Strategies for increasing allied health recruitment and retention in rural Australia

A Rapid Review

The purpose of this document is to outline the methodology, approach and themes raised by the literature to inform the nsw ministry of health's workforce planning methodology. It should be noted that the views expressed in the report are not necessarily those of the nsw ministry of health.

Acknowledgements

Executive Summary

The NSW Ministry of Health commissioned this rapid review to outline the evidence to address the overarching question:

What strategies have proven effective or ineffective for increasing the efficacy of allied health recruitment and retention in Australia?

The take home message is that while there has been considerable research to identify **the factors that influence** allied health professional recruitment and retention in rural areas, there is **limited quality evidence to demonstrate the impact of recruitment and retention interventions on workforce outcomes across individual professions or the allied health workforce as a whole.** This is due to issues with the research design such as small sample size, failure to control for extraneous variables, difficulty establishing a baseline against which to assess results, significant drop out rates in longitudinal studies, and an inability to identify causal relationships between interventions and workforce outcomes.

The strongest evidence concerning recruitment of Allied Health Professionals to rural and remote practice relates to:

- Rural background
- Curriculum that reflects rural health issues
- Quality rural placements

Factors that influence retention are broadly categorised as professional and organisational, social (family and personal), and financial. These are modifiable to varying extent. Non-modifiable factors include location and community amenity, modifiable factors include:

- Safe and supportive work environments
- Career development
- Nature of the work and outreach support
- Professional networks
- Public recognition of the role
- Appropriate financial incentives

Rural Pipeline

One of the strongest lines of emerging evidence is the 'Rural Pipeline': recruiting students from rural backgrounds, delivering regional training, exposure during training to rural curriculum and placements, and then building opportunities for regional postgraduate training. This has been progressed in medicine and allied health over the last decade.

Drawing on published and grey literature and industry knowledge, this rapid review demonstrates many components of a rural allied health pipeline are in place. Further work is required to link the components together to create a comprehensive pipeline. A proposed approach is to cohesively structure interventions to address known determinants of poor retention, create the pipeline, market this effectively and have funding models and mechanisms that create sustainable positions and service delivery.

The following summary identifies a range of factors that influence the recruitment and retention of allied health professionals in rural areas across the professional lifespan. It is based on the concept of the 'Rural Pipeline' and is informed by the evidence contained in this rapid review.

Summary of factors that influence recruitment and retention of Allied Health Professionals in rural areas across the professional lifespan

Elements	University	Early Career AHP	Establishing Career AHP	Mature Career AHP
Attraction and selection	• Describe the role and service environment • Market and promote the professional and personal benefits of rural practice and lifestyle			Re-entry programs and support mechanisms
Training pipeline	Quality student placements: • Supervision • Rural practice and community immersion • Multidisciplinary exposure • Service learning	Rural and remote ready: • Clinical and non-clinical skills and capability development	Continuing professional development Advanced skills to meet community need	
Mentoring, supervision and support	Co-design support strategies with allied health stakeholders: • Vocational planning • Case management transition to rural practice and/or new location • Preceptorship • Mentoring • Flexible supervision • Business development			
Accreditation and recognition	Nationally accredited postgraduate education programs for rural and remote practice and qualifications that are recognised and transferrable across jurisdictional boundaries			
Underpinning components				
Incentives	• Financial incentives individually tailored to career and life stages • Non-financial incentives - partner/spouse employment, family and social connection to community, good living conditions			
Supportive work environment	• Adequate staffing and leave relief • Infrastructure "to do the work" • Effective workplace - orientation and induction; communication; culturally sensitive; career advancement • Sustainable service delivery model - caseload, outreach • Management by senior allied health professional with rural and remote experience			
System capability	Enable allied health professionals to work to their full scope of practice by implementing: • Delegation (AHAs) • Telehealth • Skill sharing • Infrastructure - equipment			
Recognition of contribution of allied health	Building the evidence for: • Allied health intervention in 'real world' rural and remote models of care • Workforce strategies • Cost effective service models			

List of Acronyms

ABS	Australian Bureau of Statistics
AHA / AHAs	Allied Health Assistant / Allied Health Assistants
AHHA	Australian Healthcare and Hospitals Association
AHOS	Allied Health in Outback Schools
AHP / AHPs	Allied Health Professional / Allied Health Professionals
AHPRA	Australian Health Practitioner Regulation Agency
AHRG	Allied Health Rural Generalist
AHRGP	Allied Health Rural Generalist Pathway
AJRH	Australian Journal of Rural Health
AHW	Aboriginal Health Worker
ASGC-RA	Australian Standard Geographic Classification - Remoteness Areas
DAA	Dietetics Association of Australia
FIFO	Fly In Fly Out
FTE	Full Time Employee
GP	General Practitioner
GRADE	Grading of Recommendations, Assessment, Development and Evaluation
HHS	Hospital and Health Service
HWA	Health Workforce Australia
JCU	James Cook University
LMIC	Low and Middle Income Countries
MBS	Medicare Benefits Schedule
MMM	Modified Monash Model
MRP	Medical Radiation Practitioner
NDIS	National Disability Insurance Scheme
NGO	Non Government Organisations
NWQAHS	North West Queensland Allied Health Service
RDN	Rural Doctors Network
RHPP	Rural Health Professionals Program
RRH	Rural and Remote Health
SARRAH	Services for Australian Rural and Remote Allied Health
SPA	Speech Pathology Australia
QUT	Queensland University of Technology
T2P	Transition to Practice Graduate Program
UDRH	University Department of Rural Health
WHO	World Health Organisation
WONCA	World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians

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1. Introduction

Services for Australian Rural and Remote Allied Health (SARRAH) was commissioned by the New South Wales (NSW) Ministry of Health, Workforce Planning and Talent Development branch to develop a paper outlining evidence that answers the question:

What strategies have been proven effective or ineffective for increasing the efficacy of allied health rural recruitment and retention in Australia?

The NSW Ministry of Health advised the question is multifaceted and requested consideration of the following:

- Evidence / examples of targeted workforce strategies that increase retention
- Evidence / examples of targeted workforce strategies that have proven ineffective
- Do different recruitment and retention strategies affect individual allied health professions differently? Is this affected by workforce size? i.e. are podiatrist swayed by incentives differently than physiotherapists?
- What are the enablers/impediments to moving and staying in a rural setting? What is the importance of education opportunities, remuneration, financial incentives, career trajectory, supervision and support, availability of locums, part time vs full time roles, permanent vs temporary roles, needs of family members etc. in enabling or impeding rural recruitment and retention?

This rapid review has sought to address all aspects of the question detailed above, however there was limited evidence available to:

- demonstrate the impact of recruitment and retention interventions on workforce outcomes for individual professions and the workforce as a whole
- fully explore whether different recruitment and retention strategies affect individual professions differently

Limitations of the available evidence are discussed at section 2.4, 'Impact of interventions on recruitment and retention'.

1.1   Rapid review approach

The rapid review takes a macro level approach to the examination of strategies that have been designed to attract, recruit and retain allied health professionals (AHPs) to rural practice. Given the constraints of time and resources, it is not a systematic review and does not use primary research. Rather, it is a synthesis of available Australian and international evidence, drawing on relevant research, including literature reviews and grey literature identified through industry knowledge.

The review seeks to bring together the best possible evidence for the recruitment of AHPs to rural and remote practice and the factors known to influence retention. This work suggests developing a connected framework that merges existing strategies to create a rural allied health pipeline. The pipeline offers significant opportunities for innovation through recognising the need to establish connected training, employment and career pathways, supervision and support and funding mechanisms for sustainable positions.

2. Case for Change

The inherent and persistent maldistribution of the allied health workforce based on geographic location highlights the disparity in access to allied health services for people living in rural and remote communities. This issue persists despite a significant investment to increase the number of places for training AHPs in universities as well as offering Rural Allied Health Scholarships, Aboriginal cadetships in allied health and other programs (NSW Health, 2017a).

2.1 Maldistribution of the allied health workforce

National data demonstrates a maldistribution of health professionals registered with the Australian Health Practitioner Regulation Authority (AHPRA). The number of full time equivalent (FTE) health professionals per 100,000 population decreases with increasing remoteness with the exception of nursing (Table 1). The data does not include some self-regulated allied health professions that are employed by NSW Health (Table 2).

Table 1: Rate of Full Time Equivalent AHPs per 100,000 population by remoteness areas (2016)

	Major Cities	Inner Regional	Outer Regional	Remote	Very Remote
Allied Health Professions	No of FTE professionals per 100,000 population				
Medical Radiation Practitioners	54.93	43.22	30.90	25.19	12.35
Oral Health Practitioners*	82.20	60.42	53.82	42.21	21.74
Occupational Therapists	62.18	47.43	46.52	38.13	22.73
Optometrists*	19.74	15.85	11.46	9.19	3.95
Osteopaths*	7.96	6.17	2.30	NP	NP
Pharmacists	99.35	78.07	78.01	74.89	45.95
Physiotherapists	103.78	66.30	55.44	43.91	40.51
Podiatrists	17.72	17.21	10.97	10.55	5.93
Psychologists	103.17	61.25	45.84	35.40	20.75
Other Health Professions					
Medical Practitioners	440.88	302.44	284.73	331.90	220.34
Nurses and Midwives	1157.15	1105.59	1099.88	1304.78	1192.12

Source: Australian Government Department of Health, 2018

Oral health practitioners, optometrists and osteopaths are not employed as AHPs by the NSW Health. These professions are regulated by AHPRA and are recognised as allied health professions more broadly across the healthcare sector.

** Art therapy, child life therapy, diversional therapy, music therapy and welfare workforce data was not available from the Australian Government Department of Health.

At a state and territory level, the same trend, a maldistribution of AHPs in rural and remote settings is evident. Using the raw data reported in the 2016 Census on occupations, it is apparent that the rural and remote allied health workforce is almost non-existent.

In outer regional areas, there are over 80% fewer AHPs compared to the number in inner regional areas (Table 2). It should be noted that while the occupational data collected in the Census does not map exactly to the list of AHPRA registered AHPs (as shown in Table 1), it does allow for broad inferences to be drawn.

Table 2: NSW AHPs by place of work (remoteness area) 2016 ABS Census

Professions	Remoteness Area				
	Major Cities	Inner Regional	Outer Regional	Remote	Very Remote
Sonographer	1250	278	27	0	0
Medical Diagnostic Radiographer	2189	462	85	5	0
Medical Radiation Therapist	505	106	0	0	0
Nuclear Medicine Technologist	227	29	3	0	0
Dietitian/Nutritionist	1299	247	39	4	0
Optometrists*	1174	202	30	0	0
Orthoptists	355	36	0	0	0
Orthotist or Prosthetist	76	7	0	0	0
Chiropractor*	1017	199	33	0	0
Osteopath*	273	79	15	0	0
Audiologist	424	100	3	0	0
Speech Pathologist	1674	363	54	8	0
Occupational Therapist	2791	692	103	4	0
Physiotherapist	5032	963	156	3	0
Pharmacist	5458	1084	268	17	3
Podiatrist	757	182	32	0	0
Clinical Psychologist	3381	629	83	6	0
Psychologist	1151	258	50	3	0
Exercise Physiologist	651	128	10	0	0
Social Welfare Professional	240	66	10	0	0
Counsellor	2012	461	71	0	0
Drug and Alcohol Counsellor*	201	136	34	0	4
Rehabilitation Counsellor*	527	106	13	0	0

Source: ABS 3218.0 - remoteness area download

* Optometrists, chiropractors, osteopaths, drug and alcohol counsellors and rehabilitation counsellors are not employed as allied health professions by the NSW Health. These professions are regulated by AHPRA and are considered to be allied health professions more broadly across the heathcare sector.

** Art therapy, child life therapy, diversonal therapy, music therapy and welfare are not categorised seperately within ABS Census data and are counted within other professions listed above or have not been included in this dataset acquired from the ABS.

*** Data provided by the ABS is based on a data request from SARRAH in 2018. The ABS was provided a list of professions that SARRAH represents. The ABS then mapped this list to six digit classifications used in the 2016 Census. The ABS is responsible for data collection and analysis.

2.2 Overview of the current market supply

Where data is available for the AHPRA registered professions, it is evident that there are ongoing challenges with the maldistribution of AHPs between metropolitan, rural and remote areas across all allied health disciplines.
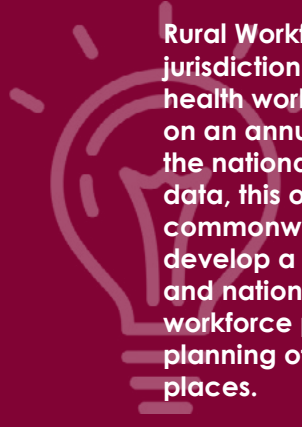
Where the data is unavailable (such as for social workers and medical and diagnostic radiography professionals), it can be inferred that a maldistribution of the workforce may be apparent in these groups based on trends in other professional groups, historical data and demographic and population health trends (Table 3).

Common themes emerging across the allied health professions relevant to workforce supply and demand include:

- Data to measure workforce supply is limited when considering number of practitioners by allied health profession, location of employment by remoteness and trends over time, particularly for non-AHPRA registered professions
- For the AHP groups where better quality data is available, it indicates small but real increases in the number of registered professionals in NSW over the past 12 months, suggestive of more AHPs qualifying from university training
- Despite an increasing number of registered AHPs entering the workforce in NSW, recruitment to rural and remote positions remains challenging.
- Within each profession, a majority of people work in major cities or inner regional areas and supply decreases with increasing remoteness
- The pressures of demand for AHPs are impacted by: population size (growth and decline), an ageing population, increasing burden of chronic disease, the roll out of the National Disability Insurance Scheme (NDIS) and an increasing focus on mental health nationally

The NSW Rural Doctors Network (NSW RDN) is currently undertaking an allied health workforce assessment analysis which is due to be completed in early 2019.

This will provide rural NSW centric data and case studies to better describe the allied health workforce across the public, private and Non-Government Organisation (NGO) space and identify allied health service gaps.

Rural Workforce Agencies in each jurisdiction are now completing health workforce needs analysis on an annual basis. Together with the national AHPRA registered data, this offers the states and commonwealth the opportunity to develop a dataset at a jurisdiction and national level to inform workforce planning and upstream planning of education and training places.

Table 3: Summary of key issues in workforce supply and demand by allied health profession

Supply	Demand	Workforce Status
Nutrition and Dietetics		
In 2010, the majority of the rural nutrition and dietetics workforce was female (>90%) and more than half (55%) were new graduates. Retention is challenged with one third of recruits leaving within six months. Nearly a third (32%) remained for two or more years (Brown et al. 2010).	Increasing rates of obesity and diabetes in Australia may represent a signal for growing demand in dietetics services.	Data on the nutrition and dietetics workforce is poor and the profession is not regulated by AHPRA. The Dietetics Association of Australia (DAA) reported a 0.6% growth in membership between 2016 and 2017. However, DAA membership data is inconsistent with self-reported census data, which reported fewer dietitians in NSW than financial members of the DAA in NSW during the same time period. People can register with DAA if a student, retired practitioner or as a non-practising academic.
Speech Pathology		
At the 2016 census there were 2,099 speech pathologists in NSW, concentrated in major cities and inner regional areas, indicating an increase in numbers from 2014. In 2014, there were 1,630 speech pathologists in NSW, of which the majority were female (98%). There was an attrition rate of (13%). The concentration of speech pathologists decreased with remoteness (Health Workforce Australia, 2014b).	Demand for speech pathology services and more specialised speech pathology services, is being driven by the aged care and disability sectors. Early intervention speech pathology and support measures have been identified for children in NSW schools (Speech Pathology Australia, 2014) which may increase demand for speech pathology services.	The profession is not regulated by APHRA and quality data is not available to quantify the number of speech pathologists practising in NSW, where they work or trends over time. Speech Pathology Australia (SPA) does not provide information on its membership.
Social Work		
Data on the supply of social workers in regional and rural NSW was not identified.	There is the potential for increased demand for social workers with the implementation of the NDIS, ageing population and navigation of the aged care and disability service system (Urbis, 2018). There is likely to be additional demand for social workers in the context of an increased community focus on mental health and the heightened focus on and expansion of responses to domestic and family violence (Cameron, P, 2016).	It is unclear whether there is an undersupply of social workers in NSW due to a lack of data. However, in light of current demographic, health and social trends, demand for social workers is likely to increase.
Physiotherapy		
The number of physiotherapists registered with AHPRA in NSW was 9,279 in 2018, an increase of 4.3% compared with June 2017 (Australian Health Practitioner Regulation Agency, 2018), but the number of physiotherapy vacancies filled decreased over the past 12 months. In 2016-17, 79% of physiotherapy vacancies were filled compared with 56% in 2017-18. Some employers reported high turnover, with both graduate and trained physiotherapists leaving roles after only 9-12 months (Australian Government Department of Jobs and Small Business, 2018).	Demand for physiotherapy services will be impacted by health and demographic pressures: an ageing population with an increased burden of chronic disease, as well as the roll-out of the NDIS (Francis Health, (a) 2017).	Regional employers had difficulty retaining staff - employees end up leaving for metropolitan areas which were seen to offer better career opportunities (Australian Government Department of Jobs and Small Business, 2018).

Table 3: Summary of key issues in workforce supply and demand by allied health profession

Supply	Demand	Workforce Status
Occupational Therapy		
The number of occupational therapists registered with AHPRA in NSW was 5,881 in the June quarter of 2018 (April to June). This represents an increase of 6.6% compared with the June quarter of 2017. While the number of Occupational therapists registered with APHRA has increased, this has not met workforce demand. However, the number of occupational therapy vacancies being filled decreased over the previous 12 months. i.e. 80% vacancies filled in June 17, and 54% filled in June 18 (Australian Government, Department of Jobs and Small Business, 2018).	Demand for occupational therapy services may be impacted by similar health and demographic pressures: an ageing population with an increased burden of chronic disease, as well as the roll-out of the NDIS.	According to the Australian Government Department of Jobs and Small Business NSW report on Occupational Therapists, employers experience greater difficulty recruiting to aged care units and mental health units compared with paediatrics, acute wards and rehabilitation wards, and to regional areas compared with metropolitan. Employers in regional NSW report challenges in attracting both recent graduates and experienced occupational therapists to fill vacancies.
Medical and Diagnostic Radiography		
In 2017 there were 4,104 medical diagnostic radiographers in NSW, of which 1,710 were employed by NSW Health (Francis Health (b), 2018). This workforce appears to be in shortage with only 28% of medical diagnostic radiography vacancies filled in 2017-18, compared to 93% in 2016-17 (Australian Government, Jobs and Small Businesses 2018).	Demand for medical and diagnostic radiology services is driven by demand through service pathways i.e. referrals for imaging studies and scans (Francis Health (b), 2018). Demand for this workforce is likely to increase significantly, with 30 new MRI sites to open, including outside metropolitan centres (The Department of Health, 2018).	Regional employers experienced greater difficulty filling vacancies than metropolitan employers (Australian Government, Jobs and Small Businesses 2018). Medical diagnostic radiography is not registered separately by AHPRA, instead it is included within the Medical Radiation Practitioner category. There is no additional data on the size or trends in this specific segment of the workforce.
Optometry		
Optometry has been recognised as a skilled profession in national shortage for some time (Australian Government Department of Jobs and Small Business, 2018). Despite an increase of 2.8% in the number of optometrists registered with AHPRA in NSW in 2017 (Australian Health Practitioner Regulation Agency, 2018), only 33% of optometry vacancies were filled in the same period (Australian Government Department of Jobs and Small Business, 2018). The supply of optometrists decreases with remoteness i.e. 19.9 per 100,000 people in major cities to 2.9 per 100,000 people in very remote areas (Health Workforce Australia, 2014a).	Demand for optometrists could increase due to increasing and ageing population (Australian Bureau of Statistics, 2016). Along with greater promotion of eye health, there is the potential for increased bi-annual testing, and co-management with ophthalmologists for chronic conditions such as diabetes, glaucoma.	There is debate about whether there is an over or undersupply of optometrists. Professional organisations are concerned that there is an oversupply whilst large employers suggest there is an undersupply (Kell, 2016).
Sonography		
It appears that the shortage of sonographers has increased with only 22% of vacancies filled in 2017-18, compared to 50% in 2016-17 (Australian Government, Department of Jobs and Small Business, 2018).	Data on the demand of sonographers in regional and rural NSW was not identified.	Particular difficulties reported in filling vacancies in public hospitals and private clinics across all levels of seniority, employment types, modalities and specialisations (Australian Government Department of Jobs and Small Business, 2018).

Table 3: Summary of key issues in workforce supply and demand by allied health profession

Supply	Demand	Workforce Status
Podiatry		
In 2018 there were 1,447 podiatrists registered with APHRA an increase of 5.8% over 2017. Podiatrists have a relatively young profile with nearly half aged 35 years or younger (Francis Health, c 2017). Podiatrists work predominantly in private practice (77%) (Francis Health, c 2017).	Demand for podiatry services is forecast to increase until the 2050s due to the increasing burden of chronic disease and ageing population (Caughey, Vitry, Gilbert, & Roughead, 2008).	Rural and remote recruitment and retention is challenged by: preference to work in metropolitan areas; limited advocacy for podiatry practice in rural and remote communities; concern about limited career pathways; increased demand for public services with increasing remoteness (Francis Health c, 2017).
Psychology		
In June 2018 there were 11,956 psychologists registered with APHRA in NSW, an increase of 3.8% compared to 2017 (Australian Health Practitioner Regulation Agency, 2018). However, the psychology workforce is maldistributed with 94% of psychologists practising in major cities or Inner Regional locations (Francis Health (d), 2017).	There is increasing demand for psychological services associated with increasing remoteness. This is due to the increase in rates of suicide with remoteness and a greater focus on rural mental health, particularly in challenging climatic conditions such as the current prolonged drought (COAG Health Council, 2017).	Increasing the supply of psychologists in rural areas is challenged by: limited places in university programs (i.e. Masters programs) to gain accreditation as a clinical psychologist; limited and ongoing issues with availability and suitability of supervision, particularly in rural areas; financial viability of private models of service (Roufeil et al, 2018).
Pharmacy		
There were 9,443 pharmacists registered with APHRA in NSW, an increase of 1.9% over June 2017 (Australian Health Practitioner Regulation Agency, 2018). The significant increase in graduates since 2000 has impacted on availability of hospital-based graduate positions and training places, particularly in rural and remote areas (Francis Health (e) 2017.	Factors limiting an increase in pharmacy service provision in rural areas may include issues associated with models of care, use of telehealth and digital platforms.	Attracting pharmacists to rural and remote communities is challenged by negative perceptions of high workload and isolated practice; limited early career positions; opportunities for career development including specialisation and/or service management (Smith et al, 2013).

2.3 Factors influencing recruitment and retention of allied health professionals

Workforce retention refers to "the length of time between commencement and termination of employment" (Humphreys, Wakerman, Pashen, & Buykx, 2009). Recruitment is related to retention but also distinct from it. Recruitment involves "the attraction and selection of staff to a particular organisation or role and is a pre-requisite for retention" (Humphreys, Wakerman, Kuipers, et al., 2009).

A considerable body of literature has accumulated that investigates the factors associated with recruitment and retention of health professionals. The World Health Organization (WHO) (2010) reviewed this literature and described the factors associated with recruitment and retention to remote and rural practice as falling in to six categories (Figure 1):

- Personal origins and values
- Family and community
- Working and living conditions
- Career related
- Financial aspects
- Bonding and mandatory service

Figure 1: Factors related to decisions to relocate to, stay in or leave rural and remote areas
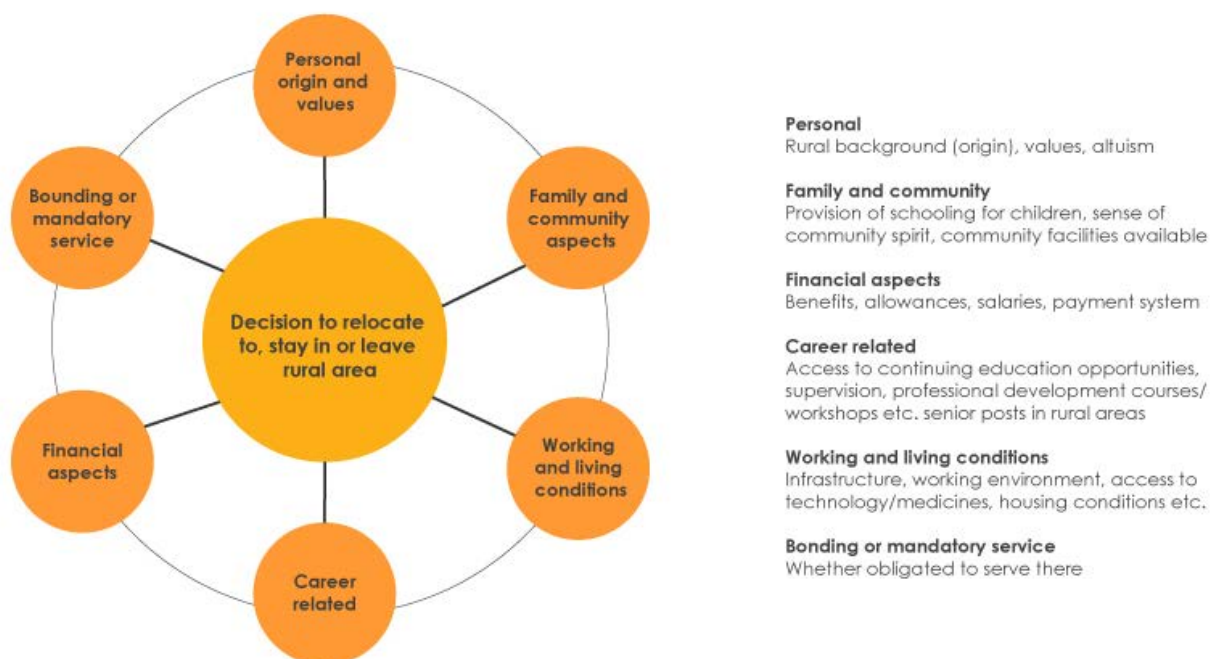
Source: World Health Organisation, 2010, p.17

Australian studies undertaken nearly twenty years ago identified very similar recruitment and retention factors. These can be categorised in terms of the nature of the work, personal needs, and the context of the work including managerial factors (Battye & McTaggart, 2003; Director General of Health, 2000; Fitzgerald, Hornsby, & Hudson, 2000).

Whilst to date there remains little change in practice models and robust evidence to provide solutions for the recruitment and retention issues in rural allied health, the focus on rural allied health through commissioned papers such as this and the Western NSW 2017/18 Primary Health Workforce Planning Framework provide an opportunity to better understand the issues and explore strategies to assist in sustainability of the rural allied health workforce.

Motivators for recruitment and retention of rural AHPs were explored in an international review (Campbell, McAllister, & Eley, 2012).

Most common positive extrinsic incentives were rural lifestyle and diversity of caseload, while access to professional development, professional isolation and insufficient supervision were most commonly identified negative extrinsic factors.

Positive Factors — Rural Lifestyle, Diversity of Case Load

Negative Factors — Limited professional development, Professional Isolation, Insufficient Supervision
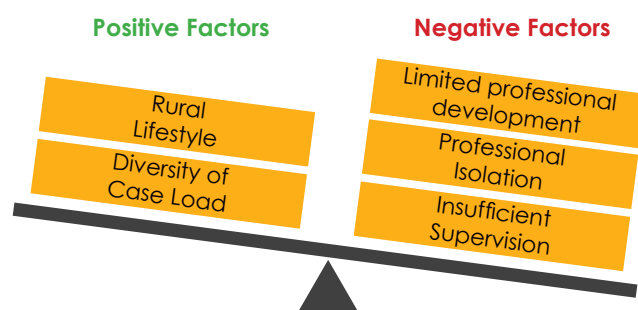
Campbell et al., (2012) identified key intrinsic and extrinsic factors motivating recruitment and retention of rural AHPs (Table 4). Whilst many of the extrinsic factors are similar to those identified in the WHO literature review (Figure 1), Campbell et al., offers a more nuanced understanding of the factors facilitating retention such as the importance of being able to manage workload, having autonomy (position specific) in clinical work and decision making, opportunities to extend professional role, connection with the community and clients and being valued.

Table 4: Factors motivating rural and remote recruitment and retention in allied health professions

	Intrinsic	Extrinsic
Negative	Feeling overwhelmed	Lack of access to professional development
	Work not valued by community	Insufficient supervision
	Lack of community acceptance	Lack of financial reward
	Increased emotional exhaustion	Large professional load
	Lack of autonomy	Insufficient resources
	Fear of deskilling	Long working hours
	Decreased feelings of personal accomplishment	Lack of community knowledge about role
		Lack of personal space/time
		Living costs
		Poor team culture
Positive	Autonomy	Rural lifestyle
	Community connectedness	Diversity of caseload
	Challenge	Cross cultural environment
	Teamwork	Sound financial reward
	Desire to work in an area of need	Multidisciplinary team
	Fast-track career	Family nearby
	Extend professional role	
	Client relationships	
	Feeling valued	
	Community trust	
	Flexibility	

Source: Campbell et al. (2012)

The factors associated with recruitment (drivers and barriers) to rural and remote regions are different from those that affect retention because the decision to practise rurally is generally made from outside a rural context, whereas the decision to leave or stay is made from within a rural context. However, some recruitment and retention factors clearly overlap, and many exert their impact at different stages of the lifecycle (Cosgrave, Maple, & Hussan, 2018) and different stages of employment i.e. initial adjustment in a new location (0-12 months) or adapted phase (13 months onward).

Balance models are often employed to explain decision making with regard to moving to rural areas and leaving rural practice. The premise is that an imbalance exists between incentives and disincentives (Mills & Millsteed, 2002), or pull and push factors (Cooper & Cosgrave, 2018).

One such recruitment model described the drivers and barriers to rural practice for pharmacists, highlighting the mix of work-related and professional factors operating for this profession (Smith et al., 2013).

Figure 2: Drivers and barriers to rural pharmacy practice

DRIVERS

Lifestyle - quality of life; slower pace; sense of community; cheaper living

Business opportunities - affordable practice; job opportunities

Family - desirable place to raise family; partner's needs; retun family to rural region

Professional satisfaction - relationships with customers and health professionals

Rural Background

Money

BARRIERS

Workload - poor work-life balance - high workload

Professional issues - poor access to professional development and to locums; lack of career advancement opportunities

Workplace - conflict in the workplace; income; dissatisfaction with current practice or rural life; fear of the unknown

Family - lack of: spouse employment; children's education needs; potential isolation from support people; lack of accommodation

All increase with remoteness*

Source: Rural Health Education Development Consulting Pty Ltd, 2010, p.96

Mills and Milsteed (2002) proposed a model of retention equilibrium for occupational therapists that reflects the complexity and often conflicting interplay of personal and professional factors which affects an individual's decision to remain or leave a position in a rural and remote area (Table 5).

Table 5: Model of retention equilibrium for occupational therapists

	Incentives to leave	Incentives to remain
Professional factors	Lack of professional development	Development of professional skills
	Little professional support or recognition	Autonomy and independent
	Pay and conditions	Good working conditions
Personal factors	Family-related factors	Friendships
	Homesickness	Lifestyle

Source: Mills & Millsteed, 2002 (p.177)

Humphreys et al. (2009) modeled a set of retention factors which includes both those factors that are modifiable and those that are not (see Figure 3).

Figure 3: Factors affecting retention
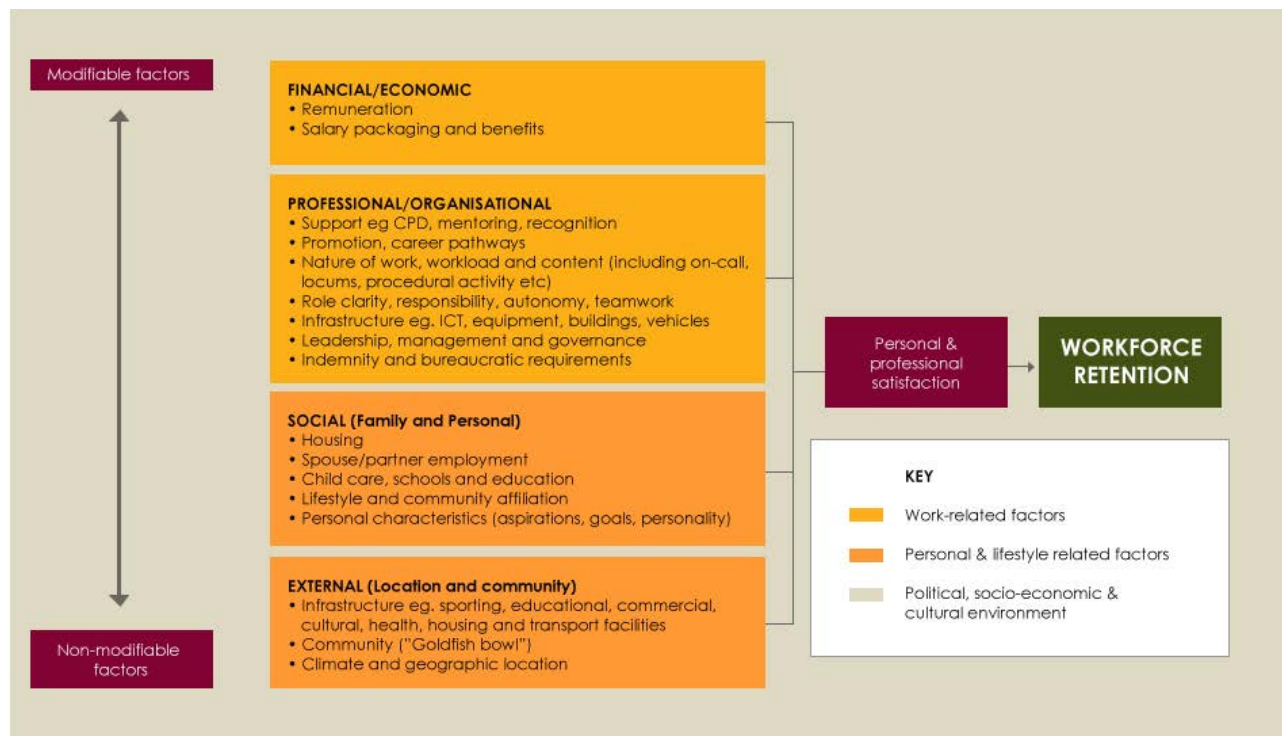
Source: Humphreys, Wakerman, Kuipers, et al., 2009, p.9

Each of these models highlight the challenges and opportunities faced when recruiting and retaining allied health staff. Professional groups as those described above have examined factors that impact on their profession, however these factors can be recognised across disciplines. Predominately the notion of lifestyle, family and professional opportunity support workforce retention. Whereas lack of community acceptance, limited opportunity for family and poor access to professional development and career advancement are all factors that limit work satisfaction and long term sustainability.

2.4 Impact of interventions on recruitment and retention

There is a lack of robustly designed studies to assess the impact of recruitment and retention interventions on the rural and remote allied health workforce. The available evidence offers only weak support for the strategies examined. This is because of issues with the research design such as small sample size, failure to control for extraneous variables, difficulty establishing a baseline against which to assess results, significant drop out rates in longitudinal studies, and inability to identify causal relationships between interventions and workforce outcomes.

Given these obstacles, it is not surprising that until recently much of this body of literature has relied on assessing intention to take up rural practice as the outcome measure. Recent studies that have measured location of practice have mainly focused on the medical workforce and assessing the impact of rural clinical school placements.

The applicability of findings from studies of the medical workforce to the allied health workforce is unclear. Some of the factors that have been shown to influence recruitment and retention of medical practitioners in rural settings are also relevant for the allied health professions, such as rural background, rurally-based training schools and rural clinical placements (Dolea, Stormont, & Braichet, 2010; Kent Guion, Mishoe, Taft, & Campbell, 2009; Worley et al., 2008). However, there are also likely to be important differences between the nature of the work carried out by the professions. For example, medical practitioners in rural and remote regions are much more likely to have to provide extensive on-call coverage and be unable to leave the community without locum coverage than AHPs. There is also a need to clarify how the work of AHPs differs from that of medical practitioners and how this impacts recruitment and retention. This represents an opportunity for further research and analysis.

A further challenge when evaluating rural workforce interventions is understanding the importance of the social, political and economic context in which the intervention took place (Huicho et al., 2010). Assessing an intervention in complex real world settings requires multi-method and multidisciplinary efforts that are time consuming and expensive.

The lack of robust evidence of the efficacy (and relative efficacy) of strategies to address rural recruitment and retention impacts on policy makers who are challenged with identifying and implementing cost effective solutions to the rural workforce situation. Given this absence of evidence, one jurisdiction in Canada conducted a literature review of recruitment and retention strategies for health rehabilitation professionals (physiotherapists, occupational therapists and speech pathologists) and then used an expert panel to identify strategies that they thought would be the most important and most feasible to implement for this cohort (Tran et al., 2008).

Similarly, Bourke, Humphreys, Wakerman, & Taylor (2010) recommended developing strategies based on evidence of what AHPs value and offer a view on where the challenges of rural practice are offset by its benefits. This was the approach taken to develop the outreach North West Queensland Allied Health Service (NAQAHS) Model (Battye & McTaggart, 2003). Evaluation of Stage 1 of the new service showed lower staff turnover within the first two years (20%) compared with national data (42%) (Stanley-Davies & Battye, 2004).

2.5 The evidence

The WHO has responded to the worldwide shortage of health professionals in rural and remote regions by establishing a program of work to improve access to health professionals in these areas through enhanced recruitment and retention. In particular, the WHO focused on building the evidence, developing policy recommendations based on the evidence, and supporting implementation (Dayrit, Dolea, & Braichet, 2010).

The WHO (2010) published a review of the literature on recruitment and retention interventions and identified broad strategies where there was reasonable quality and strength of supporting evidence (Table 6).

The review found that there was strong evidence for rural background and curriculum that reflected rural health issues as well as strong evidence for financial incentives and for professional and personal support. Whilst there was evidence for regulatory inventions these were of a lower strength. Specific types of intervention across the above categories are detailed below (Table 6).

Table 6: Evidence Based Recruitment and Retention Interventions

Category	Example types of intervention
Education	Students from rural background
	Health professional schools outside major cities
	Clinical rotation in rural areas during studies
	Curriculum that reflect rural health issues
	Continuous professional development for rural health workers
Regulatory	Enhances scope of practice
	Different types of health workers
	Compulsory service
	Subsidised education for return of service
Financial	Appropriate financial incentives
Professional and personal support	Better living conditions
	Safe and supportive work environment
	Outreach support
	Career development program
	Professional networks
	Public recognition measures

Rural background and exposing students to rural curriculum and placement are predictors for recruitment to rural practice.

Safe and supportive work environment, outreach support, career development, professional networks and public recognition of role and appropriate financial incentives are key professional factors enhancing retention.

Personal family factors include living conditions (housing, community amenity and infrastructure) and partner employment.

2.5.1 The Rural Pipeline

One of the strongest lines of evidence found in the literature is for incentives that form what has been called the 'Rural Pipeline', referring to recruiting students from rural backgrounds, delivering regional training, exposing students during this training to rural curriculum and placements, and then building regional postgraduate training pathways.

The evidence for the Rural Pipeline is strongest for the medical profession (Dunbabin & Levitt, 2003; Henry, Edwards, & Crottty, 2009; Hsueh, Wilkson, & Bills, 2004; Kwan, Kondalsamy-Chennakesavan, Ranmuthugala, Toombs, & Nicholson, 2017; Stagg, Greenhill, & Worley, 2009), but is beginning to emerge for AHPs (Playford et al, 2006) and nursing (Mbemba, Gagnon, Paré, & Côté, 2013).

The concept of a Rural Pipeline has been described as a strategy to enhance recruitment and retention of AHPs in Australia. The authors suggest a flexible approach is needed that addresses the complexity of recruitment and retention issues and recognises the various stages AHPs enter rural practice and differences in age, gender, professional needs, social context, cultural background and career stage (Durey, Haigh, & Katzenellenbogen, 2015).

The World Organization of National Colleges, Academies and Academic Associations of General Practitioners / Family Physicians (WONCA) Working Party on rural practice in partnership with Monash University is currently supporting a rapid WHO project to develop a **Checklist for implementing Rural Health Workforce Pipelines (Pathways) in low and middle income countries (LMIC)**. The draft Checklist has been developed based on a review of LMIC rural workforce literature and feedback of stakeholders from a Phase 1 consultation process. It is currently in draft form (December 2018). The key elements include:

- Understanding community **health needs to inform local workforce and skill gaps**
- Determining whether the rural workers have the **skills to meet rural and remote community need,** recognising that wider range of skills can improve comprehensive local care and help to improve health worker satisfaction and retention
- **Selecting people with attributes for rural and remote work** i.e. connection to "place", commitment to serve others, motivated to learn and invested in improving access to community health services
- **Optimal education and training for rural practice through exposure to rural and remote practice, teams and health systems.** Learning skills needed through distributed training systems using locally available and qualified teachers and supervisors in the place where people are going to practice i.e. establishing clinical and community networks
- **Working conditions that support recruitment and retention.** Education and training is only effective if the practice conditions are right, there is a supportive learning culture in the health service, sufficient resources, good remuneration and sustainable workload
- **Accreditation and recognition** for training and scope of work. This may provide an incentive for worker's to invest in more training, resulting in greater retention through developing their skills
- **Professional support and upskilling tailored to the health worker's needs** e.g. online communities of practice and peer exchange systems. Senior staff supervision through mix of remote or in-reach/outreach face to face meetings and case reviews. Structured orientation and community-based projects for new staff to improve translation to rural work and interest in continuing in role

This outlines key areas to be considered in developing a Rural Pipeline for AHPs.

3   Components of a Rural Pipeline

In its most streamlined form, the rural allied health pipeline starts with young rural Australian school students identifying an allied health profession as a potential career and setting their sights on entry into tertiary education. For this cohort following qualification as an AHP they enter the workforce as a new graduate or early career practitioner and over time build their clinical and non-clinical capability and skill base to become an established practitioner meeting the needs of the rural community in which they work (Figure 4).

There are other points of entry into the rural allied health workforce through mature age entry into tertiary training, and re-entry training programs for AHPs who have been out of the workforce for an extended time period.

The rural allied health workforce also includes AHPs who have trained overseas and now work in Australia, and practitioners who reside in metropolitan and large regional areas who work in rural locations as locums, under Fly-In-Fly-Out (FIFO) visiting arrangements or provide services by telehealth. Allied health assistants (AHAs) are increasingly recognised as part of the rural health workforce.

Figure 4: Overview of a rural allied health pipeline
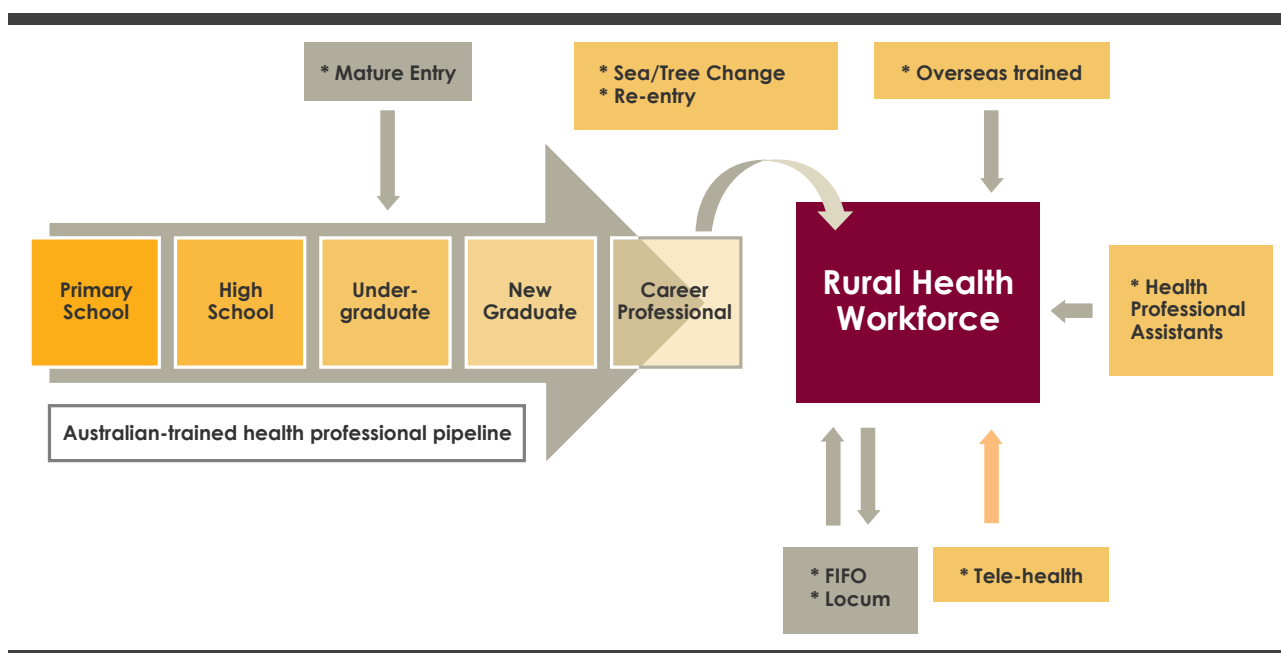
Source: Durey et al. (2015)

While the evidence is limited about the impact of interventions on retention of AHPs, much is known about the factors that influence their recruitment and retention in rural areas. This section seeks to describe the key components of a rural allied health pipeline to target the influencing factors, drawing on published and grey literature, and industry knowledge.

This discussion demonstrates that many of the components for a Rural AHP Pipeline are in place, and it also helps to identify those aspects that are missing or require attention. An effective approach could be to cohesively structure interventions to address the known determinants of poor retention, create a Rural Pipeline, market this effectively and have funding models that create sustainable positions and service delivery.
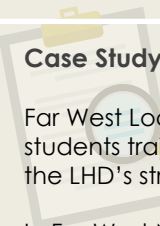
The following summary identifies a range of factors that influence the recruitment and retention of allied health professionals in rural areas across the professional lifespan. It is based on the concept of the 'Rural Pipeline' and is informed by the evidence contained in this rapid review.

Table 7: Summary of factors that influence recruitment and retention of AHPs in rural areas across the professional lifespan

Elements	University	Early Career AHP	Establishing Career AHP	Mature Career AHP
Attraction and selection	• Describe the role and service environment • Market and promote the professional and personal benefits of rural practice and lifestyle			Re-entry programs and support mechanisms
Training pipeline	Quality student placements: • Supervision • Rural practice and community immersion • Multidisciplinary exposure • Service learning	Rural and remote ready: • Clinical and non-clinical skills and capability development	Continuing professional development Advanced skills to meet community need	
Mentoring, supervision and support	Co-design support strategies with allied health stakeholders: • Vocational planning • Case management transition to rural practice and/or new location • Preceptorship • Mentoring • Flexible supervision • Business development			
Accreditation and recognition	Nationally accredited postgraduate education programs for rural and remote practice and qualifications that are recognised and transferrable across jurisdictional boundaries			
Underpinning components				
Incentives	• Financial incentives individually tailored to career and life stages • Non-financial incentives - partner/spouse employment, family and social connection to community, good living conditions			
Supportive work environment	• Adequate staffing and leave relief • Infrastructure "to do the work" • Effective workplace - orientation and induction; communication; culturally sensitive; career advancement • Sustainable service delivery model - caseload, outreach • Management by senior AHP with rural and remote experience			
System capability	Enable AHPs to work to their full scope of practice by implementing: • Delegation (AHAs) • Telehealth • Skill sharing • Infrastructure - equipment			
Recognition of contribution of allied health	Building the evidence for: • Allied health intervention in 'real world' rural and remote models of care • Workforce strategies • Cost effective service models			

3.1   Attraction and selection

Attracting young people to a rural allied health career requires a multifaceted approach. Broad strategies to encourage young people to consider a rural health profession should start in secondary school through programs such as Health Careers in the Bush and Health Career Expos (Eley, Hindmarsh, & Buikstra, 2007). Rural background is a strong predictor for longer term rural practice (Kwan et al., 2017; Mbemba et al., 2013; Playford, Larson, & Wheatland, 2006; World Health Organization, 2010) therefore targeting rural secondary schools is a sound approach.

Case Study 1: Far West Local Health District School Based Apprenticeship and Traineeship Program

Far West Local Health District School Based Apprenticeships and Traineeships Program offers Year 11 and 12 students training and employment in Allied Health Assistance (School Based Traineeship) and is a component of the LHD's strategic plan to build the capability and capacity of communities.

In Far West NSW 50% of the cohort is Aboriginal designated. The Program has been rolled out elsewhere across the State including Mid North Coast, Southern NSW and Murrumbidgee LHDs.

Far West LHD School Based Apprenticeship and Trainee Manual 2015-16.

In order to market and promote a rural allied heath career, it is important to clearly describe the role and service environments in which a rural AHP can work. Furthermore, it should clearly describe and highlight the features of a training and career pathway, and positive aspects of rural practice (Bourke et al., 2010; Smith et al., 2013).

Case Study 2: North West Queensland Allied Health Service

The NWQAHS delivers services to remote communities in the Gulf of Carpentaria and North West Queensland using a hub and spoke model from a base in Mt Isa. The disciplines include physiotherapy, podiatry, dietetics, occupational therapy, speech pathology and psychology. The model was developed in response to the context of what communities identified as an accessible, reliable and sustainable service, and addressed documented obstacles to the recruitment and retention of AHPs in rural and remote practice.

Expressions of Interest were called for AHPs interested in working in North West Queensland. The Division of General Practice advertised for all disciplines within the single advertisement to emphasise the "Allied Health Professional team" approach of the service, so mainstream newspapers rather than discipline specific journals or newsletters were targeted. The style of the advertisement emphasised the innovative elements of the service and presented the key features of the employment package. Rather than offering positions within the service, the advertisement specifically called for expressions of interest and encouraged enquiry by telephone, fax, mail and email.

Forty-two expressions of interest were received for the nine positions to be filled. Application kits were sent to interested persons. The application kit included a full position description and the executive summary of the original service proposal (to inform the applicants of the background, rationale and scope of the proposed service). Selection was based on: **cultural adaptability** to remote practice and working in predominantly Indigenous communities, working in a primary health care paradigm, functioning as a team, attitude to living in a remote community and working away from base. The evaluation of Stage 1 (First 2 years of operation) identified the key factors that attracted the AHPs to the NWQAHS were:

- The salary package and specifically identified the level of **remuneration, rental assistance, annual flight home, 6 week annual leave provision and relocation costs**
- Post-graduate opportunities available including **orientation to remote practice and Indigenous cultural awareness training**
- Remote location and the type of work involved
- Newness/innovative elements of the service particularly the functional teams and cross-disciplinary nature of the service
- An experienced AHP as the service manager/team leader was especially important and two cited previous professional contact with the Service Manager as significant in their decision
- The opportunity to work in remote communities

Several AHPs commented on the effectiveness of the advertisement particularly the depiction of the innovative and new aspects of the service and attractive salary package. While this example is dated the key findings continue to have relevance in 2019. Furthermore, the Division and the NWQAHS were viewed as a "new" organisation in terms of allied health employment and did not have any negative history.

Stanley-Davies & Battye (2004)

3.1.1 Promoting re-entry

The workforce profile of AHPs indicates a predominantly young and female workforce with attrition rates for some professions up to 13% (Health Workforce Australia, 2014b). This suggests an available pool of qualified AHPs, who could be 'refreshed' and supported to return to the workforce through the provision of a re-entry program.

In April 2006, NSW Health implemented the Allied Health ReConnect Project as a recruitment strategy to increase the supply of AHPs in identified disciplines.

The initial phase of the project involved conducting a literature review of re-entry programs to identify the required components and critical success factors for workforce re-entry. This resulted in the development of a re-entry framework (NSW Health, 2007) which was subsequently piloted for hospital pharmacy.

Figure 5: Allied Health ReConnect Model Framework
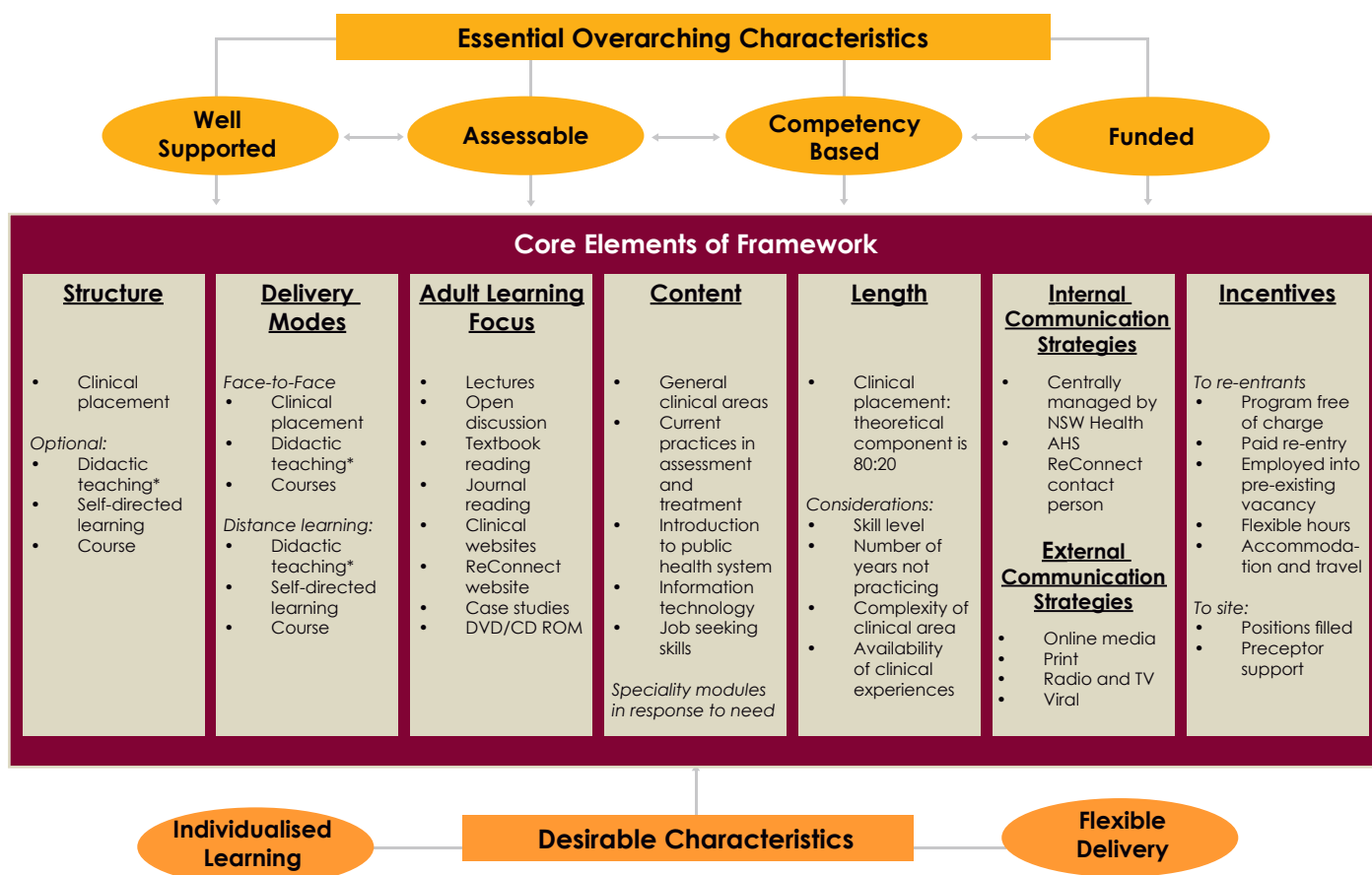
Source: NSW Health, 2007

* The didactic teaching method is structured around providing students with theoretical knowledge essential to mastering their discipline. It organises the students workload in a way that is dependent on the ongoing input of teachers throughout the course of their study.

More recently, Queensland Health developed a return to practice guide for AHPs or technicians returning to the workforce or changing their area of clinical practice. The Return to Practice program involves appointment of a supervisor, formalisation of a supervision agreement, observational and discussion supervision sessions, and assessment of progress and competence (Queensland Health, 2015).

In addition, re-entrants may require other types of support including:

- Membership of the relevant professional association to access continuing professional development activities, awareness of professional and accreditation standards and access the association's learning resources
- Mentorship before, during and after return to clinical practice for general guidance, support and to help identify learning needs
- Peer support has been identified as being a crucial component to the successful return to practice process. Peer support relies on the experiences and skills of others to provide support to their colleagues, manage stress, anxiety and help build confidence. Peers also provide an additional source of clinical practice expertise

Additional training and ongoing support may be needed for an AHP to become a clinical supervisor of a re-entrant. Supervisors should be able to meet previously determined clinical and supervision competencies.

3.2   Training pipeline

3.2.1   Student placements

Student placements in rural locations for a component of their training is a predictor of longer-term rural practice. While there have been studies assessing intention to practice in rural areas following student placement, there is now evidence that rural student placements are translating into rural employment for medical practitioners (Playford, Ngo, Gupta, & Puddey, 2017). Among medical specialists and GPs, rural background and rural clinical school attendance are predictors of longer-term rural practice (Kwan et al., 2017).

A longitudinal survey of allied health and nursing students (429 participants) from urban campuses in Western Australia (WA), found that a rural placement in their final year of study resulted in 25% working in rural locations six months or more post-graduation. Factors that either encouraged or discouraged AHPs to seek employment in a rural position included: rural background (encouraged), health discipline (varied according to profession), self-reported value of placement (encouraged), non-compulsory rural placement (encouraged), and placements of four weeks or less (encouraged). After controlling for rural background, the value and duration of the placement were significantly associated with rural employment (Playford et al., 2006).

Important elements of the placement include offering practical skills in coursework on rural practice, adequate training in inter-professional care, mentoring, more education on management and organisational skills during training, and working with inspiring and effective academic educator and fieldwork supervisor (McAuliffe & Barnett, 2009; Schofield, Fuller, Wagner, Friis, & Tyrell, 2009; Wielandt & Taylor, 2010).

The quality and positive experience of the students rural placement is more likely to result in practising rurally after graduation.

A repeated cross-sectional study of medical, nursing, dentistry and allied health students undertaking placements in North West Queensland found that students satisfied with their placement were 2.1 times more likely to have rural/remote practice intentions than their counterparts. Satisfaction with the placement supervision had the highest impact on changing students' rural/remote practice intentions from negative to positive.

Wide variety of experience, hands on learning opportunities, multidisciplinary exposure at home (shared accommodation) and in the workplace, support from the University Departments of Rural Health (UDRH), learning of Indigenous culture and experiencing challenges of rural health care services were positive aspects of the placement. Furthermore, students were supportive of longer placements to provide adequate time to immerse themselves in the community and experience rural lifestyle (Fatima, Kazmi, King, Solomon, & Knight, 2018).

The use of service learning placements in which undergraduate students provide services under supervision was identified as an innovative approach to addressing student learning and health workforce shortages in Australia (Mason, 2013).

Case Study 3: Allied Health in Outback Schools

The Broken Hill University Department of Rural Health (UDRH) in Far West NSW operates an allied health student service learning model in primary schools in Broken Hill, Menindee and Wilcannia. The Allied Health in Outback Schools (AHOS) Program offers allied health and nursing students an opportunity to complete a paediatric service-learning placement on the grounds of a local school in purpose-built health hubs. Students are allocated to a specific local primary school and are given a caseload of pupils. Students are required to apply their discipline-specific skills to assess, support and/or provide treatment to their pupils under supervision of a BHUDRH academic or supervisor.

Students in this program are generally third or fourth year undergraduates, or second year masters-level students. Students are expected to be self-directing and operate independently, work collaboratively with other allied health students and maintain clear lines of communication with teachers, parents, children, peers, as well as their supervisor.

While on placement, students can expect to develop the following skills:
• Organisation and professionalism
• Time management
• Stakeholder engagement
• Team work
• Written and verbal communication
• Group presentation and education
• Working with primary school aged children
• Program evaluation
• Producing quality case notes and reports

A qualitative analysis found the program aligned student learning to direct service provision to address unmet allied health needs of pre-school and primary school children in far west NSW, expanded student placement capacity within the region and exposed students to alternative learning and service provision approaches. Based on the findings of this study, this model may provide students, universities and the health industry with an additional approach that can contribute to the development of generic work-readiness attributes by exposing students to 'real work' in 'real world' settings that are of 'real value' to 'real rural communities'.

Jones, McAllister, & Lyle (2006)

3.2.2   Early career Allied Health Professionals

The context of rural and remote allied health service delivery differs to metropolitan practice and is characterised by small, multi-professional teams operating across dispersed client populations. Many rural and remote AHPs provide clinical services across the patient lifespan, in a range of clinical settings, as well as providing leadership and management of rural and remote allied health services (Bent, 1999; Brockwell, Wielandt, & Clark, 2009; Minisini, Sheppard, & Jones, 2010). This is challenging for early career AHPs particularly in environments where they are sole practitioners.

The scope of rural and remote practice requires a broad set of clinical and non-clinical skills and capabilities. Drawing together clinical task mapping and published literature describing non-clinical practice requirements (Lin, Beattie, Spitz, & Ellis, 2009) informed the development of Allied Health Rural Generalist (AHRG) education framework. The frameworks provided guidance for the design of targeted education and training for rural generalists (Nielsen et al., 2017). While AHRG is in its infancy, the education framework provides advice on the non-clinical training needs of early career allied health professions and clinical training needs of seven professions (occupational therapy, physiotherapy, nutrition and dietetics, speech pathology, podiatry, pharmacy and medical imaging).

The AHRG Education frameworks now form the basis of a formal two-level postgraduate education program developed by James Cook University (JCU) and Queensland University of Technology (QUT) (Queensland Health, 2018b).

Queensland Health has invested in the development of a rural generalist training pathway for allied health that is demonstrating benefit in the retention of early career practitioners in rural or remote practice and regional centres near to the place of training (Nielsen, Hulcombe, Adams, Burge, & Battye, in press, 2019).

Case Study 4: AHRG Training Position Trials 2014 - 2018

The trial funded 22 graduate/early career supernumerary temporary positions in nine Hospital and Health Services in rural Queensland. Position holders were employed for a one or two-year term. Key elements to support the position included:

- Protected training and supervision time (one day per week)
- Development plan and funding to support training activities
- Profession specific supervisor that is co-located or highly accessible (onsite >50% of work hours plus telehealth communication)
- Participation in development and of rural generalist service models i.e. delegation and use of support workers; skills sharing between AHPs; service expansion including telehealth; partnerships including urban-rural share care, and interagency service integration

Retention of trainees during the one or two-year temporary appointment was 100% for the 22 position holders in the 2014-2016 cohorts. At six months post-completion of the training post 36% found positions and continued to work in the rural and remote location, dropping to 14% at 12 months. However, flow was to regional locations nearest the training position. At 12 months, a third of the trainees continued to work in the same Hospital and Health Service (HHS).

Case Study 5: WA Country Health Service Allied Health Transition to Practice (T2P) Graduate Program

The WA Country Health Service T2P Graduate Program was developed to assist AHPs in the transition from graduate to confident and competent rural and remote health (RRH) professional. The T2P has been running since 2012, however its impact on retention has not yet been assessed.

The T2P Graduate Program follows a self-directed approach to learning, enabling graduates to consolidate and apply skills gained at university, as well as the opportunity to acquire new skills and knowledge. The program has been designed to flexibly support graduates employed at any location within WA Country Health Service, providing additional strategies which complement local orientation, support and development of graduate AHPs. The program targets audiology, dietetics, occupational therapy, physiotherapy, podiatry, social work and speech pathology.

Program Components

Program Orientation: Graduates are orientated to the T2P program as well as provided with access to additional resources and learning opportunities relevant to rural and remote allied health practice.

Professional Supervision: If required, graduates are supported to access professional supervision beyond that available at the local site. This includes matching the graduate to an appropriate professional supervisor and the provision of training for both the supervisee and the supervisor.

Graduate Networking: Graduates are supported to build and consolidate professional networks both established and new linkages. Graduates will be encouraged and supported to participate in profession specific learning and networking to enhance evidence based practice, identify and discuss common issues and propose solutions, and to share skills, knowledge and resources.

Graduate Development: A series of three, one hour video-conference education sessions with associated resource guides are delivered to graduates. These sessions assist graduates to develop knowledge and skills in the following domains: professional practice corporate/operational, and safety and quality. A monthly e-communication (Graduate Bytes) will be distributed to graduates which will include education updates, journal article reviews and links to relevant resources.

Manager Support: Support is provided to managers of graduates to assist in maximising learning and support opportunities within the local context.

Entry to the Program: The program runs for 12 months commencing February/March each year. It is open to AHPs who have secured employment within WA Country Health Service, and are in their first two years of practice. The program is inter-professional and delivered flexibly.

3.2.3   Establishing career and mature career Allied Health Professionals

Access to continuing professional development is consistently identified as a factor contributing to poorer retention. Strategies to improve access include financial support or allowances for travel and accommodation, using telehealth to reduce professional isolation, inviting a second opinion and increasing job satisfaction (Gagnon, Pollender, Trepanier, Duplaa, & Ly, 2011; E. Mills, Airey, & Yee, 2007; Stewart & Carpenter, 2009).

3.3   Mentoring, supervision and support

Access to supervision, mentoring, professional development and general support interventions can contribute to a healthcare practitioner's decision to leave or stay in rural practice. This includes the provision of locum relief, support from colleagues and networks of practitioners and other modifiable factors (Humphreys et al., 2009).

Effective mechanisms to deliver support interventions include (Moran et al., 2014):

- Needs analysis to identify educational and training prioirities
- Stakeholder participation in design, implementation and evaluation of the program (be it supervision, mentoring, professional development, locum support) resulting in a better fit between the content and the needs of the individual and organisation
- External support and/or coordination of mentoring, supervision or support programs
- Organisational commitment and leadership for cultural change and changing behaviours in the workplace
- Accessible and adequate resources for professional development e.g. locums
- Flexibility in the way support is provided - making use of technology to deliver flexible support appropriate to needs – for example use of iChat and other online support to supplement face to face support systems
- Access to funding to support face to face sessions, enabling travel and locum relief where necessary
- Training and skills development for supervision and mentoring
- Regular feedback and evaluation of support services to change programs and ensure relevance and effectiveness
- Marketing programs to increase awareness, participation and engagement in mentoring, supervision and support programs
- Networking and supportive relationships at multiple levels – for example, with peers, experts and the community supports greater satisfaction with intervention, knowledge of roles, quality and safety of practice

The resulting outcomes for staff, patients and program sustainability are described in Figure 6.

Figure 6: Service and Staff Outcomes Related to 'Successful' Support Interventions

Active involvement of stakeholders in programme design, implementation & evaluation
- Change of organisational culture
- Staff Outcomes: Greater understanding of role of mentoring/supervision; greater participation levels in programme, content/structure of material/programme perceived as appropriate and relevant knowledge gains
- Sustainability of programme

Leadership
- Service outcomes: Improved collaboration and 'actioning' of issues
- Staff outcomes: Change in health worker behaviour

Accessible & adequate resources
- Greater success implementing the programme
- Staff outcomes: job satisfaction, clinical decision making and competence, capacity to attend programme and attainment of learning goals
- Service outcomes: higher standards of practice

Needs analysis prior to intervention
- Service outcomes: access to and quality of services
- Staff outcomes: perceived appropriateness of programme, perceived positive use of staff time, confidence in practising in R&R areas, high attendance levels, positive influence on perceived clinical skills and/or confidence in performing clinical interventions that they would not be able to support otherwise
- Sustainability of programme

Contextual mechanisms related to 'successful' support interventions

Networking & supporting relationships
- Greater impact on staff outcomes: job satisfaction/staff wellbeing (being supported or connected) when working as a rural/remote practitioner, satisfaction with the programme, improved knowledge of roles and knowledge sharing, retention of health workers, improved collaboration with the other health professionals, improved competence

External support, organisation, facilitation and/or coordination of programme
- Staff outcomes: Greater participation levels in programme/course completion rates, improved reflective practice, enhanced skills, retention of staff
- Sustainability of the program (eg. through sustained funding)

Access to training/skills/knowledge to perform supervision/education and/or mentoring
- Sustainability of programme
- Improved attitude to supervision// mentoring
- Staff outcomes: perceived increases in self-reported knowledge, confidence in practice and skills

Marketing of the programme
- Organisational commitment
- Greater participation levels

Organisational commitment
- Great participation levels
- Change of organisational culture
- Retention of staff

Regular feedback & evaluation opportunities
- Staff outcomes: Greater participation levels, programme perceived as relevant and useful

Source: Moran et al. (2014)

The Rural Health Professionals Program (RHPP) was established in 2012 and coordinates various marketing strategies to attract nursing and AHPs from Australia and overseas to rural areas. The Rural Workforce Agencies manage the program in each state i.e. NSW RDN in NSW.

Eligible candidates are case managed and matched with employers, free of charge. Candidates receive case managed funds to support their retention for up to two years including psychosocial support, professional development opportunities and spousal assistance. The important features for successful transition reported by the candidates to include mentoring and support when they moved to rural areas. This includes linking in with the local community, developing connections within the workplace and local area were important features for successful transition within the workplace and local area. Those individuals who had established connections in the community were more likely to stay in their position beyond two years, exploring opportunity for professional growth was another aspect that supported retention (Health Workforce Australia, 2014c).

From the perspective of the Rural Workforce Agencies, they identified the first six weeks in which the newly recruited health professional was in place was the crucial timeframe where the AHP can be successfully embedded in the RRH service. In that time they needed to complete local orientation, community introductions and cross-cultural training and by the end feel they are part of the local community. Having access to external mentoring support can also be highly valued by recent recruits (Health Workforce Australia, 2014c).

Similarly, AHPs recruited to the North West Queensland appreciated being welcomed by management on their arrival to Mt Isa, provision of accommodation and a vehicle until they had made their own local arrangements, and orientation to Mt Isa and the remote communities they serviced contributed to a successful engagement (Stanley-Davies and Battye, 2004).

This aligns with the concept of "whole of person" approach to rural workforce retention for health professionals in the adjustment stage (first 12 months) in a new location (Cosgrave et al., 2018).

Case Study 6: Mentoring of Rural Medical Generalists in Queensland

Mentoring is a key element of Rural Medical Generalist Programs operating in Queensland and NSW to support junior doctors move along the training pathway and transition to independent practice. In this context mentoring is multi-faceted and includes:

- Vocational planning to assist junior doctors identify their career aspirations and where they want to practice
- Develop a detailed understanding of the context and culture of rural practice
- Clinical mentoring
- Personal and family support

In Queensland, this is undertaken by an identified Senior GP matched to a cohort of trainees, under a part-time appointment with the Rural Generalist Program.

Case Study 7: Sybella Mentoring

Sybella Mentoring is a private company operated by a psychologist with extensive experience of rural and remote practice.

The mentoring focuses on transition to rural and remote practice and includes topics such as self-care, homesickness, cultural safety, managing personal and professional isolation, connecting with community and emotional literacy (ability to connect with community and culture) in the workplace.

The Sybella Mentoring Kit includes text books, CDs, Handbook and self-care materials.

Cooper and Cosgrave (2018) have succinctly captured the key elements of a support program for early career AHPs. The majority of these elements are tangible and can be provided by the employer. Social support is intangible and requires consideration of the individual's background, own experiences and personal needs.

Figure 7: Key components of Early Career Support Program for rural AHPs
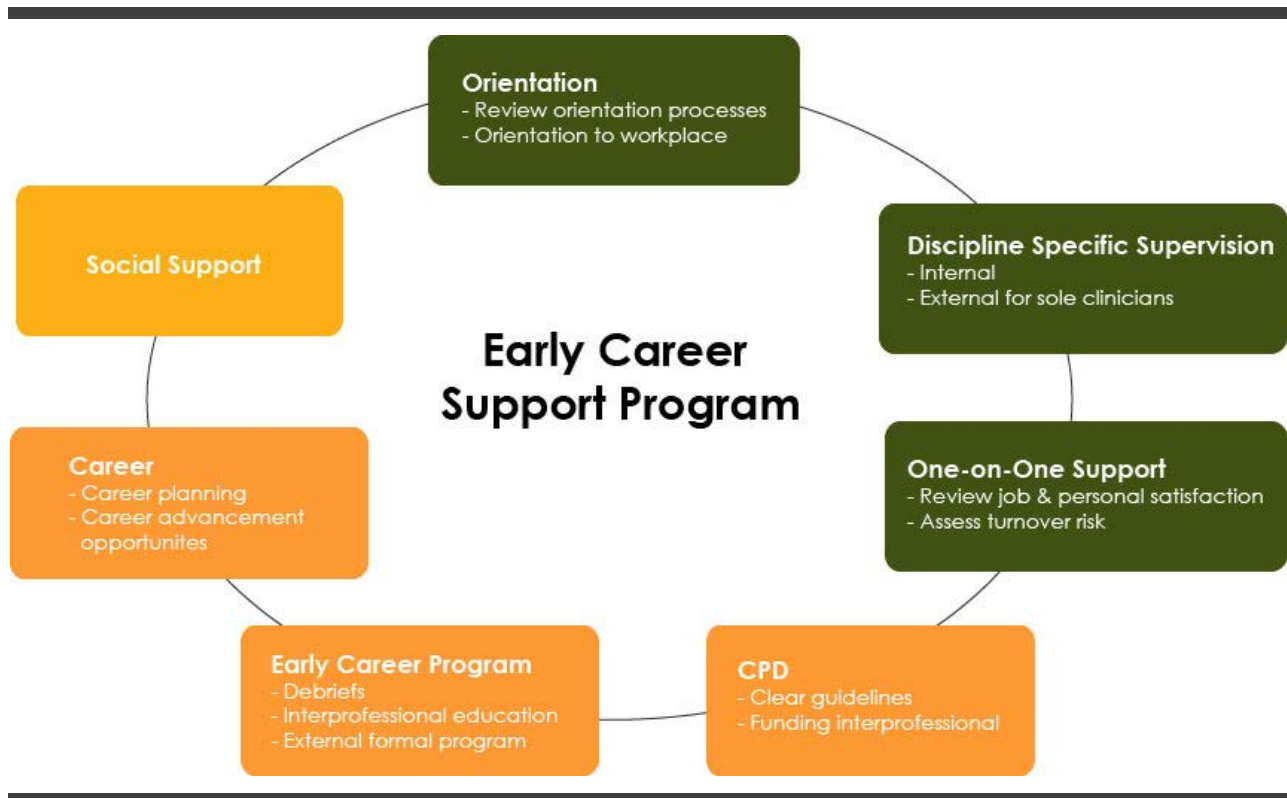
Source: Cooper & Cosgrove (2018)

3.3.1   Preceptoring

Preceptoring is a supportive strategy used in nursing in addition to clinical supervision and mentoring to support recruitment and retention. The approach can be via a member of the clinical team providing supervision and clinical instruction to undergraduate and newly registered nurses. It is delivered on a one to one basis to adapt to the workplace and bridge the gap between nursing education and service.

Another approach is the 'Clinical teaching associate' where a clinician is funded by the university and responsible for supervising and teaching a small group of students, or newly registered nurses (Mbemba et al., 2013). This Clinical Teaching Associate/ Nurse Educator position does not appear to be a regular feature of allied health workforce training and development.

Telehealth Supervision

Telehealth supplemented with face to face supervision has been used to support new graduate AHPs in Queensland (Nielsen et al., 2017).

3.3.2   Flexible supervision

Flexible clinical supervision models are required for rural AHPs particularly for those working as sole practitioners or practitioners seeking to expand the breadth or depth of their scope of practice.

Examples of flexible supervision models drawn from pre-vocational and vocational training of rural doctors (Health Workforce Australia, 2013) include:

Pre-vocational and advanced skills training

- Access to public and private visiting specialists for training in relevant areas
- Utilising specialist registrars undertaking regional rotations and/or outreach services to supervise junior doctors
- Increased and better use of telehealth/videoconferencing for specialists to provide remote support to the rural workforce including remote consultation by metropolitan specialists
- Joint supervision arrangements to cover the whole practice of a junior doctor working across hospital and community settings i.e. joint supervision by Specialists and GPs

Vocational training

- External Clinical Teaching Visits to augment GP training
- GP registrar supervision using iPad/tablet technology
- Vertically integrated supervision i.e. tutoring models where "new Fellows" supervise GP registrars, and the new Fellows are supervised by more senior doctors
- Supervision by experienced, retired/semi-retired GPs
- Hybrid supervision model. Under this arrangement an accredited training post has in place on-site support to the junior doctor provided by an experienced Registered Nurse/ Remote Area Nurse, paramedics, Aboriginal Health Practitioners/workers i.e. support from local resources, with remote supervision/visiting supervision by senior doctor. This type of model could be a mechanism to increase training capacity within Aboriginal Community Controlled Health Services and remote health settings

Many of these examples can be applied to increasing supervision capacity for rural AHPs.

3.3.3   Business development

Private allied health practice is an important component of the allied health service offerings in rural and regional NSW. Candidates of the Rural Health Professionals Program (RHPP) however, reported challenges in moving into a private practice or business framework due to lack of business knowledge impacting workplace sustainability (Health Workforce Australia, 2014c). Exploring methods to enhance business development, through professional associations and private practice forums would assist in promoting successful business models.

3.4   Accreditation and recognition

It is recognised that the context of allied health service delivery in rural and remote areas differs to metropolitan practice, with the requirement for a broad set of clinical and non-clinical skills and capabilities. However, it is the understanding of the authors that there is no industrial instrument that differentiates or recognises the differing skill requirements in NSW or elsewhere in Australia.

Case Study 8: AHRG Education Framework and Accreditation Standards

While the AHRG Education framework is not linked to an industrial instrument, it provides a mechanism to recognise the skill set of AHPs working in a generalist role. JCU, working in partnership with QUT was engaged by Queensland Health to develop a formal rural generalist education program for the seven professions represented in the AHRG Education Framework. The development, trial and evaluation of the two-level Rural Generalist Program will occur in the period December 2016 to December 2019. The AHRG Education Framework is being used as a foundation of the new program.

Health service partners to the Allied Health Rural Generalist Pathway (AHRGP) identified the need to have a common understanding of the capabilities and competencies developed in rural generalist education programs. This is required for health services to integrate the qualification into industrial instruments, employment models and business/commissioning processes. Accreditation standards for rural generalist education programs will provide quality assurance for health services, commissioning agencies and for potential participants that the program meets the published standards. Queensland Health commissioned the Australia Healthcare and Hospitals Association (AHHA) to develop accreditation standards and systems for the seven professions covered in the Framework. This project concluded in June 2018.

3.5   Underpinning components

3.5.1   Targeted incentives

There are a range of financial incentives that are frequently identified to be important to recruit and retain rural AHPs including allowances to access professional development, housing support, meeting relocation expenses, paid travel to "home base" at a predetermined frequency, support for child care, locum support. However, the evidence in the literature is mixed about relative importance.

Building on the Cosgrave concept of a "Whole of Person Rural Retention Framework"

Developing a recruitment and retention package tailored to the individual and location represents an opportunity for innovation. For example, a new graduate may be seeking financial support to relocate and access to mentoring and professional development but not childcare subsidy or housing assistance because the particular location has plenty of affordable housing stock. An established career AHP working in a hub and spoke model may require some financial assistance with childcare to return to work following maternity leave. If the quantum of the financial incentive is determined, then how that is allocated can be flexible to the needs of the AHP.

While this flexibility may currently be challenging to state services, these have been established in NGOs e.g. NWQAHS (Battye & McTaggart, 2003), and can be negotiated with private providers. Furthermore, if such incentives are put in place, they need to be available to existing staff, not only to recruit new staff. The Rivertown nurse recruitment strategy in Far West NSW (Mid 2000s) demonstrated the negative effect of unbalanced financial assistance i.e. nurses resigning and then re-applying to work in the same location at a later stage, or not coming back as they felt de-valued.

3.5.2 Non-financial incentives

The importance of spousal employment, community amenity, access to schools are well documented factors influencing recruitment and retention (Mills & Millsteed, 2002). Local councils, other government departments (Department of Education, Department of Defence), private allied health and general practices, hospitals and community organisations can facilitate the provision of accommodation as well as providing local information, family and social introduction/support, and partner employment options.

3.6 Supportive work environments for retention

Organisational factors are consistently identified as key influencers in retention. Recommended workforce retention strategies may appear inconsequential but it is often the day to day challenges that can frustrate rural and remote workers. Buykx, Humphreys, Wakerman, & Pashen (2010) identified important organisational factors to include:

Supportive work environment checklist

- Adequate staffing and leave relief
- Infrastructure "to do the work"
- Effective workplace – orientation and induction; communication; culturally sensitive; career advancement
- Sustainable service delivery model – caseload, outreach
- Management by senior rural and remote experienced AHP

- Maintaining adequate and stable staffing including adequate relief to avoid burnout
- Providing appropriate and adequate infrastructure (quality ICT and support, access to vehicle, housing and air conditioning)
- Maintaining realistic and competitive remuneration
- Fostering an effective sustainable workplace including communication, career advancement, induction and orientation, management and supervision
- Recognition and reward for individuals making a significant contribution to patient care

3.7 System capability to enable allied health professionals to work to capacity

Service development strategies are becoming embedded in the rural and remote allied health service system to: improve equitable access to safe, quality health care; enable AHPs to work to full scope of practice, and; utilise this resource efficiently through telehealth, delegation to AHAs and other support workers, and skill sharing.

However, facilitating change towards full scope of practice is dependent on redefining organisational processes, reviewing team roles and functions, further education and training where necessary, supporting change in team culture and ensuring availability of necessary infrastructure and equipment.

3.7.1 Delegation to support workers

Historically AHPs have delegated to an allied heath assistant of similar position e.g. physiotherapy assistant, dietetics assistant. However, speech pathologists and occupational therapists working in North West Queensland have worked with teacher's aides and child care workers to implement therapy programs with children with developmental issues allowing interventions to continue between scheduled outreach visits by the AHPs (Stanley-Davies & Battye, 2004).

Delegation In Practice

Delegation to AHAs has been a feature of rural and remote practice in WA since the early 2000s, supported by videoconferencing (Hall, 2003).

Case Study 9: Aboriginal AHAs in South West Queensland

In the South West Queensland Hospital and Health Service, the podiatrist has trained Aboriginal AHAs to conduct screening activities to identify high risk patients early to ensure podiatrist's skills are concentrated on patients with highest needs. This has resulted increased referrals to the Aboriginal AHAs to provide basic footcare and enabled the Roma podiatry clinic to provide care to high risk foot patients within two days of referral (80-100% of the time). Patients in Charleville (A two-hour drive from Roma) can be triaged by the local Aboriginal AHAs when the podiatrist is not available.

Queensland Health is progressing the development of multi-professional support workers who can accept delegated tasks through training (e.g. Certificate IV Allied Health Assistance), other formal training programs and workplace-based training using Clinical Task Instructions and local procedures.

Case Study 10: Torres Strait - Thursday Island Renal Dialysis Unit - Grow Your Own Workforce

Challenge: The Thursday Island Renal Dialysis Unit has seen a significant expansion in services in recent years. A new dialysis service commenced in March 2015 providing local access to this critical health service for people on Thursday Island and surrounding islands who are living with chronic kidney disease. Torres and Cape Hospital and Health Service sought to develop a local workforce solution that supports the delivery of high-quality, culturally appropriate allied health services for clients of the Thursday Island Renal Dialysis Unit.

Solution: To identify a key member of the renal team with the capacity for role expansion to include allied health clinical support tasks. This solution capitalises on the capabilities of the local workforce through investing in upskilling.

Implementation: The health service identified the needs of clients accessing the renal service, with particular regard to allied health services including dietetics, podiatry, occupational therapy and physiotherapy clinical care. The team recognised that some of this care could be delivered safely and effectively by a support worker with training in the relevant assessment and treatment techniques. In larger urban services an AHA would undertake these tasks, but this skill set is scarce in remote areas. The solution lay in looking at the capabilities they already had in their renal and allied health teams. The Aboriginal and Torres Strait Islander Health Worker role was identified as appropriate for role expansion to include specific dietetics, podiatry, physiotherapy and occupational therapy tasks and a trial has commenced. A program of work-place based training and competency assessment will be implemented for this employee. When the program is fully implemented the Health Worker will use these additional skills to deliver a broader range of services to clients. The strategy supports the cultural appropriateness of the allied health services and will improve the availability of these critical clinical services for clients.

Grow Your Own Workforce (2018)

3.7.2 Skill sharing

Skill sharing involves sharing knowledge, skills and responsibilities across professional boundaries for approved clinical tasks as identified within a health service.

Skill sharing can provide a timely or opportunistic assessment of patients, particularly in outreach service models where key AHPs may not be available expediting planning for treatment. A study to map skill sharing based on the Calderdale Framework in remote allied health teams identified over a third of clinical tasks were potentially appropriate for skill sharing between AHPs - assuming training, supervision and other governance processes were implemented (Nielsen et al., 2019). Queensland Health is developing resources as part of work on the AHRGP that includes clinical task instruction and training to improve the rigour, quality and safety of skill sharing (Queensland Health, 2018a).

3.7.3   Telehealth

The use of telehealth is increasingly being used as a modality for assessment and clinical advice. Examples include:

- In NSW extensively used for mental health assessment and treatment (Mental Health Emergency - Rural Access Program), coordination and support for medical evacuation, medical specialist consultations (e.g. Far West Geriatrician)

- In Queensland, telehealth is being used in a dual clinician service model to support delegation to AHAs, skill sharing and shared care/collaborative practice

- Royal Far West provides speech pathology, occupational therapy and psychology services via a telehealth program, Telecare for Kids to locations in NSW and Queensland (Royal Far West, 2018)

> **Telehealth tools provide the capacity to adapt to different clinical contexts. Either as a method of service delivery, augmenting face to face services or providing supervision and support.**

3.8   Cultural safety and humility of practitioners and provider organisations

Aboriginal and Torres Strait Islander people experience a disproportionate burden of illness and social disadvantage compared with non-Indigenous Australians. In addition to this Aboriginal and Torres Strait Islander people experience a much higher level of racism and discrimination. The importance of cultural safety and cultural humility is essential when exploring allied health service provision, for both Aboriginal and Torres Strait Islander AHPs and clients who access allied health services.

"Cultural safety refers to the accumulation and application of knowledge of Aboriginal and Torres Strait Islander values, principles and norms. It is about overcoming the cultural power imbalances of places, people and policies to contribute to improvements in Aboriginal and Torres Strait Islander health and increasing numbers within, and support for, the Aboriginal and Torres Strait Islander medical workforce" (Australian Indigenous Doctors' Association, 2013).
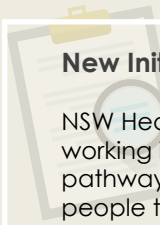

In comparison, cultural humility is a journey of self-reflection and learning. It involves a non-judgemental stance that demonstrates a willingness to learn from and about others. Cultural humility is a crucial building block for cultural safety.

To improve health outcomes for Aboriginal and Torres Strait Islander people, health service provision needs to be responsive to cultural differences and the impacts of conscious and unconscious racism.

Aboriginal and Torres Strait Islander people are more likely to access and will experience better outcomes from services that are respectful and culturally safe places. This being said, Aboriginal and Torres Strait Islander allied health clinicians are more likely to be recruited and retained in allied health positions where cultural safety and cultural humility are embedded in service provision.

Cultural safety and cultural humility need to be displayed at an organisation and practitioner level. For example, it is mandated that every employee of NSW Health must complete the respecting the difference training, which includes an online component and a one day face-to-face training (NSW Health, 2017b). This approach provides an overview of key considerations for engagement with Aboriginal clients and stakeholders, and offers a foundation upon which to seek additional information and guidance so that engagement is contextualised to the local community and local protocols.

Increased participation of Aboriginal people in the health workforce underpins strengthened delivery of health care to Aboriginal people and is core to the Aboriginal Community Controlled Health sector (NACCHO, 2017). Many mainstream public and NGOs have policies and programs to increase Indigenous employment. For example, NSW Health has developed the Stepping Up program, an online recruitment resource to support Aboriginal people interested in a career in public health to commence their journey. It clarifies the recruitment process and addresses some of the challenges that managers experience recruiting to jobs (NSW Health, 2017c).

New Initiative: Aboriginal Allied Health Workforce Pathways Scoping Project

NSW Health has initiated a project to increase the number of Aboriginal and Torres Strait Islander people working in allied health within the NSW public health system. The project will identify and explore current pathways, programs and initiatives within Australia that attract and support Aboriginal and Torres Strait Islander people to enter and remain in allied health careers working in different models of care and settings. The project will focus on pathways into training such as school-based traineeships, vocational educational training to develop allied health assistant roles and tertiary qualified professions.

3.9 Recognition of the contribution of allied health professions

The published evidence base for allied health interventions and services is limited, particularly as it relates to service models and models of care in rural and remote Australia. This rapid review has been challenged by the limited published research or evidence of the effectiveness of various workforce strategies, including cost effectiveness for rural and remote allied health. Much of the evidence in this review around workforce and service models has been drawn from the grey literature and/or in "local intelligence" of what works (or not).

A review of allied health workforce models and structure (Buchan & Law, 2014) identified that the allied health workforce contribution could be strengthened by shifting the focus on big picture aspects of health reforms. Specifically:

- Improving delegation of certain clinical tasks to support workers such as AHAs where appropriate to increase efficiency and value of service delivery
- Shifting the balance of care provision from hospital care to community care
- A health and wellbeing approach with increased focus on prevention
- New and flexible models of care
- Likely efficiency gains require sufficient up-front investment to make them realisable

Furthermore, allied health roles often depend on interfaces across care teams and across sectors of care. Integrated care provides a strong platform for optimising and measuring allied health workforce contribution in real world models of care such as early childhood development and chronic disease management.

3.10 Collaborative practice for the coordination of a Rural Pipeline and Workforce Retention

The challenge for education provider organisations, service provider organisations (public, private and NGOs) and commissioners of services is how to bring together the elements of a Rural Pipeline focused on the development of the individual practitioner and establish a service delivery environment that enables the practitioner to work to their full scope of practice effectively and efficiently, supporting retention in a rural location.

This challenge is compounded by the complexity of the funding environment and fragmented service system. This is highlighted in a recent stakeholder report to inform the Western NSW 2017/18 Primary Health Workforce Planning Framework Project (NSW Rural Doctors Network, 2018).

The report identifies:

- A vast array of local, visiting, telehealth and mixed models of care in the region
- Diversified funding for health through state, federal, philanthropic and profit-driven sources
- An increasing dependence on unsustainable temporary supports or "band-aid" approaches to filling workforce gaps
- A lack of centrally aggregated health data that is meaningful for planning at a regional level i.e. in most cases data is siloed to specific organisations
- Challenges with the stop-start nature of health initiatives hindering the longevity of the workforce

Durey and colleagues (2015), work is focused on the collaboration between organisations to develop a sustainable model of care through the Rural Pipeline. The integrated Rural Pipeline originally designed for medicine and then proposed by Durey et al., for the allied health workforce was intended to assist in the delivery of a sustainable workforce for regional, rural and remote Australia. The initiative, supported by the Department of Health, provides greater opportunities for clinicians interested in a career in rural and remote Australia, helping to create and maintain connections in a rural area. All of which have been identified through this paper as precipitating factors contributing to the long term sustainability of the allied health workforce.

The 2030 Western NSW Primary Health Workforce Priority Actions, derived from the Western NSW 2017/18 Primary Health Workforce Planning Framework Project demonstrate a mechanism for change, that focuses on an effective and collaborative approach for addressing the workforce challenges in Rural Australia. The framework provides an overarching strategy for moving forward and has the commitment from over 40 organisations in Western NSW. The project identified that there was a need for a longer term solution to workforce planning in Western NSW and that breaking the cycle of short term responses was an important priority.

The Framework provides the foundation for a comprehensive and collaborative approach to workforce planning. There is a commitment to collaborate and explore strategies to enhance recruitment, retention and overall satisfaction and producitivty of the rural allied health workforce, with the focus on a long term approach to workforce planning to increase access to high quality primary health care in a timely manner (NSW Rural Doctors Network, 2018). The Framework provides a strategic overview for developing a sustainable workforce in the priority areas of recruitment, retention, addressing need, training and professional development and strengthened coordination to complement the notion of a Rural Pipeline.

3.10.1 Fund blending and co-commissioning for sustainable positions

There have been attempts by organisations in Western and North West NSW to establish various cross sector allied health and specialty nursing service arrangements to mitigate the challenges of service gaps, under-resourcing, recruitment and retention issues, fragmented funding, inefficiencies and duplication of services.

Cross agency models are proposed as a mechanism to ameliorate these problems and enhance client centred care through:

- Better coordination of existing allied health services to improve access to services
- Improving access to the allied health services through reviewing and updating internal processes
- Using flexible employment arrangements to support recruitment and retention of allied health professionals

In 2010, the NSW Institute of Rural Clinical Services & Teaching (now part of the NSW Health Education Training Institute) commissioned a project to develop business model options for cross agency service approach and a toolkit to assist managers, agencies and policy makers to design sustainable and accessible allied health services for rural and remote regions.

The Toolkit provides resources to assess readiness and capacity to develop and pursue particular cross agency options, foundational principles to inform the design of the service model and outlines the key ingredients to be considered in the development and implementation of the cross agency option: corporate governance; clinical governance; planning for allied health services; models of care; monitoring and reporting; business development; policies and protocols to support prioritisation of clients, information sharing, skills development and support, communication, professional indemnity, travel and accommodation.

The Toolkit outlines five cross agency options of varying levels of complexity, outlined in Table 8.

Table 8: Business model options for cross agency service approaches

Level 1 Network	AHPs employed by partner agencies. The function of the network is to coordinate service delivery across a geographical region
Level 2 Network	As for level 1, however, supply is increased by blending available (an often small) funding to create more sustainable and attractive positions. These positions will be employed by one or other of the partner agencies
Level 3 Network	As for level 2, and supply is further increased by external agencies seeking to purchase allied health services from the network. The service agreement with the external agency will be with one of the partner agencies. Private AHPs may be subcontracted by a partner agency to provide services on a sessional basis
Business Unit	Within an existing agency which may operate at various levels including: • Coordination of allied health services delivered by partners to the cross agency arrangement • Partner agency(s) contributing existing allied health positions and funding to support the management and operation of the positions • Supporting public sector AHPs to exercise rights to private practice
New Entity	As for Business Unit and providing practice support functions to private AHPs

Source: Kristine Battye Consulting (2011)

Perhaps it is timely to revisit these business model options and other strategies for cross agency service provision in this new environment of the NDIS, consumer directed care in the aged care sector, and Primary Health Network commissioning.

Drawing together the rural and remote healthcare sector

As this is a network based approach, the development of cross-agency service arrangements could be led by a small governance group that is representative of key stakeholders within the healthcare sector. This regional and tailored approach could draw together local health networks, rural health workforce organisations, primary health networks and health service providers.

4   Conclusion

This Rapid Review has highlighted that there is a strong evidence base for the factors that influence attraction of AHPs to rural and remote areas and their decisions to stay or leave rural practice, but there is limited evidence for the efficacy of recruitment and retention workforce strategies. This is clearly an opportunity for further research and evaluation.

This Rapid Review has proposed a Rural Pipeline for AHPs for a rural and remote workforce. The pipeline has considered the professional lifespan from university student through to a mature AHP. It describes the key elements to support the pipeline by addressing known factors that facilitate or hinder recruitment and retention.

This section describes a number of opportunities for consideration to:

• Continue to build the evidence base for workforce recruitment and retention interventions
• Address key issues for implementing and maintaining a rural pipeline

4.1 Opportunities for Innovation

Opportunity 1: Develop a AHP workforce data set to inform workforce planning

Initiate a collaboration comprising key stakeholders across the primary healthcare sector to investigate strategies to develop a AHP workforce data set for NSW that has the potential to scale across jurisdictions.

Rationale

Completing an assessment of the supply of AHPs is challenged by the absence of a consistent dataset at both a jurisdiction and national level that captures both AHPRA registered and self-regulated allied health professions.

Rural Workforce Agencies have been tasked by the Australian Government to undertake a health workforce needs analysis for Australian Standard Geographic Classification - Remoteness Areas (ASGC-RA) 2-5 (Alternatively, Modified Monash Model (MMM) areas 2 - 7) on an ongoing basis, presenting an opportunity for regular capture of workforce data in regional, rural and remote areas for those AHPs that work in the health sector. Professional associations also hold membership data.

The lack of a clear picture of the allied health workforce impedes evidence-based planning for university education places, and areas of professional workforce specialisation. There is an opportunity for the Commonwealth, States and Territories to progress the development of a consistent dataset for the AHP workforce encompassing the breadth of professions.

Opportunity 2.1: Evaluating the efficacy of allied health workforce development, recruitment and retention interventions

Funders and commissioners of services could build in a requirement for the evaluation of allied health workforce development services and programs in funding contracts. This could include allocating funding to cover the cost of a robust evaluation process. Initiating evaluations at the commencement of new programs would ensure that data collection processes are in place from the beginning resulting in high quality data collection.

Opportunity 2.2: Building a clearing house containing evidence of workforce interventions

There is an opportunity for key funders such as NSW Ministry of Health, PHNs, NSW RDN and SARRAH to investigate options for the collation, communication and dissemination of evidence for workforce interventions to build the evidence base over time.

Rationale

This rapid review has identified that there is a good body of evidence for the factors that influence decisions of AHPs to commence and continue practice in rural areas. While this paper has identified numerous examples of interventions that have been applied to develop the allied health and allied health assistant workforce, and/or address recruitment and retention challenges, there appears to be limited evaluation of the efficacy of these. If evaluations have been undertaken, the findings, positive, negative or otherwise, need to be available for policy makers, commissioners and service providers to inform future strategies. Currently, there is no mechanism for collation and storage of reports that sit in the grey literature.

Opportunity 3: Developing the Indigenous allied health workforce

Based on the rapid review there is an opportunity for public sector health services in conjunction with the Aboriginal Community Controlled Health Sector, TAFE and Indigenous Allied Health Australia (IAHA) to explore options to develop an articulated training pathway for Indigenous people residing in rural and remote NSW.

Opportunity 4.1: Building capacity in allied health services

Build capacity in allied health services through service development strategies including delegation, telehealth and skill sharing. To build this capacity, there is an opportunity for investment in a change process to redefine organisational processes, team roles and functions; offer further education and training where required to support delegation and skill sharing; ensure availability of necessary infrastructure and equipment.

Opportunity 4.2: Enabling a Rural Allied Health Pipeline

Opportunities exist to explore trialling the establishment of two and three year graduate allied health positions which include postgraduate study, quarantined training and supervision time and an opportunity to participate in innovative service development projects. Students of rural origin and/or demonstrated interest in rural practice (through participation in rural student placements) are recruited in their final year of study for employment in a graduate position at a pre-determined location with an Early Career Program in place.

Rationale

Emerging evidence in medicine suggests that rural origin selection, decentralised training and establishment of regional clinical networks are translating to increased rural practice particularly among GPs. However, medicine differs to other health professions as medical students and junior doctors can be maintained on rural training pathways via prevocational and vocational training posts.

Current research has not adequately explored the potential linkages between rural training and employment in the allied health sector. While high levels of intent to practice rurally have been reported after rural student placements, the extent to which intent translates to working in rural practice is limited.

The AHRGP is a model that has been under development since 2013 that is built around three key components: Workforce and employment structures, service development and education and training. It includes a recruitment and retention framework that can be adapted to new and existing positions which includes quarantined supervision time, formal university level education and participation in service development projects.

The AHRGP is intended to support AHPs in the formative stages of their career to increase rates of recruitment and retention. There is an opportunity to implement the pathway on a relatively cost neutral basis by identifying, redesigning existing positions and restructuring training funding structures to targeted AHPs with up to five years' experience.

Opportunity 5: Developing incentives, mentoring and supervision structures

Health services should consider developing a "Whole of Person Rural Retention Framework" tailoring the recruitment and retention package to the individual considering their personal priorities and the location and service model in which they work. This can be applied to new recruits and existing staff. The AHRGP offers strategies for consideration.

Rationale

Financial and non-financial incentives, access to mentoring, quarantined supervision time and continuing professional development are recognised factors influencing recruitment and retention in conjunction with career stage and personal circumstances. The AHRGP includes a recruitment and retention framework that can be adapted to new and existing positions. It can be implemented on a relatively cost neutral basis by redesigning existing positions and training funding structures.

Opportunity 6: Creating a fund blending approach and building cross agency services

The sector could establish a regionally focused governance group representative of key local stakeholders such as Local Health Districts (LHDs), PHNs, NSW RDN and Aboriginal Community Controlled Health Services(s) and key aged care and NDIS provider organisations to identify and develop options for cross agency service and shared workforce arrangements.

Rationale

The viability of allied health service provision is challenged by complex funding sources and service systems. This is a contributor to poor recruitment and retention and challenges sustainability of allied health services.

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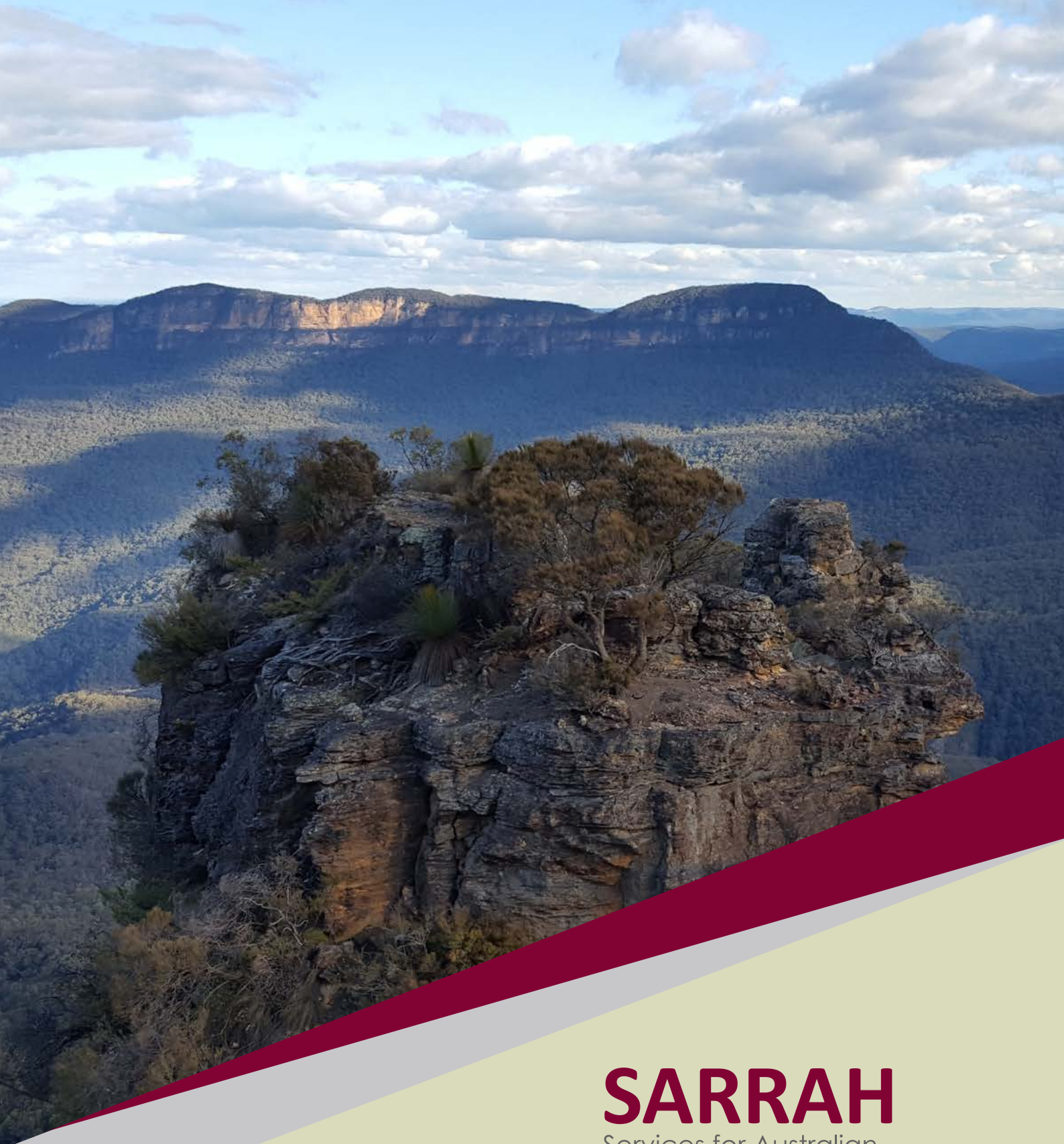
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