs included the cost of tuition and project manager wages and on costs. Indirect costs included quarantined study time that the trainees undertook in work hours. Cost of supervision and line manager support were also considered but found to be within normal workloads and were not included as additional costs.

A range of economic benefits were identified as they relate to recruitment. AHP1 trainees stayed on average 82% longer in a regional LHN than the average regional LHN AHP1 in the same time period. We identified a saving to recruitment costs per AHRGP level 1 position of $31,761 during the 3 year follow up period, based on an improved rate of return on the recruitment investment. This was calculated by comparing SA regional LHN workforce data relating to allied health turnover with the turnover rate of AHRGP trainees. No AHP2 trainees resigned during the 3 year follow up period compared to 17.6% of AHP2s across regional LHNs. We identified a saving to recruitment costs per AHRGP level 2 position of $11,736 during the 3 year follow up period, based on an improved rate of return on the recruitment investment. In total, the direct recruitment cost benefit was found to be $376,290 for this first cohort of trainees in the 3 year period from 2019-2022.

Significant secondary benefits were also identified and quantified including the pathway having a high completion rate, completing trainees being promoted, trainees engaging in service development projects and increased their confidence and competence.

Despite significant direct and indirect costs of the program, and the turnover of level 1 trainees, the benefits of the AHRGP in SA were extensive and overall the pathway was found to be a high value investment.

Recommendations

Based on the evaluation of the first cohort of trainees to complete the AHRGP in SA, this report outlines a range of recommendations including:

- Continue to offer the AHRGP as a post graduate opportunity for AHPs in order to develop generalist skills and knowledge, to develop clinical leaders and raise the profile of rural generalism in regional, rural and remote SA
- Consider appointing future AHRGP trainees who are committed to rural practice and demonstrate relevant attributes for success in the pathway
- Investigate sustainable structures and funding for continuing to offer the AHRGP to early career AHPs in regional LHNs

- Continue to work closely with James Cook University (JCU) to ensure topics offered are relevant for SA based AHP practice, that there is adequate variety in topics for all professions and that trainees receive adequate support and feedback from academic staff
- Clarify service development project expectations for organisations and trainees to ensure there are benefits for all stakeholders and adequate resourcing and support is provided
- Explore mechanisms for better protecting quarantined study time while not disadvantaging regional LHNs and consumers to enable trainees to undertake the pathway including opportunities for backfill
- Work with potential trainees, clinical supervisors and line managers to ensure expectations of support structures are clear. This should be reviewed when clinical supervisors and line managers change during the pathway
- 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 regional LHN.

Introduction

Rural and remote health services across Australia provide care to communities over vast geographical distances with highly variable complex clinical needs and priorities. Allied health professionals (AHPs) working in these areas are often required to have generalist skills in order to work with people across the lifespan with various clinical presentations across multiple settings, service types and funding streams. AHPs often undertake these highly complex roles without any formal generalist training[1].

Recruiting and retaining AHPs in rural and remote areas is a widely reported challenge [2-5]. A recent systematic review investigating recruitment and retention found that a range of organisational and personal factors influence why AHPs decide to work in rural and remote areas and the same factors also impact on retention [5]. Career development opportunities including access to career progression, professional support and professional development were reported to be important influencers.

The Allied Health Rural Generalist Pathway (AHRGP) is a program to assist rural or remote AHPs to develop generalist practice skills and knowledge through the participation in a post graduate course and associated workplace service development projects. James Cook University (JCU) offer the coursework aspect of the pathway in two levels. Early career AHPs, with less than 3 years' experience, are eligible for the level one certificate (1-2 years part time) and the level two graduate diploma is designed for those with more than two years of experience (2-3 years part time).

In 2019, the Rural Health Workforce Strategy Steering Committee and the Minister for Health and Wellbeing approved the allocation of Rural Health Workforce Strategy funds to introduce the AHRGP in rural and remote SA. The funding also enabled the provision of centralised project manager support and a contract with Flinders University to undertake formal research and evaluation of the initiative.

In 2019 and 2020 a pre and mid pathway evaluation were conducted. The pre pathway evaluation explored the demographics, perceptions and intentions of the trainees enrolled in the AHRGP. Clinical supervisors, line managers, advanced clinical leads, project managers and consumer representatives' perceptions were also explored in relation to rural allied health practice and the pathway. The mid pathway evaluation explored trainees, clinical supervisors, line managers, advanced clinical leads and project managers' experience and perceptions of the AHRGP. At the midpoint preliminary data was collected to ascertain the effectiveness of the AHRGP as a suitable strategy for improving workforce and clinical outcomes for rural South Australians. The first two reports are available online.

Funding for this research has been provided through the Rural Health Workforce Strategy, and ethics approval was received from the Southern Adelaide Local Health Network Human Resource Ethics Committee (HREC/19/SAC/170).

Research Aims

The overarching aim of the research is to investigate the outcomes of the AHRGP in SA Health regional Local Health Networks (LHNs).

The specific aims include:

1. To explore workforce challenges and opportunities for AHPs in rural and remote SA
2. To explore the experience of the AHPs 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 line managers working with rural generalist trainees
4. To explore how the AHRGP has impacted consumers' perceptions, access and quality of allied health service delivery and development
5. To identify where the rural generalist program works, which professions, locations and individual characteristics are particularly suited to the AHRGP
6. To explore the costs and benefits of the AHRGP.

Methods

The SA AHRGP is being evaluated in four phases, phase one and two were completed in 2019 and 2020, these reports are available online. The third endpoint phase is the focus of this report. Phase 4 will be conducted 6 months after trainees have completed the pathway to explore longer term impacts. Mixed methods are being utilised to form a robust research approach. Kirkpatrick's four levels of evaluation have been used to guide the structure and approach to the evaluation [6].

During phase 3, trainees participated in a survey and interview explore their experiences and perceptions of the pathway. Trainees' clinical supervisors, line managers and ACLs were also invited to be interviewed and the project management team were interviewed as a group. Consumer representatives participated in a follow up focus group at the conclusion of the pathway.

AHRGP quantitative data was analysed with workforce data collected by the Rural Support Service (RSS) to complete a cost benefit analysis (see methods used in aim 6). The results of a Temperament and Characteristics Inventory (TCI) [7] conducted in the pre-evaluation were also explored with trainees in this third stage in order to develop a comprehensive understanding of the impact of personal attributes on the success of the pathway.

Table 1 phase 3 data collection methods

Trainee survey and interview	Completing trainees participated in a survey and interview exploring their experiences of the AHRGP and the impact it has had on their practice. These took place between November 2020 and June 2022 to align with each trainee's program completion
Line manager, clinical supervisor and ACL interviews	Completing trainees' line managers, clinical supervisors and ACLs were interviewed to explore their experiences supporting an AHRGP trainee and the impact of the pathway their service and consumers
Project management team interview	The project management team were interviewed in June 2022 to discuss the AHRGP overall. The team also provided the data relating to costs, recruitment and retention for analysis
Consumer focus group	Regional LHN Consumer representatives explored the implications of the AHRGP research findings on their local communities allied health service delivery

Details of participants

Nine of the original 15 commencing trainees participated in the phase 3 interview and survey between November 2020 and June 2022 depending on when they completed JCU training. One trainee who discontinued the pathway after the midpoint and two trainees who are yet to complete at June 2022 were also included in this phase to incorporate their perceptions and experiences of the pathway overall. Six trainees discontinued the pathway prior to the midpoint of training; their feedback was included in the phase 2 report but not this third phase of the evaluation.

Six clinical supervisors, seven line managers and five ACLs were interviewed in phase 3. Four of the ACLs were also supervising trainees and so their responses have been included for both groups, where relevant. Several line managers, clinical supervisors and ACLs had changed since phase one and some of the new line managers did not rate trainees' competence or confidence as they did not feel they knew the trainees well enough at the time of interview. The project management team were interviewed, and also provided the research team with workforce and financial data for analysis.

Results and Discussion

Trainee information

Of the cohort commencing the pathway from 2019-2020, a total of seven SA trainees have completed the AHRGP between 2021 and 2022. One trainee moved from the level 1 to the level 2 program and will complete studies in semester 2 2022, and another has deferred their study and moved interstate but has retained their substantive position with the regional LHN. These trainees' experiences are also included in this report and are listed as level 2 trainees continuing in table 2 below. Over the course of the pathway, seven trainees have discontinued.

Table 2. Trainee distribution by pathway level

	Commenced in 2019/20	Discontinued pathway	Completed pathway by June 2022	Continuing pathway beyond June 2022
Level 1 trainees	10	7	3*	0
Level 2 trainees	5*	0	3	2
Total	15	7	6	2

*one trainee moved from level 1 to level 2 program in 2020

Employment type

All eight trainees who have completed or are continuing the training are employed on a permanent basis. Since beginning the pathway until June 2022, all eight of these trainees have been promoted to a higher allied health classification level with leadership or senior level responsibilities. The trainee that left between phase 2 and 3 was also employed on a permanent basis and moved interstate. Of the seven trainees who discontinued, four were employed on a permanent basis and three were employed in contractual positions.

Allied Health Profession and Local Health Network distribution

AHRGP trainees commencing the pathway in 2019-20 were initially distributed across five allied health professions and all six regional LHNs. The trainees who completed or will complete the pathway by the end of 2022 were distributed across four allied health professions (occupational therapy, physiotherapy, podiatry and speech pathology) and two LHNs (Flinders and Upper North and Riverland Mallee Coorong). The distribution of trainees by profession and LHN is outlined in table 3 and 4.

Table 3. Trainee distribution by profession

	Commenced in 2019/20	Completed pathway by June 2022	Continuing pathway beyond June 2022
Occupational Therapists	4	3	
Physiotherapists	3	2	
Podiatrists	4	1	1
Speech Pathologists	3	0	1
Social Workers	1	0	

Table 4. Trainee distribution by LHN

	Commenced in 2019/20	Completed pathway by June 2022	Continuing pathway beyond June 2022
Eyre and Far North LHN	1	0	1
Flinders and Upper North LHN	4	3	1
Limestone Coast LHN	1	0	
Riverland Mallee Coorong LHN	4	3	
Yorke and Northern LHN	4	0	
Barossa Hills Fleurieu LHN	1	0	

Three of the completed trainees moved to another regional LHN or to another town within their region during or directly after the pathway for career advancement opportunities. It is pleasing to see these clinicians moving within rural SA to progress their career and pursue leadership opportunities without feeling the need to move to a metropolitan centre to do so.

Completing and discontinuing trainees

In the first half of the AHRGP and as outlined in the phase 2 report, six level 1 trainees discontinued. Since the midway evaluation one trainee has withdrawn and another has deferred from the AHRGP to pursue their career interstate. This indicates relative stability in the second half of the pathway with 7 trainees completing. Data relating all three phases are reported in this section.

All trainees who discontinued the pathway were in the level 1 group. This finding aligns with evidence measuring allied health turnover that indicates early career AHPs often stay in rural areas for a short time [8]. All level 2 trainees had at least 3 years of experience working in a rural area before commencing, which would suggest they had made a commitment to work in a rural area beyond their initial transition to professional practice. In contrast the level 1 trainees had variable levels of experience before commencing the pathway from two months to 2 years.

Rural background of trainees and community immersion

Demographic data about trainees collected in phase 1 has been mapped in table 5 to assist in identifying the types of trainees who may be suited to participating in the pathway. 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 her to commute from Adelaide each day and she viewed working in a rural area close to home as a favourable long term opportunity.

Of the 10 level 1 trainees, all three who completed were raised in metropolitan areas. All four of the rural raised level 1 trainees withdrew from the pathway and another three metro-raised level 1s withdrew. This is a surprising finding as previous research studies have found rurally raised AHPs are more likely to be retained for longer than those from metropolitan areas [9, 10]. One of the completing level 1 trainees also commuted from Adelaide each day to a regional centre.

Other than the two trainees who commuted each day, the completing trainees had become quite integrated into the rural community in which they worked. They reported playing sport locally, having family who lived nearby and enjoying the rural lifestyle. This finding aligns with other research reporting community integration as an important retention factor [11]. Interestingly, most of the trainees that left the pathway before completion also reported staying in the rural area on weekends with only two reporting they returned to metropolitan areas most weekends. It is also important to note the trainees were undertaking the pathway during COVID19 restrictions which may have impacted on their ability to travel, integrate into the community and leave town on weekends.

Table 5. Demographics of trainees within the pathway

	Commenced in2019/20	Discontinued the pathway	Completed the pathway by June 2022	Continuing beyond June 2022
All trainees	15	7	6	2
Leave rural area regularly on weekends or commute each day	5	3	2	0
Mostly stay rural on weekends	10	5	4	2
Metropolitan raised	7	3	4	0
Rural raised	8	5	3	2

Reasons for leaving

Trainees who had moved interstate or between towns in SA or were considering leaving their rural location in the future discussed a range of factors that impacted on their decision to move. Clinicians who had left SA or moved towns cited access to support as a significant reason for moving locations. For trainees who were considering moving in the future, travel was consistently raised as a potential reason for leaving. 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. Of the six trainees who had left by the midpoint of the training reasons for leaving were similar although they also reported other job opportunities, workload pressures and changes to their personal circumstances as contributing to their decision to leave.

Table 6 reasons for leaving current rural location

	Phase 3 reasons for leaving	Phase 2 reasons for leaving
Access to support	Limited clinical support	Limited clinical support
	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	A desire to be closer to family
	Long commute times	Changing personal circumstances
	A desire to travel (across Australia or overseas)	

Trainees' intention to stay in a rural area

In phase 1 the trainees were asked how long they intended to remain working in a rural area, at this time there was a wide range of intentions with the level 2s mostly intending to remain longer than the level 1s (see table 5 below for details). In phase 3 the remaining trainees were again asked about their intention to stay, two plan to stay for another 1-2 years, three for 4-5 years and two intend to stay long term (more than 10 years). Discounting the two trainees who plan 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 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 7 intention to stay comparison phase 1 and 3

	Phase 1 intention to stay in a rural or remote location	Phase 3 intention to stay in rural or remote location
Less than a year	7.6%	
1-2 years	23%	28.5%
2-3 years	7.6%	
3-4 years		
4-5 years	15.3%	42.8%
5-10 years	23%	
More than 10 years	23%	28.5%

Factors impacting intention to stay

In phase 3, completing trainees discussed a range of factors impacting their intention to stay in a rural area. These factors related to career advancement opportunities, clinical opportunities, workplace flexibility, support structures and integration into the community. In comparison, at the beginning of the pathway trainees' intention to stay also related to career growth opportunities, clinical opportunities and support structures but also included long term employment opportunities, team dynamics, consistent staff vacancies and location of family and friends.

Table 8 intention to stay factors

	Phase 3	Phase 1
Opportunities for career growth	To develop skills and grow professionally	Job opportunities with the region
	To be able to progress career	Career advancement opportunities locally
	To develop leadership skills/undertake leadership roles	
	To apply for a reclassification	Opportunity to participate in leadership roles
	To engage in project work	
Clinical opportunities	To do diverse and interesting work	Opportunity to work in desired clinical areas – some trainees enjoying diverse caseload and others wanting more specialised work not available in rural settings
	To have choice of caseload	
	To be able to contribute to making the service better for consumers	
	To be able to focus on clinical work without the pressure to take on additional responsibility	
	Opportunity to manage own caseload and schedule	
Support structures	Supportive leadership/management	Supportive leadership/management
	Access to supervision	Access to regular, onsite supervision
	Access to professional development	Team dynamics
	Supportive colleagues/friends	Supportive colleagues

	Being integrated into the community	Being far away from family or partner, wanting to be closer to family long term
	Having a partner who wants to stay	
Human resources	Flexibility to move between towns in SA with job role	Staff vacancies and limited cover arrangement is stressful
	Opportunity to work flexible hours	Opportunity to be employed in a long or permanent contract
		Recruitment processes and adequate notice for contract extensions

Aim 1: To explore workforce challenges and opportunities for AHPs in rural and remote SA

In phase 1 of this research, a range of challenges and opportunities for early career AHPs in rural and remote SA were discussed. Trainees, clinical supervisors, line managers and ACLs shared their experiences and perceptions of personal, professional and organisational retention factors; see the phase 1 report for full details and below for a summary:

Challenges for AHPs working in rural and remote areas included:

- Living out of home or living in a rural location for the first time
- Professional isolation and remote supervision with limited onsite clinical support
- Complexity of client needs, funding streams and service types
- Short term contracts
- High workload, limited leave cover and service gaps in small teams
- Retention of staff and local career advancement opportunities
- Information technology infrastructure in remote locations
- Early career AHPs limited awareness and understanding about rural and remote practice expectations and requirements.

Opportunities for AHPs working in rural and remote areas were identified as:

- Working in a broad range of clinical areas
- Developing skills across multiple service types and client groups
- Working with a broad range of consumers
- Getting to know the local community and understanding how they can make a positive impact
- Developing problem solving skills, flexible thinking and innovative practice
- Experiencing good governance structures to support AHPs with a strong commitment to supervision, support and professional development
- Warm, welcoming, supportive teams
- Career advancement opportunities.

It is important to consider that these findings were reported by a subset of rural and remote AHPs and does not necessarily represent the perspectives of all regional LHN staff. The findings do however provide an insight into broader AHP workforce experiences for consideration.

Aim 2 - To explore the experience of the AHPs participating in the AHRGP and the impact on their skills, abilities and knowledge for practice

Confidence and Competence

Trainees, clinical supervisors and line managers were asked to rate trainees' confidence and competence in each of the 3 phases of this research. The number of respondents varied in each phase and it must be noted that a range of line managers and some clinical supervisors changed over the three phases. Due to the changes in line management and supervision, these results should be analysed with caution because the ratings are not reported from consistent participants. Of particular mention in phase 3, most line managers did not feel comfortable rating the trainees' competence and confidence and so the ratings are from a small number of participants. In all case the clinical supervisors rated trainees' competence and confidence. The trainees rated their confidence only across the 4 domains in all the three phases as it was deemed inappropriate for them to rate their own competence.

Level 1

Considering the level 1 trainees as a distinct group, trainees' own perception of confidence improved significantly from phase 1 to 3 (between 11 and 15%) as noted in table 16 below. Clinical supervisors also consistently rated trainees' competence and confidence more highly (11% and 31% respectfully) at the end of the AHRGP. Line managers rated competence overall 6% higher from phase 1 to 3 and confidence 3% lower. It is important to note that a small number of line managers and clinical supervisors rated in this group due to the reduced number of level 1 trainees in the final phase compared to those in the first and second phase. It is pleasing however to see that overall, the trainees and those who are supporting them generally rated their competence and confidence highly in this end phase.

Table 9 Level 1 trainee, clinical supervisor and line manager perceived confidence and competence

0 – not at all confident/competent 100 – extremely confident/competent	Level 1 Trainees Average **confidence** rating			Clinical supervisors' rating of trainees' **competence** (average)			Line managers' rating of trainees **competence** (average)		
	Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase3	Phase 1	Phase 2	Phase3
Working with clients across the age spectrum (e.g. infants, children and adolescents', older people)	66	66	78	66	70	86	78	92	89
Delivering a large variety of health services (e.g. health promotion, early intervention, acute, sub-acute, chronic disease)	65	67	80	67	73	87	84	100	91
Working across a large variety of health settings (e.g. hospitals, health centres and clinics, patient homes, community venues)	72	73	83	67	79	80	81	97	81
Confidence as a rural generalist (overall rating of the trainee's confidence)	66	64	75	58	79	89	92	97	89

Level 2

The level 2 trainees reported feeling more confident across all domains in phase 3 compared to phase 1 and 2. Overall they reported being 9% more confident as a rural generalist, which is pleasing to see considering they were already quite experienced on commencement of the pathway. The clinical supervisors of level 2s reported the competence had improved across all domains between 6 and 11% and pleasing to see that overall, they felt the trainees were 15% more confident as a rural generalist. Line managers also reported level 2 trainees' confidence had improved (by 7%) over the phases and they reported their competence to be stable. As stated earlier the line managers involved varied across the 3 phases, so these ratings need to be interpreted with caution.

Table 10 Level 2 trainee, clinical supervisor and line manager perceived confidence and competence

0 – not at all confident/competent 100 – extremely confident/competent	Level 2 Trainees Average **confidence** rating			Clinical supervisors average **competence** rating			Line managers average **competence** rating		
	Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase3	Phase 1	Phase 2	Phase3
Working with clients across the age spectrum (e.g. infants, children and adolescents, older people)	78	70	80	83	88	89	78	92	74
Delivering a large variety of health services (e.g. health promotion, early intervention, acute, sub-acute, chronic disease)	67	75	83	78	88	87	78	94	78
Working across a large variety of health settings (e.g. hospitals, health centres and clinics, patient homes, community venues)	81	82	93	81	93	92	89	94	89
Confidence as a rural generalist (overall rating of the trainee's confidence)	76	75	85	78	88	93	78	94	85

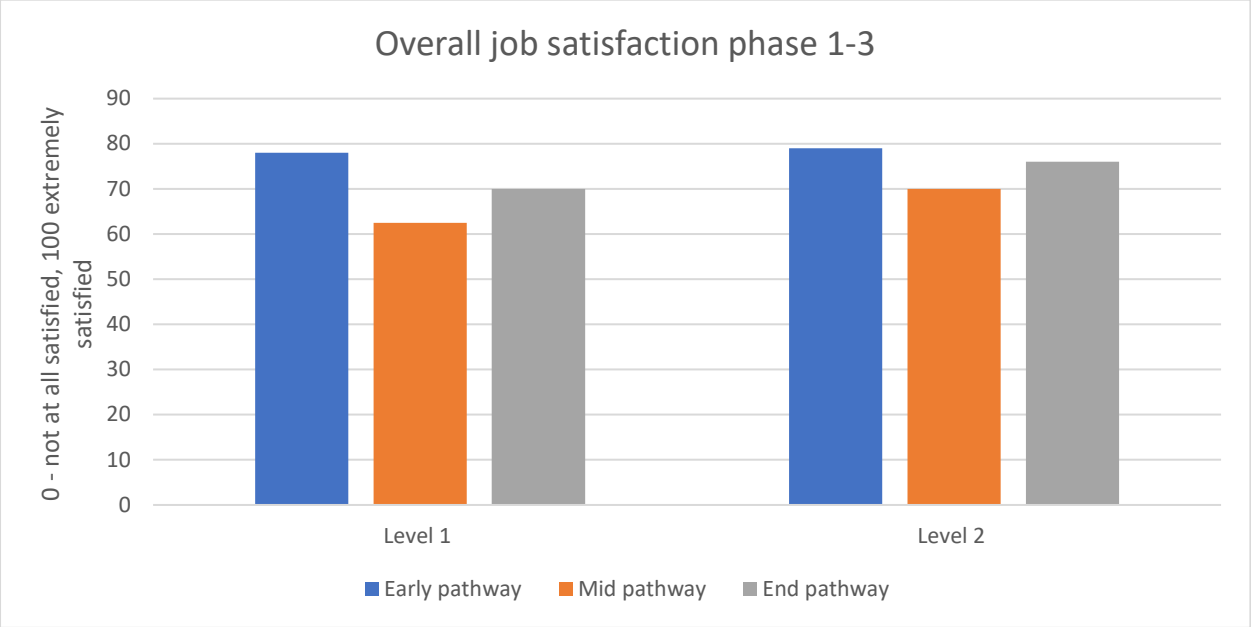
Job Satisfaction

Trainees were asked to rate their overall job satisfaction at each phase of the evaluation. On average job satisfaction was at its highest at the beginning of the pathway and its lowest mid pathway. Job satisfaction is influenced by a range of factors including professional identity, team dynamics, available resources, caseload and professional personal boundaries [12]. 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, staff shortages and organisational restructures which may have also impacted on the mid and final satisfaction ratings. The following ratings include all trainees who participated in research at each phase including those who were continuing and leaving the AHRGP.

Table 11. Trainee Job Satisfaction

	Average Job satisfaction	
	Level 1	Level 2
Phase 1/Early pathway	78/100	79/100
Phase 2/Mid pathway	62.5/100	70/100
Phase 3/End pathway	70/100	76/100

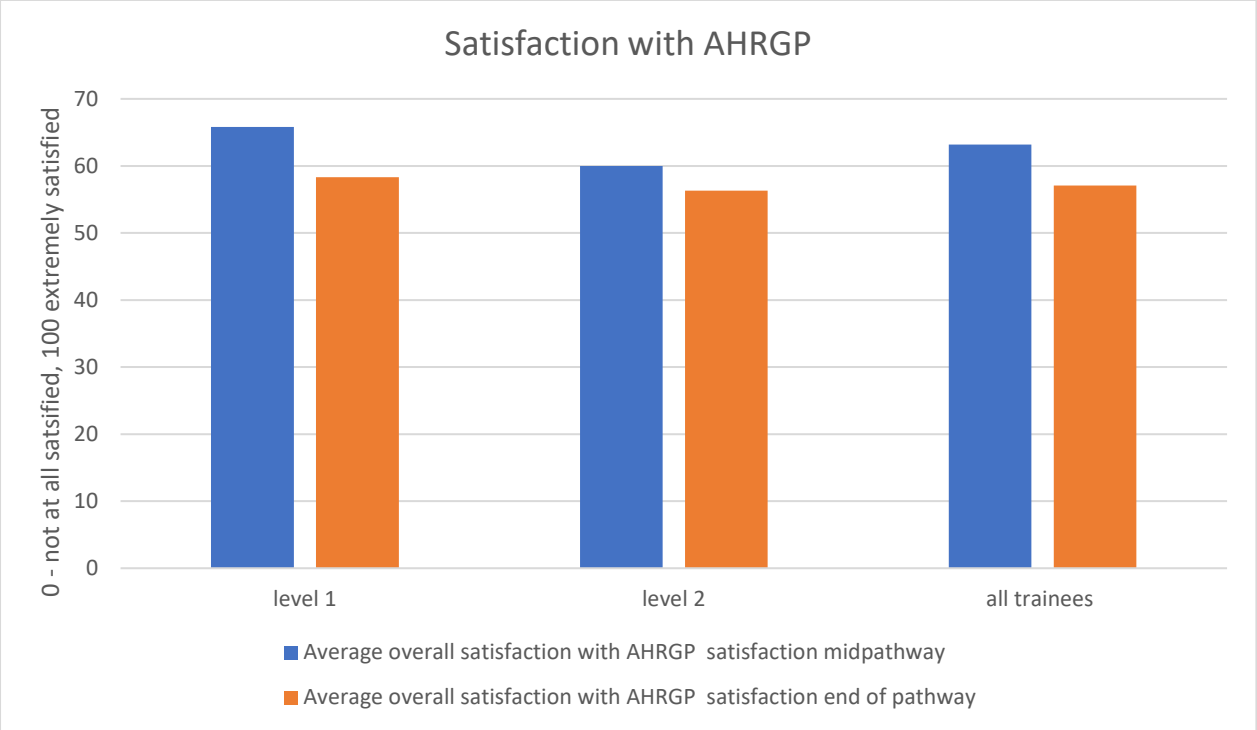
Chart 1: Trainees job satisfaction



Satisfaction with AHRGP

Satisfaction with the pathway from phase 2 to 3 was 6% lower; the level 2s were slightly less satisfied with the pathway at both phases. A range of benefits and challenges of the AHRGP outlined below were reported by trainees which may explain the satisfaction ratings. On completion of the pathway, none of the level 1 trainees were intending to enrol in the level 2 program. This is an interesting finding considering during development, the JCU program was set up so that graduates from level 1 would transition into the more advanced program on completion.

Chart 2: Trainee satisfaction the AHRGP



Benefits of doing the pathway

Trainees discussed a range of benefits of completing the AHRGP, these related to benefits for themselves and for their organisation.

Benefits for trainees

The trainees identified a range of ways in which they had personally and professionally benefited from the AHRGP. A common theme emerged around personal growth and confidence, participants felt they had gained confidence in themselves, to ask for help and to work outside of their comfort zone.

The AHRGP had afforded the trainees opportunities to advance their careers in a rural area. They had developed skills needed for higher level positions, given the opportunity to apply for leadership positions, work in different areas and establish long term career plans without having to move away. The AHRGP has enabled trainees to develop a range of skills and knowledge. Trainees reported feeling much more confident with evidence-based practice with topics requiring them to search for, analyse and implement evidence. They also had the opportunity to consolidate their clinical skills, learn about new assessment and intervention approaches and broaden their knowledge for generalist practice. Trainees reflecting on their developing leadership skills and operational knowledge as being significant benefits of the pathway. They learnt more about how the organisation operated, was funded and how to undertake service development. Furthermore, trainees appreciated the opportunity to study and engage in reflective practice during the AHRGP.

Table 12 trainee reported personal/professional benefits

Personal growth and confidence	
Confidence in role and self	*"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 to ask for help, admit they are struggling	
Choosing topics out of comfort zone	
Opportunities for career development and advancement	
Giving direction and choice about career prospects	*"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*
Opportunities to try new areas	
Being promoted within organisation	
Setting up rest of career and future development opportunities	
Developing evidence-based practice skills	
Learning from experts	*"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*
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	
Developing knowledge not covered in undergraduate training	*"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*
Identifying gaps in knowledge	
Learning about different conditions and treatment options	
Broadening skill base for practice	
Skills to facilitate change and manage projects	
Learning how to 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 change? So, I've got those skills and I can refer back to that if I ever need." 13* *"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*
Learning processes, where to start how to finish	
Developing operational knowledge about the organisation	
Investigating the organisational structure	*"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*
Understanding business processes, funding streams, structures	
Learning about how to support health service delivery	
Time to invest in learning, reflecting, studying	
Time to reflect on practice	*"I think I've been supported really well in allocating that time for study." 3* *"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	

Organisational benefits

Throughout the pathway, trainees became focused on their organisation and identified ways in which they could improve processes, solve complex problems and develop efficiencies, that they would previously not had the skills to do. Trainees were committed to sharing their learning with colleagues to ensure others also benefited from the pathway and they described a range of ways they had done this. Initiating, planning and implementing quality improvement projects also enabled organisations and consumers to reap benefits while the trainees were developing new knowledge and skills

Table 13 trainee reported organisational benefits

Developing clinicians who are organisation focused	
Clinicians 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*
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	
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*
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	
Skills for managing complex situations/COVID	
Understanding how care can be delegated to others	*"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 opportunity to learn a bit more and broaden my horizons a bit as well." 10*
Developing skills in telehealth	
Adapting services to meet evolving needs of the health service	
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 (clincians) that are involved in those programmes." 3* *"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*
Sharing knowledge with supervisors	
Helping others manage their own projects and new initiatives	

Pathway strengths

Trainees described the strengths of the JCU course specifically outlining the aspects that assisted them to complete the study. Trainees discussed the relevant learning materials, activities and course content, the flexible study options and the access to JCU academic staff as required. Further details are described in table 14.

Table 14 trainee reported pathway strengths

Relevant learning material	
New areas of practice	*"There's still little nuggets of information from certain topics that I use pretty frequently, more so in I guess, patient education about things." 11* *"it was just good to have some of that taking into considerations around people's thought processes and decision makings and like the death process and throughout the life journey." 4*
Communication skills	
Behaviour change	
Aboriginal culture	
Choice of relevant topics	
Topics build on each other over the pathway	
Flexible study options	
1 or 2 subjects at a time	*"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*
Taking time off and come back	
Flexibility to get extensions for assignments	
Access to support and information	
Responsive academic staff	*"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*

Challenging aspects of the AHGRP

In this third phase, trainees described a range of challenges they experienced during the AHRGP, these are outlined in table 15. Trainees were asked how they personally found managing a work life balance while undertaking the pathway. All trainees who were completing the pathway in phase 3 reported finding this either difficult or very difficult. They also faced challenges around motivation over the course of the pathway. 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 JCU academic team. The impact on work life balance was significant for some who reported not realising how much work would be required outside of work hours.

Challenges related to the workplace and the pathway included the opportunity to put learning into practice, protecting study time, supports available and opportunities beyond the pathway. Support from the project management team in the first half of the pathway was valued by trainees. The opportunity to share learnings and experiences with peers and ACLs at teleconferences was reported as helpful but these opportunities were less frequent in the later stages of the pathway, potentially because trainees were at different stages with less consistency of topics. Recognition of completion and associated career implications was discussed as a limitation that impacted trainees' experience of the AHRGP.

Table 15 trainee reported challenges with the AHRGP

Motivation and time investment	
Maintaining motivated to study over time or when topics did not correlate well with clinical role	*"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*
Significant investment in time for modules with limited benefits for clinical practice	
Long, involved assignments	
Work life balance	
High level of commitment required outside of work hours	*"I tried everything in the book to try and have a separation between work, study, life, but you get home*

Study impacting mental health	*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*
Working full time and studying is challenging	
Limited down time for leisure, personal relationships	
Needing to take a semester off to have a break	
Opportunity to implement learning in practice	
Limited scope of practice impacting ability to implement learning	*"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*
Learning not having tangible impacts on practice	
Limited time to put learning into practice while studying	
Protecting study time	
Urgent work and phone calls interrupt 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*
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	
Support from organisation	
Line managers limited understanding of the pathway and expectations	*"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*
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	
Fewer meetings between project team and ACLs in second half of pathway	*"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*
Limited peer support between trainees, limited opportunities to build rapport	
Trainees undertaking different topics reducing opportunities for peer support	
Trainees feeling isolated studying online	
Pathway not having a direct correlation with career progression or recognition	
Limited tangible benefits for trainees with current organisational structures	*"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*
Pathway not directly correlating with career progression or direct outcomes for trainees	

Limitations of the pathway

In this third phase the trainees reflected on the challenges they faced specifically with the JCU training. Topic content was reported to not necessarily correlate with clinical work the trainees were exposed to, a range of examples of this were explored. Some trainees also discussed their expectations of the program were not met especially when topics were not available to their discipline, when topics were not specifically designed for the generalist pathway or did not fit well for the South Australian context. At times it was difficult to access support and feedback from the university. See table 16 for full details and quotes.

Table 16 trainee reported limitations of the pathway

Relevance of topic material	
Some common conditions in practice were not covered in course material	*"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*
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 SA context and complex roles	
Some core topics didn't seem relevant	
Limited topics to develop leadership or management skills	
Some topics more relevant than others or too broad	
Pathway not meeting expectations	
Not knowing enough about the pathway before signing up	*"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*
Pathway not resulting in generalist skill acquisition	
Topics from other courses included in generalist pathway offerings	
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*
Topics were intended for different audiences rather than rural generalists	
Access to university support and feedback	
Limited feedback on assignments considering to effort required to complete them	*"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* *"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 paperwork and deadlines … I guess respectful of the jobs that we hold as well." 12*
Receiving a mark and no feedback	
Receiving negative feedback but still passing the assignment	
Lack of consideration of busy workloads and clinical priorities in terms of undertaking study	
Challenge of contacting topic coordinators to access support	

Service development project experiences

AHRGP trainees are expected to undertake service development or quality improvement projects during the pathway. Topic assessment activities generally revolve around implementing learning into practice by developing a project, resource, activity or change for the employing organisation. The aim of these assessments is to enable trainees to consolidate their learning and generate benefits for the organisation and consumers. Trainees in phase 3 reported a range of projects and activities they had undertaken in conjunction with the AHRGP including:

- Developing an allied health assistant model of care for remote foot care service
- Developing an allied health assistant led orthopaedic group program
- Developing an arthritis intervention group program
- Auditing instrument use to improve sterilisation efficiencies
- Evaluating an allied health assistant led hand therapy group
- Developing processes for delegating physiotherapy rehabilitation groups to allied health assistants
- Developing an interdisciplinary falls prevention group education program
- Developing a process for evaluating patient goals and physical capacity on discharge from hospital
- Developing an inpatient handover manual
- Establishing a partnership with a private practice to manage augmentative communication device purchase for National Disability Insurance Service clients
- Developing an assessment tool inventory to enable clinicians to choose the most appropriate assessment tool for consumers with different presenting issues
- Establishing a paediatric peer support group
- Developing a mouth care resource for palliative consumers
- Proposing a high-risk foot telehealth management service for remote communities.

Service development project enablers

Trainees discussed a range of enablers that assisted in developing these service development projects while undertaking the AHRGP, these included; support from the organisation, colleagues and managers as well as course structures and flexibility.

Table 17 service development project enablers

Supportive organisations	
Colleagues willing to share their knowledge/try ideas out	*"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*
Manager and supervisor support	
Time allocated in workload to implement projects	
Access to relevant information, equipment, resources	
Access to the right consumers	
Topics building on each other	
Topics scaffolded projects	*"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*
Utilising different topics for different aspects of the projects	
Lecturers flexible with projects	

Service development project barriers

A range of barriers to developing and implementing service development projects were raised by trainees: COVID impacted on the opportunity to implement projects when services and staff were directed to particular priorities that did not align with new service development, challenges with organisational structures and support and limitations of the course:

Table 18 service development project barriers

COVID impacting on projects	
Staff reassigned roles due to COVID impacting on project time	*"It was just an odd time to try and start a project when everyone else was redeployed" 1*
Programs shut down during COVID	
Project work not prioritised during COVID	*"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 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*
Bureaucracy requiring multiple levels of approval for projects	
Manager turn over creating barriers for implementation	
Pressure to implement projects without adequate resourcing	*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*
Projects submitted to management but not actioned	
Limited time for project implementation	
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*
Project proposals developed but not implemented	
Assignments required project to be designed not implemented	*"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*
Lack of time to implement projects once topic completed	

Time to undertake AHRGP

Table 19 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 seven trainees who have completed the pathway or are continuing beyond June 2022, four 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 on average. The level 1s reported a small amount of time on service development (25 mins per week) in the first half of the pathway and no time in the second half. These findings are consistent with trainees' description 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 9 hours a week at home while the level 1s were able to complete their study in just over 2 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 will be helpful for future AHRGP trainees to consider when weighing up the workload requirements for both pathway options.

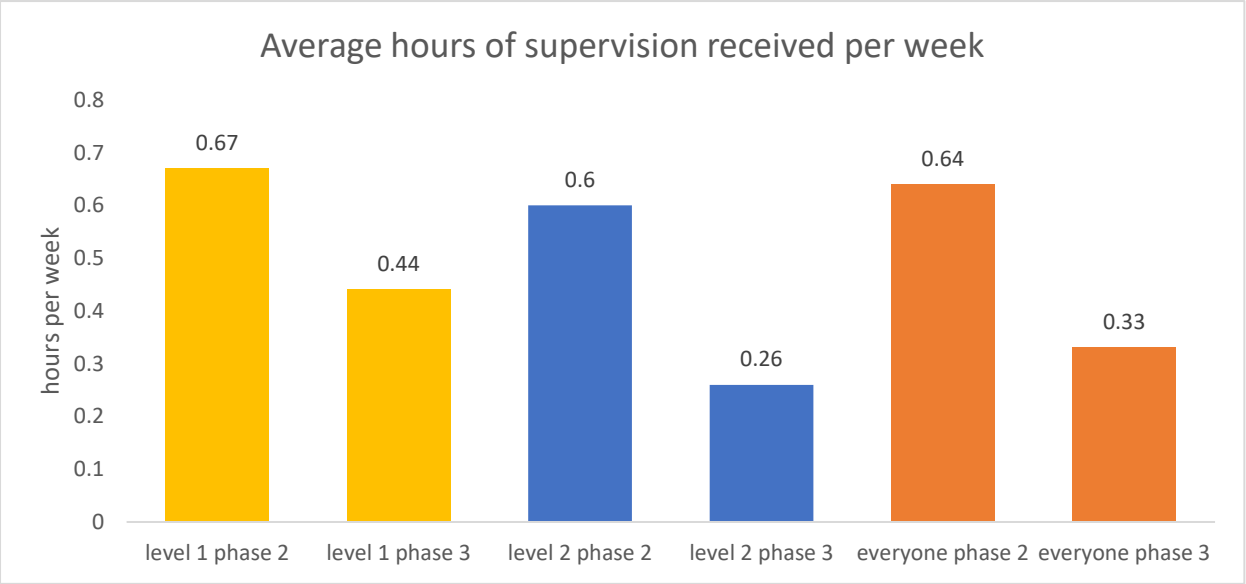
Table 19 Trainee average self-reported time (hours) spent participating in AHRGP related study and project work per week

Hours per week	Level 1 trainees		Level 2 trainees		All trainees	
	Phase 2	Phase 3	Phase 2	Phase 3	Phase 2	Phase 3
Supervision	0.67	0.44	0.6	0.26	0.64	0.33
Study in work hours	5.29	2.5	5.2	4.8	5.25	3.93
Service development	0.42	0	5.25	0.5	2.61	0.31
Study in own time	N/A	2.16	N/A	8.8	N/A	6.31

Supervision

Trainees reported the number of hours of clinical supervision they received in phase 2 and 3. On average trainees received less supervision in the second half of the pathway. This is in line with the SA Health Allied Health Clinical Supervision Framework [13] which recommends new AHPs receive 1 hour of clinical supervision per week initially, which reduces over time as their competence and autonomy increases. At the outset the trainees were receiving on average 40 minutes of supervision per week, and in the second half they received on average 20 minutes. Additionally, as expected, the level 2 trainees with more experience, generally received less supervision. All trainees had at least 2 years of experience in the second half of the pathway which would indicate they should expect to receive gradually less supervision than when they first started working. It is important to note that between 2019 and 2022 the trainees were working through unprecedented times due to COVID which would naturally require additional support and guidance regardless of the AHRGP. In addition, there is an expectation from JCU that trainees undertaking the AHRGP will receive regular, discipline specific supervision during the pathway [14]. In summary trainees undertaking the AHRGP did not require supervision above what is expected in the SA Health Allied Health Clinical Supervision Framework [13] despite the additional pressures of study.

Chart 3 trainee reported supervision received per week phase 2 and 3



Supervision delivery methods

While undertaking the AHRGP, some trainees changed clinical supervisors due to organisational restructure or trainee's change of role and subsequent reporting line. Of the nine trainees involved in phase 3, six had worked with one consistent clinical supervisor during the pathway, two had changed supervisors once and one had changed supervisors twice. When describing the mode of clinical supervision received, 49% was reported by trainees as being on site and 51% was remote (phone or video conference). Of the six trainees who did not continue beyond phase 2, 33% received onsite supervision and 66% received remote supervision.

Aim 3 - To understand the impact and perceptions of the AHRGP on supervisors, clinical leads and managers working with rural generalist trainees

During phase 3, six clinical supervisors, eight line managers, five ACLs and the four members of the AHRGP project management team were interviewed. Three of the line managers, two ACLs and one project manager were new and had not participated in previous phases of the research. The interviews took place around the time that the corresponding trainee was completing the pathway from 2020 to 2022 and the project management team were interviewed as a group once all trainees had completed. During the second half of the pathway, regional LHNs were working through significant organisation restructures and the impact of COVID19 which may have impacted on their experience and perception of the AHRGP.

Benefits of AHRGP

A range of benefits were explored with clinical supervisors, line managers, project managers and ACLs. These are broadly categorised as benefits for the trainees, the organisation, the discipline/profession, for the managers/supervisors/ACLs and for consumers. See table 20 and 21 for full details.

Benefits for trainees as reported by line managers, clinical supervisors, ACLs and project managers

A range of trainee associated benefits were identified that also had positive impacts on the teams and the consumers with whom they worked. Trainee benefits included the development of confidence, broad skills and knowledge, problem solving and complexity management and leadership skills.

Table 20 trainee benefits as reported by line managers, clinical supervisors, ACLs and project managers

Confidence	
Asking questions	*"When I talk to her now, I see a different (name) and I ask her questions and she confidently has discussions around things where before she might be a bit more hesitant. I see her, that's one of probably her biggest ones, her confidence has been a really good improvement." 19*
Growing professionally	
Sharing and discussing ideas with colleagues	
Making clinical decisions	
Broad skill and knowledge development	
Relevant learnings for clinical practice	*"I think on a broader scale she has been able to apply the learnings to her overall role and career progression really within her team and leadership progression" 20* *"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." 14 15*
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	
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*
Critical analysis skills	
Skills to take on high level tasks	
Ability to manage complex situations	
Development of flexible thinking, considering different perspectives	

Knowing when to get support	*right track…, boom, there you go, half a day later my finalised document is there and it's of a high standard" 19* *"So that nonclinical 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 reflective practice skills	
Developing non-clinical skills	
Leadership skills	
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 her confidence around taking on those sort of extra, more leadership roles, has certainly grown" 20*
Demonstrating leadership within existing roles	
Nominated for SA Health leadership award	
Career advancement	
Skills to establish career long term	*"I think it really has set her up for her future because she was able to use the learnings from that training to be successful in recruitment to a clinical senior position." 24* *"There is 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*
Using skills to move into different areas	
Skills to apply for promotional roles	
Backfilling leadership roles	

Benefits for organisations as reported by line managers, clinical supervisors, ACL's and project managers

A range of benefits were identified for the regional LHNs and specific teams in which trainees worked. Line managers, clinical supervisors and ACLs reported better retention of trainees compared to other AHPs was a significant benefit as well as the development of rural generalist clinicians for the region. The project management team have noticed rural generalism is now better understood by LHNs and the profile of allied health is increasing broadly. The group discussed trainees sharing their skills and knowledge with their teams was a flow on benefit of the pathway and they felt the trainees were also contributing to strategic, quality improvement and service development processes and planning for their region.

Table 21 organisational benefits as reported by line managers, clinical supervisors, ACL's and project managers

Retention	
Trainees have stayed for the duration of the pathway	*"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* *"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 SA and were able to continue the pathway	
Giving clinicians a career path locally	
Developing rural generalist clinicians for the region	
Targeted program that develops generalist skills	*"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*

Having clinicians who can work across broad clinical areas	*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." 19* *"Discussion that the program has generated around rural generalism… increased a lot over the time that the pathway has been implemented… recognising it as a specialty.. the skills and challenges of rural generalism" 35*
Relevant content for practice	
Developing specialist skills in particular areas that the region requires	
Improving LHN understanding of rural generalist practice and raising the profile of allied health	
Sharing skills and supporting others in the organisation	
Being a resource person for others within LHN and across other LHNs	*"I don't believe that when somebody's involved in the programme 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" 14* *"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." 22*
Sharing evidence-based practice skills	
Developing skills to be able to support students	
Encouraging others to pursue the pathway	
Developing system and strategic thinking	
Understanding organisational systems and processes	*"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*
Getting to know the region demographics and needs	
Contributing to strategic planning	
Improving services through quality improvement	
Identifying areas for organisational improvement	*"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." 19* *"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*
Developing high functioning teams	
Developing new service models	
Completing projects that otherwise would not have happened	
Generating outcomes that benefit other LHNs too	

Benefits for disciplines/professions as reported by supervisors and ACLs

Clinical supervisors and ACLs felt there were benefits for their own allied health profession through having trainees participate in the AHRGP, these revolved around the development of skills relevant to their profession as well as the building of discipline leaders for the future. See table 22 for full details.

Table 22 discipline benefits as reported by supervisors and ACLs

Developing skills within discipline	
Learning new skills for their discipline	*"I think the fact that they are encouraged to choose something that is relevant to the workplace and relevant to their current clinical caseload has probably been useful for us as a team and for them to be able to embed their learnings into their clinical practice." 34*
Relevant content for discipline	
Options for choosing relevant topics	
Learning about other disciplines	
Developing leaders for the future	
Growing our own leaders	

Having other team members who can support less experienced clinicians	*"I think the fact with been able to grow a clinician into a more leadership position… it has probably impacted on her leadership skills for the future. A sort of domino effect on those that she is supported in that learning." 24*
Having clinicians who can assist with higher level tasks	
Bringing different perspectives to situations	*"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*

Benefits for line managers, clinical supervisors and ACLs

Line managers, clinical supervisors and ACLs were asked about what impact the AHRGP was having on themselves. The group took pleasure from watching the trainees grow and develop over the pathway. Line managers and ACLs enjoyed getting to know the trainees better and clinical supervisors and ACLs felt they had learnt new skills and knowledge from the trainees. Furthermore, the ACLs felt the trainees had helped them build links between regional LHNs through service development projects and information sharing. See table 23 for full details.

Table 23 Line manager, clinical supervisor, ACL benefits

Seeing the trainee 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*
Pleasure in seeing clinicians grow	
Managers getting to know the 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*
ACLS 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*
Satisfaction as a supervisor	
Feeling satisfied and personally benefiting from supervisor role	*"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*
Skill development for supervisor/ACL	
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*
Refreshing clinical practice, bringing fresh ideas	
Developing own supervision skills	
Learning about the region as a remote supervisor	

Learning more about evidence-based practice	*"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*
Learning more about the AHRGP	
ACLs seeing links between LHNS improve	
Clinicians building connections across LHNs	*"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 LHNs	

Challenges of AHRGP

Line managers, clinical supervisors, ACLs and the project managers explored a range of challenges they had experiences or witnessed with the AHRGP. These were categorised as challenges for the trainees, for the organisation and for consumers.

Challenges for trainees reported by line managers, clinical supervisors, ACLs and project managers

Challenges noted for the trainees were related to the relevance of topic material and limitations of the course that impacted on trainees' satisfaction and ability to apply their learnings to practice. A range of difficulties around managing study and work commitments were also raised in relation to high clinical workloads, protecting study time, interruptions, other workload priorities and work life balance. See table 24 for full details.

Table 24 trainee challenges reported by line managers, clinical supervisors, ACLs and project managers

Relevance of 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 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* *"Being based in this regional city almost and we do have some resources so she found it sometimes hard when topics were covering more that really remote or rural context, she couldn't apply it" 16*
Some topics more relevant than others	
Challenge of staying motivated when content not relevant	
Content appeared to be developed for rural and remote work not regional	
Pathway didn't impact on generalist skills	
Assignments and coursework not relevant to health service needs	
Limitations with the course	
Topic choice not relevant	*"There's less subjects that seem to be really hitting the mark for them" 51* *"There was a lot of frustration… around that there was particular subjects that she was interested in doing and she could see a relevance to podiatry but it wasn't, podiatrists weren't allowed to be enrolled in the course." 16*
Limited choice of topics	
Some disciplines not able to access relevant topics	
Challenge of contacting topic coordinators	
Topics not meeting the needs of all disciplines	
Managing study and work commitments	
Staff shortages and trainees feeling guilty taking study time	*"Despite the fact that they know they're allowed to have that time off there is still that work pressure there. So it might not even come from their supervisor or team leader but they feel the work pressure and they cannot allow their time to go*
Fitting in study around other priorities	
Difficulty protecting study time	

Study was more time intensive than anticipated	*because everything is going to blow out or the clients aren't going to be seen." 36*
Finding work study life balance	
Focusing on meeting the needs of the assignment rather than the needs of the organisation due to time constraints	*"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*

Challenges for organisations reported by line managers, clinical supervisor, ACLs and project managers

Organisations faced a range of challenges during the AHRGP. These included balancing staffing and workload challenges with trainees need to study at work, implementing trainees' plans for service development projects and limited tangible benefits for the organisation. Some line managers and clinical supervisors were unsure how they should have supported a trainee especially when they were not involved from the outset of the pathway or when the trainee's needs changed over time. It was felt that more guidance was required of their own role in the pathway. Furthermore, some teams also experienced gaps in manager or supervisor support availability. The project management team raised challenges of sustainability of the pathway in terms of who will fund the program in the future and how it will be coordinated. See table 25 for full details.

Table 25 organisational challenges reported by line managers, clinical supervisors, ACLs and project managers

Staffing challenges	
Staffing and challenges of allocating study and quality improvement time	"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 "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
Study time impacting on workload outputs and colleague's workload	
Trainees not continuing with the pathway	
Service development projects	
Project proposals not being actioned in teams	"all this great work's been done but how have we benefited collectively from it?.... for me it's the value of this program is that these clinicians are given time and space and money and effort to become a rural generalist, to develop some good ideas, to work out some better ways of managing particular groups of clients and then that needs to be able to be shared broadly" 20
Projects not always relevant to organisation	
Projects not shared across LHNs	
Some trainees not collaborating with team, manager or supervisor on projects	
Challenging to see benefits for organisations	
Benefits for organisation not realised by all managers	"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
Support structure challenges	
Supporting trainees evolving support needs	"I really had to rely on her initiative or, you know, being proactive myself and going and talking to her informally. So I suppose I didn't always feel like I knew exactly what she was doing before she was doing it" 34
Ability to provide a diverse caseload for trainees	

Supporting trainee who were struggling	"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 "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
Fitting in regular supervision	
Gaps in supervision and management support	
Supervisors needing more guidance	
Managers needing more guidance about their role in the program	
Sustainability	
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 its 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	

Enablers and barriers for the pathway success

Line managers, clinical supervisors, ACLs and project managers discussed a range of enablers and barriers to the AHRGP success. The central coordinator project roles were seen to be an enabler with trainees knowing they could contact the team for support as needed. They provided information and advice to trainees and helped to facilitate support between trainees, ACLs and clinical supervisors. Support from line managers and clinical supervisors were significant enablers specifically to assist trainees with project work and to protect study time. Support and encouragement from the wider team and flexibility of the university were also mentioned as enablers.

Barriers to success included restructuring of LHN structures which resulted in changes to management and reporting structures. Vacancies and recruitment issues also got in the way of trainees' success with the pathway.

Aim 4: To explore how the AHRGP has impacted consumers' perceptions, access and quality of allied health service delivery and development.

The AHRGP was introduced to improve allied health workforce outcomes in order to better serve the rural and remote communities in South Australia. In order 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, their clinical supervisors, line managers, ACLs and project managers also discussed the impact of the pathway on consumers in their regions.

Consumer focus group

Consumer representatives explored the AHRGP outcomes and their perceptions of allied health service delivery during a focus group in June 2022. Interim findings from phase 3 were shared with consumer representatives to review and discuss.

In 2019, consumer representatives defined the attributes of quality rural and remote allied health services in their own words. These included but are not limited to; having access to AHPs with the right skill mix and knowledge for rural practice, good retention of AHPs for consistent service delivery and the provision of quality training and support for AHPs to enable them to practice appropriately in rural areas, Full details of these findings can be viewed in the phase one report. In 2022, the consumer representatives reviewed these attributes and described the phase one attributes as relevant, thorough and accurate in 2022. They also explored the following additional topics relevant to allied health service delivery in rural SA in 2022:

Workforce shortages and wait times

Rural and remote allied health workforce shortages continue which have a significant impact on consumers experience 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 clinicians in their local area.

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 consumers experience and concerns for future service delivery especially when future changes are uncertain.

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 results in consumers only receiving intervention once they have a health condition or disability. Some health promotion services appear to be available at regional centres but participants reported smaller rural and remote communities were missing more personalised and local educational opportunities.

Allied health services working in competition with each other, rather than collaboratively resulting in consumers missing out on services and funding opportunities.

Community influences

Opportunities for clinicians to make a life in rural areas long term was discussed by consumer representatives as an issue. Participants felt health professionals were leaving rural areas to pursue educational or employment opportunities in metropolitan areas for their partner or children that

were not available locally. Consumer representatives were interested in pursuing holistic packages to keep families in rural and remote areas long term.

Challenges of recruiting health professionals to remote or isolated areas was also raised as a challenge for smaller communities, consumer representatives felt more needed to be done to support service delivery in these areas which were more challenging to recruit.

Telehealth and alternative service delivery

Consumers continue to face a range of challenges around travelling to health services in rural areas, especially when there is limited public transport available. Consumers are keen for more telehealth and flexible service provision but also need good access to technology and support to access the services that they require. Participants also felt health professionals needed support to reorientate their services to telehealth modes in effective ways.

The use of students in delivering services is an area for further consideration in terms of boosting workforce capacity, participants explored opportunities for consumers to receive services from students to improve the accessibility and affordability of health services.

AHRGP outcomes

The consumer representatives were presented with preliminary findings of the AHRGP as described in this report. They then discussed their perceptions of the AHRGP experiences and outcomes as described below:

Qualifications

Participants were interested in level 1 trainees who had not completed the pathway and the reasons why they left compared to the better retention of level 2 trainees. The difference in the qualifications and tangible outcomes for level 1 and 2 programs were discussed as a potential disincentive for AHPs to complete the pathway. Participants inquired 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.

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 renumeration or promotional opportunities to recognise their achievement.

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 regular priority of JCU.

Trainee support

Clarity of the support structures and processes was explored with consumer representatives noting that it was imperative that clinical supervisors and line managers 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.

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.

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 consumers experience and health outcomes. Efforts to reduce the need to travel to Adelaide with access to a wider variety of health services in rural and remote areas were warmly welcomed by participants.

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.

Trainee, clinical supervisors, line managers, ACLs, project managers perceived consumer benefits

In phase 3 the trainees, clinical supervisors, line managers, ACLs and project managers discussed how the AHRGP had impacted consumers. These are described below.

Trainee reported consumer benefits

A range of benefits for consumers were explored by the trainees. They felt their improved skills and knowledge were having positive impacts on consumers as they were able to manage more complex and diverse needs, they also learnt about new and alternative intervention options and underlying causes of concern that they previously would not have known about. Trainees that participated in a cultural topic also felt they had developed skills to more meaningfully work with Aboriginal and Torres Strait Islander people. See table 26 for full details.

Table 26 trainee reported consumer benefits

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*
Deeply investigating consumer needs	
Exploring new intervention options	
Clinically reasoning	
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*
Understanding cultural contexts	
Providing more meaningful services	
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*
Improving efficiencies for consumers	
Improving services to remote communities	*"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*
Developing skills for future referrals and service needs	

Benefits for consumers reported by line managers, clinical supervisors and ACLs

A range of consumer benefits were identified by line managers, clinical supervisors and ACLs. 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. Indirectly it was reported that better retention of staff and the development of service development projects was also benefiting consumers. See table 27 for full details.

Table 27 consumer benefits reported by line managers, clinical supervisors, ACLs and project managers

Demonstrating client centred practice More knowledgeable and skilled clinicians Confident clinicians who believe in their skills Clinicians with better understanding of services and processes Evidence based clinicians More consistency with better retention Improving services, processes and flow for consumers Flexible thinking clinicians Less need for consumers to travel for specialty services Developing resources for consumers Improving quality of services for consumers	*"Yeah you can see from the way she talks that she's wanting to improve to be able to support the patients better." 29* *"Both of them are much more independently managing very complex patient conditions and presentations" 28* *"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* *"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." 19*

Challenges for consumers reported by line managers, clinical supervisors and ACLs

Although not discussed widely, some line managers and clinical supervisors reported they felt consumers were negatively affected by the pathway when trainees took time off in work hours for allocated study time. It was reported that this had a short term impact on consumer wait times and clinical outputs as the study time was not backfilled.

Aim 5: To identify where the AHRGP works, which professions, locations and individual characteristics are particularly suited to the AHRGP.

Locations for AHRGP

The AHRGP was offered in all six regional LHNs. The trainees who completed the pathway by June 2022 worked in the Riverland Mallee Coorong and Flinders and Upper North LHNs. Two of the trainees who completed the pathway in the Riverland Mallee Coorong LHN commuted from Adelaide each day, and the remaining trainees lived and worked in the local area.

In discussion with clinical supervisors, line managers and ACLs, there was a consensus that any region would suit hosting an AHRGP trainee and the line managers were particularly keen to get more trainees in their regions. Factors relating to location of trainees include;

- the ability for organisations to offer generalist caseloads so trainees can experience a wide range of clinical areas while studying
- the availability of consumers with wide ranging conditions relevant to the study activities
- a level of complexity that suits more advanced skill and knowledge development
- the ability of teams to cover lost time due to study leave.

Across rural SA all participants recognised the need for AHPs to have generalist skills to manage the wide variety of clinical cases and high level of complexity presenting to their services.

"they have to be able to manage whatever comes through the door. It's very different from metro… the caseload 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

Professions suited to the AHRGP

Trainees in SA were recruited from occupational therapy, physiotherapy, podiatry, speech pathology and social work. Completing trainees included occupational therapists, physiotherapists and one speech pathologist. When considering the professions that were best suited to the AHRGP, line managers, clinical supervisors and ACLs reported 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 caseload were discussed as potentially being less suited to the pathway, with other training options potentially more relevant. In comparison it was also recognised that the broad nature of the training was also well suited to specialised scopes of practice in terms of developing more strategic, evidence based, broad and flexible thinking. It was recognised that even professions that tended to work to a more narrow scope were working in broader roles in rural SA;

"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 6 regions, line managers were reporting retention challenges with all profession groups.

Timing of enrolment into the program

Trainees years of experience working in a rural or remote area ranged from 3 months to 6 years. When asked to make recommendations for how much experience a trainee should have before commencing the AHRGP, line managers responses were heterogenous with recommendations of 3 months through to two or three years' experience. All of the clinical supervisors and ACLs in phase 3 who were supervising level 1 trainees felt AHP's should have at least 12 to 18 months experience working in a rural area before commencing the pathway. 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.

*"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

Considering the level 1 trainees who discontinued in the pathway, most had started very early in their career with an average of 7 months experience before starting while those who completed the level 1 pathway had on average 15 months of experience. Participants discussed choosing potential trainees who intended to stay in a rural area long term was important, considering the drop off of earlier career AHPs 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.

The clinical supervisors who were supervising level 2 trainees reported AHPs should have at least 3 years' experience or be in a position to transition to an AHP level 2 role. Some supervisors and level 2 trainees also recommended that clinicians who were already working in an AHP level 3 role may be less suited to the AHRGP as they would be experiencing more high-level responsibilities that were less likely to be flexible in managing study requirements.

"Level twos, I would probably say someone who is working towards an AHP2 reclass or applying for a level II job. So was that, about four years out or something" 34

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. Clinical supervisors, line managers and ACLs 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. See table 28 in the appendices for indicative quotes.

Table 28 personal attributes

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

Temperament and Characteristics of trainees

In phase 1 all trainees completed The Temperament and Characteristic Inventory (TCI) [15] to explore their individual personality traits and to analyse their collective traits to identify patterns or trends. It was anticipated that trainees who completed the pathway and remained working in rural areas would have particular characteristics and temperaments in common which could be considered when identifying trainees who were likely to succeed in the future.

The TCI [15] is a 140 question Likert scale survey that is designed to describe individual's 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 less easily modified. Character traits are influenced by environment and life experiences and may therefore modify over time. The TCI provides individuals with a score, or level, for each trait (very low through very high [15]). Table 29 below outlines the seven traits and associated descriptions of high and low scorers.

Table 29 TCI traits and descriptions

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 Hard-working 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

[16] adapted from Cloninger et al. 1994.

Several studies have explored temperaments and characteristics of health professionals working in rural and remote areas [16-19]. These were explored in phase 2 where it was identified that the trainees in the AHRGP as a collective did not demonstrate patterns or trends to explain why they

had been attracted to or retained in a rural area. In fact, when pooled, their scores were average except for self-transcendence which was low.

The results of the trainees who have completed or are continuing beyond 2022 have been compared to those who discontinued. Table 31 below outlines the results for the trainees who have or are continuing the pathway. When analysing these trainees together, their collective traits are the same as the average ratings identified in phase 2 for the whole group. Looking at the ratings individually, most trainees have average to very low levels of novelty seeking which relates to reserved, tolerant, reflective, uninquiring tendencies. Furthermore, 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 were very high, one was very low and the others were average or low. While on average the trainees were average for this temperament it is interesting to note that trainees didn't necessarily thrive on reward, affirmations or feedback to succeed in the pathway. Most trainees rated average in persistence with one rated as high and two low.

In terms of characteristics, completing trainees were mostly average in self directedness which they demonstrated strength in in terms of balancing their time, completing modules and associated service development activities. The trainees demonstrated mixed characteristics for cooperativeness and self-transcendence.

Table 30 temperaments and characteristics of completing trainees

Temperament				**Character**		
Novelty seeking	**Harm avoidance**	**Reward dependence**	**Persistence**	**Self-directedness**	**Cooperativeness**	**Self-transcendence**
Very Low	Average	Average	Very High	High	Very High	Average
Very High	Low	Low	Low	Very Low	Average	Average
Very Low	Very High	Very High	Low	Low	Average	Very Low
Average	High	Average	Average	High	Very High	Very Low
Average	High	Very High	Average	Average	High	Very High
Average	High	Low	Average	Average	Low	Very Low
Low	Average	Low	Average	Average	Average	Low
Average	Very Low	Very Low	Average	Average	Very Low	Very Low
Average all completing trainees						
Average	Average	Average	Average	Average	Average	Low

Considering previous studies outlined in phase 2, the trainees had similar profiles to other health professionals working in rural and remote areas in terms of novelty seeking, harm avoidance and self-transcendence, they were generally lower in reward dependence, self-directedness and cooperativeness [16-19].

The trainees who discontinued the pathway presented with varied characteristics and traits. In comparison to the completing trainees, less patterns emerge although when considered as a group, the trainees were high in harm avoidance, low in self transcendence and average for all other traits.

Table 31 temperaments and characteristics of non-completing trainees

Temperament				Character		
Novelty seeking	**Harm avoidance**	**Reward dependence**	**Persistence**	**Self-directedness**	**Cooperativeness**	**Self-transcendence**
Very low	High	Very Low	Low	Average	High	Very Low
High	Very High	Very High	Very Low	Low	Average	Average
Average	Very High	Very High	Average	Average	Average	Average
Low	Average	High	Very High	Average	Average	Low
Average	Average	High	Average	High	Very High	Average
Very low	Very High	Very low	Average	Average	Average	Very low
Very High	Low	Average	Average	High	Very High	Average
Average all completing trainees						
Average	High	Average	Average	Average	Average	Low

While considering the completing and non-completing trainees' traits did not generate clear recommendations when selecting future AHRGP trainees it is 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:

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 having 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.

"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

"It 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 and some had noticed changes in themselves over the last 3 years in becoming more optimistic and confident. They reported needing a level of optimism to reap the benefits of the pathway.

"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

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 discussed seeking out feedback from others for self-growth but also not relying on affirmations from others to know they were on the right track.

"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

Persistence

Persistence was recognised as an important character trait for completing post graduate 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 and reap the rewards of undertaking complex, challenging work which require 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

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 orientated which helped 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, some felt this related to roles outside of work while others commented on needing to be creative in their teams at work. Another trainee felt cooperativeness was imperative for their work with consumers;

"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

Self-transcendence

Generally, the trainees rated low in self-transcendence and they didn't feel it related well to the AHRGP other than being scientific in their thinking and being pragmatic in their approach to work.

Temperament and characteristics summary

While it is interesting to review individual traits, they are highly variable and no one characteristic or temperament appears to lead to the success or challenge for the trainees to date. A range of other factors have also impacted on trainees' experience and should be considered in context when considering the recruitment of future cohorts. Reflecting personal attributes and life circumstances and how these align with post graduate training could be a valuable exercise for individuals to participate in when considering undertaking the AHRGP. In terms of supporting allied health professionals, it may be useful for clinical supervisors and line managers to consider how they can consider the characteristics and temperaments of early career clinicians in their teams to adapt the supports they provide.

Aim 6: To explore costs and benefits of the AHRGP

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 [20, 21] 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 below:

Table 32 costs and benefits considered

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
	Progression in employment classification
	Time spent undertaking service development activities
	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 0.5FTE 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 2019-20 cohort versus the 2021 cohort. These direct costs are outlined below. It should be noted that for future cohorts, the cost of project manager time would be slightly reduced because in 2019, the project manager worked for 4 months between March and June organising procurement and selecting trainees prior to their commencement.

Table 33 direct costs

James Cook University tuition fees:		
Original budget		$199,805
Estimated total JCU expenditure (tuition) for 2019-20 cohort	Total estimated cost 2019 - June 2022	$162,777*
Project manager wages and on costs (for 2019-20 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

*further anticipated costs expected for trainee completing study Dec 2022: $3330.00

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 0.1 and 0.2FTE or 15-30 hours per month. The trainees in phase 2 and 3 were asked to quantify how many hours they spent studying at work per

month. Table 34 outlines the average hours trainees reported undertaking study related activities at work, and the associated costs [20, 21]. These are included in the total summary of costs (table 37).

Table 34 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)	21.16	$932	10	$372
Level 2 (AHP2)	20.8	$994	19.2	$1322

Supervision time

Trainee time for supervision

The SA Health Allied Health Clinical Supervision Framework [13] outlines the minimum standard for AHP clinical supervision. These recommendations were utilised to calculate any additional supervision costs associated with the AHRGP. Table 35 outlines the average hours trainees reported undertaking supervision per week.

Table 35 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 hours	4 hours			
Leve 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 [13] 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 [13]. Based on the hours reported in table 35, supervision hours will not be reported as a cost in this evaluation as they are within the range recommended within the framework.

Clinical supervisors' time

During phase 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 36 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 ACLs and so were providing supervision but also overseeing the pathway for their discipline.

Table 36 reported clinical supervisor 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	.25-4 hours	1-4 hours	1.67 hours	1-2 hours
Level 2 new to senior role	2-4 hours	4 hours	2-4 hours			
Level 2 in established role	1-4 hours	3.66 hours	1-4 hours	1-4 hours	1.56 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 [13], the hours of supervision and associated costs will not be calculated as an additional cost.

Line manager and ACL time

In phase 2, line 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 line managers meeting individual AHPs in their team regularly and others not. Similarly in phase 3, line managers reported spending between zero and one hour per month with their trainees. In both phases of the research it was the same line managers who were regularly meeting the trainees and the other line managers reported not having a regular time to catch up. Considering the small number of hours reported and the reported lack of additional hours, line manager time will not be calculated as a cost.

Three of the six ACLs involved in the evaluation were also supervising level 2 trainees and all ACLs 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 ACLs 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 following costs were included:

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 3 months to 42 months and accounts for the significant differences in costs. As can be seen in Table 37, 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 37 summary of average costs per trainee

	All trainees (n=15)	Completed level 1 trainees (n=3)	Completed/completing Level 2 trainees (n=5)
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 individual cost of tuition	$11,633**	$9600	$26,100***
Cost of project manager 2019-2022 (per trainee)	$9567		
Average overall cost per trainee	$37,599	$34,875	$70,469

* Months to complete for completing level 2 trainees does not include level 2 trainee who has 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 those who did not complete the whole program.

***The level 2 pathway modules had varying costs depending on the modules, the $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 report, in this section benefits which are able to be quantified for analysis will be outlined, these include:

Workforce turnover including recruitment costs and intention to stay
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 AHPs working in regional LHNs in SA. The RSS collected data in phase 2 and 3 regarding the length of stay of all regional LHN AHPs between 2016 and 2022 by AHP classification. This length of stay data has been used to compare against the 2019-20 cohort of AHRGP trainees to ascertain whether there has been a benefit. Table 38 outlines the length of stay for AHPs currently employed compared to AHRGP trainees.

Table 38 workforce length of stay for regional LHN AHPs compared to AHRGP trainees

	Current staff length of stay (years)	Resigned staff length of stay (years)	Overall average (years)	Overall median (years)
Average Regional LHN data (Jan 2016 -Dec 2021)				
AHP1	1.5	1.3	1.4	1
AHP2	9.4	7.2	8.4	6
AHRGP trainee data (June 2022)				
	current staff length of stay	resigned staff length of stay	overall average	overall median
AHP1	4.4	1.31	2.55	1.75
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 regional LHNs in SA (2.55 versus 1.4 years). Of the ten AHP1s who started, 40% are continuing with a regional LHN beyond the follow up date compared to 35% of all AHP1s in the regional LHNs.

The AHP2s participating in the AHRGP have 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 regional LHNs in general is longer (8.4 years) than our 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 regional LHNs (per year) for the period of the evaluation enables a comparison to be made to the five level 2 trainees (Table 39). On average, there has been a 17.61% turnover of regional LHN AHP2s per year 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 39 AHP2 yearly turnover data regional LHNs compared to level 2 AHRGP trainees

	Regional LHN			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	18.84%	0%
20/6/2022	307	50	16.29%	0%
Average AHP2 yearly turnover			17.61%	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[22] it is challenging to measure retention in terms of costs and benefits. In 2011, Chisholm, Russell and Humphreys measured the cost of AHPs turning over in regional, rural and remote areas[3] 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 orientating and training new AHPs once recruited. Chisholm's cost calculations will be used in conjunction with the average SA regional LHN turnover data and the AHRGP trainee retention data to approximate the cost benefits of the AHRGP in SA.

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 40. 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 these 2020 prices will be used in this current analysis:

Table 40 average total costs of recruitment reported by Chisholm et al [3]

	Average total cost of recruiting a new AHP (2011)	Average total cost of recruiting a new AHP (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 200km from metro with a population of more than 10,000), Rural (more than 200km from metro and more than 5000 population), Remote (more than 200km and less than 5000 population)[3].

According to this classification, the trainees in this evaluation are all based in rural areas except Murray Bridge and Victor Harbour which are regional. Considering Chisholm'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 AHPs across rural SA as reported by SA Health:

AHP1 turnover

Based on the data presented in table 38 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 2.55 years in the program, the rate of return for a AHRGP AH1 position is:

- AHRGP AHP1 position $32,867 / 2.55 years = $12,889 per year

Therefore, the saving per AHRGP AHP1 position during the 3 year follow up period:

- ($23,476 - $12,889) = $10,587 x 3 years = $31,761

AHP2 turnover

In the three years between 2019 and 2022, between 50 and 57 regional LHN AHP2s resigned per year. By comparison, for the AHRGP program, there were 5 AHP2s involved over the 3 years, and there was no turnover.

Considering the up-front cost to recruit an AHP2 again (as $32,867) and the average length of stay of a regional LHN AHP2 of 8.4 years, the rate of return on recruitment investment for AHP2 positions can be calculated as:

- Regional LHN AHP2 position: $32,867 / 8.4 years = $3,912 per year

By comparison there was no turnover of AHRGP AHP2 positions during the 3 year follow up of the program.

Therefore, the saving per AHRGP AHP2 position during the 3 year follow up period is: ($3,912-$0) x 3 years = $11,736.

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

The eight completed or continuing AHRGP trainees were asked to project how long they intended to remain working in a 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 is currently working interstate was not included in these calculations.

According to the SA regional LHN calculations, AHP1s on average stay in 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, the AHP1s who have completed the pathway will have a length of stay 385% longer than the general allied health population working across regional LHNs and the AHP2s will have a length of stay 47% greater than the general allied health population.

Table 41 AHP2 completed/completing trainees' intention to stay versus AHP2 regional LHN population

Regional LHN data (Dec 2021)		
	Current regional LHN AHP length of stay (years)	Number continuing
AHP1	1.5	132
AHP2	9.4	299
AHRGP data		
	AHRGP trainee **projected** length of stay (years)	Number continuing
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, the level 1's 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 own LHN or to another regional LHN. This provides a range of benefits for trainees and the regional LHNs as they are able to provide more senior level leadership with higher levels of responsibility, supervision of others and service development responsibilities. Research suggests that AHPs with career advancement opportunities in rural and remote areas are more likely to intend to stay than those who have limited career options [23].

Service development projects

Trainees were involved in a range of service development activities as outlined earlier in this report. 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 orientated 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, clinical supervisors and line managers reported these projects may not have been completed. To quantify the benefit of this, the following table outlines the reported hours spent on service development work and associated costs of these hours. See Service development project experiences for further details of projects undertaken.

Table 42 service develop 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 this report, trainees were asked to rate their confidence as rural generalists throughout the 3 phases of research and their clinical supervisors and line mangers 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.

Summary Costs and Benefits

A range of costs and benefits of the AHRGP have been explored. Table 43 summarises these for consideration. On average the pathway cost $37,600 per trainee who enrolled in the program regardless of if they completed or not. When calculated only for trainees who completed or who are on track 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 $11,736 per level 2 AHRGP position during the 3 year follow up period. In summary considering the average cost saving and the number of AHP positions involved, the program produced a saving in recruitment costs of $376,290 within this first cohort. It should be noted, that this considers the saving during the 3 year follow up period. Given most trainees were expecting to stay within a regional LHNs, 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 regional LHNs and the AHP2s estimated to have a length of stay 47% greater than the general allied health population.

There are also a range of secondary benefits which are outlined in table 43 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 regional LHN 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 activities that trainees engaged in provided benefits for the organisation and without the training, they 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 the cost of the program.

Table 43 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 (3647)	34,802 (23,398)	16,399
Cost of project manager time ($)	9,567	9,567	9,567
Total Cost ($) per trainee	37,599 (3647)	70,469 (23,398)	37,600 (28,646)
Primary Benefits			
Average saving in recruitment costs ($) per AHRGP position (per 3 year period)	31,761	11,736	
Secondary Benefits			
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 SA regional LHN (%)	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 line manager measured)	14	4	17
Average increase in competence over follow-up period (%) (supervisor and line 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

Summary

The AHRGP has been implemented in South Australia for the first time in 2019 with fifteen trainees commencing the pathway in 2019-20 and seven of these trainees completing. Five allied health disciplines and all six regional LHNs were involved. The trainees who discontinued the pathway were in the level 1 program and all level 2 trainees have either completed or are continuing.

All completing trainees as well as one who left the pathway since 2020 participated in this final evaluation as well as six of their clinical supervisors, eight line managers, five ACLs and four members of the AHRGP project management team. Although a range of experiences were explored, similar themes emerged between participant groups.

Benefits and challenges of participating in the pathway for the trainees, for organisations and for consumers were explored, the following benefits were consistently reported:

- Growth in **confidence**, in their approach to work, to seek help, to raise concerns and to solve problems
- **Broad skill and knowledge** development relevant to their work roles
- Increased ability to manage **diverse caseloads**, to work in **complex and challenging situations and with more autonomy**
- Skills to participate in **service development activities**
- Development of **leadership skills and career advancement** in rural areas.
- Increased focus on **evidence based in their practice**
- **Sharing of learning** widely within teams and across regional LHNs
- Contributing to a range of **projects** to improve organisational processes and efficiencies and outcome for consumers.

A range of challenges have been experienced throughout the pathway implementation in regional LHNs:

- Challenge of **quarantining study time at work**, resulting in trainees doing more study out of hours than they had anticipated
- Impact of study out of hour on **work life balance**
- **Relevance of coursework** for the SA context
- Opportunity to **implement learning into practice**
- **Staffing challenges** impacting on trainees' workload and organisational pressures
- **Clarity of expectations** for line managers and clinical supervisors' roles when supporting a trainee
- Outcomes for trainees in terms of recognition of AHRGP achievement and associated career advancement not yet established.

Consumer representatives discussed the impact of the AHRGP on their local communities and felt the development of generalist skills was a positive outcome. They made a range of recommendations for the future of the pathway including recognition of achievement, incentives for allied health to work in rural areas and support mechanisms for trainees.

Personal attributes, professions, locations and level of experiences that are suited to the AHRGP were explored. Trainees reflected on a range of temperaments and characteristics that had contributed to their success in the pathway including persistence, self-directedness, cooperativeness and reward dependence. Clinical supervisors, line managers and ACLs identified a range of personal attributes they felt were suited to AHRGP success including motivation, commitment, passion, self-

directedness, organisation, confidence and flexibility. Locations and professions that enabled clinicians to work in across a broad range of clinical areas were identified as being the most suited to AHRGP trainees of the future. Most participants felt level 1 trainees should have at least 12 to 18 months experience in a rural area before enrolling in the AHRGP while it was recommended that level two trainees should be working towards or be new to leadership roles in their LHN.

The costs and benefits of the pathway were identified with direct and indirect costs including tuition, project manager and study time. Overall the average cost of the pathway per trainee was found to be $34,875 for level 1 trainees and $70,469 for level 2. A range of economic benefits were identified including; recruitment savings, the pathway had a high completion rate, all completing trainees were promoted, trainee had a significantly lower turnover rate than the rest of the AHPs in regional LHNs and trainees engaged in service development activities that may otherwise have not been undertaken. The direct benefit of reduced turnover was found to be $31,761 per level 1 and $11,736 per level 2 AHRGP position or $376,290 in total during the 3 year follow up period. Overall, the AHRGP was found to be an excellent return on investment.

Recommendations

The following recommendations have emerged from the third phase of the AHRGP research:

- Continue to offer the AHRGP as a post graduate opportunity for AHPs in order to develop generalist skills and knowledge, to develop clinical leaders and raise the profile of rural generalism in regional, rural and remote SA
- Consider appointing future AHRGP trainees who are committed to rural practice and demonstrate relevant attributes for success in the pathway
- Investigate sustainable structures and funding for continuing to offer the AHRGP to early career AHPs in regional LHNs across SA
- Continue to work closely with James Cook University (JCU) to ensure topics offered are relevant for SA based AHP practice, that there is adequate variety in topics for all professions and that trainees receive adequate support and feedback from academic staff
- Work with potential trainees, clinical supervisors and line managers to ensure expectations of support structures are clear. This should be reviewed when clinical supervisors and line managers change during the pathway
- Explore mechanisms for better protecting quarantined study time while not disadvantaging regional LHNs and consumers to enable trainees to undertake the pathway including opportunities for backfill
- Work with potential trainees, clinical supervisors and line managers to ensure expectations of support structures are clear. This should be reviewed when clinical supervisors and line managers change during the pathway
- Clarify service development project expectations for organisations and trainees to ensure there are benefits for all stakeholders and adequate resourcing and support is provided
- 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 regional LHN.

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