Independent Evaluation of the Rural Health Multidisciplinary Training Program

Final Report to the Commonwealth Department of Health May 2020 **Australia**

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Acronyms

ACCHO	Aboriginal Community Controlled Health Organisation
ACRRM	Australian College of Rural and Remote Medicine
Ahpra	Australian Health Practitioner Regulation Agency
AIHW	Australian Institute of Health and Welfare
AMC	Australian Medical Council
ANMAC	Australian Nursing and Midwifery Accreditation Council
APHCRI	Australian Primary Health Care Research Institute
ARC	Australian Research Council
ARHEN	Australian Rural Health Education Network
ASGS	Australian Statistical Geography Standard
RA1	Australian Statistical Geography Standard Remoteness Area 1—Major City
RA2	Australian Statistical Geography Standard Remoteness Area 2-Inner Regional
RA3	Australian Statistical Geography Standard Remoteness Area 3-Outer Regional
RA4	Australian Statistical Geography Standard Remoteness Area 4—Remote
RA5	Australian Statistical Geography Standard Remoteness Area 5—Very Remote
ATAR	Australian Tertiary Admissions Rank
CRRH	Centre for Rural and Remote Health (Mt Isa)
CSP	Commonwealth Supported Place
CAGR	Compound Average Growth Rate
CATSINaM	Congress of Aboriginal and Torres Strait Islander Nurses and Midwives
DDS	Demand Driven System
DTERP	Dental Training Expanding Rural Placements
DMO	District Medical Officer (Northern Territory)
EIF	Education Investment Fund
ERP	Estimated Resident Population
ERG	Expert Reference Group

ECPP	Extended Clinical Placement Program
FRAME	Federation of Australian Medical Educators
FTE	Full-time Equivalent
GDH	Gove District Hospital
GP	General Practitioner
GIRS	Geographic Index of Relative Supply
HECS	Higher Education Contribution Scheme
IAHA	Indigenous Allied Health Australia
IRTP	Integrated Rural Training Pipeline
IMG	Internationally Trained Medical Graduate
КВС	KBC Australia
КРІ	Key Performance Indicator
LHD	Local Health District
LHN	Local Health Network
MD	Medical Doctorate
MDANZ	Medical Deans Australia and New Zealand
MSOD	Medical Schools Outcomes Database
MABEL	Medicine in Australia: Balancing Employment and Life
ММ	Modified Monash (Model)
NHMRC	National Health and Medical Research Council
NRHA	National Rural Health Alliance
NGO	Non-government Organisation
NCMEC	North Coast Medical Education Collaboration
NTBMS	Northern Territory Bonded Medical Scheme
NTMP	Northern Territory Medical Program
OSCE	Objective Structured Clinical Examination
PGY	Post Graduate Year
PIP	Practice Incentive Payment

PHCRED	Primary Health	Care Research	Evaluation an	d Development

- **PHN** Primary Health Network
- **PSM** Propensity Score Matching
- **RACGP** Royal Australian College for General Practitioners
- **RANZCOG** Royal Australian and New Zealand College of Obstetrics and Gynaecology
- **RTH** Regional Training Hub
- **RHPP** Remote Health Practice Program
- **RTO** Regional Training Organisation
- **RVTS** Remote Vocational Training Scheme
- **RFDS** Royal Flying Doctors Service
- RCS Rural Clinical School
- **RCSWA** Rural Clinical School of Western Australia
- **RCTS** Rural Clinical Training and Support
- **RG** Rural Generalist
- **RHC** Rural Health Club
- **RHMT** Rural Health Multidisciplinary Training
- **RJDTIF** Rural Junior Doctor Training Innovation Fund
- **RWA** Rural Workforce Agency
- SARRAH Services for Australian Rural and Remote Allied Health
- **STP** Specialist Training Program
- **TEHS** Top End Health Service
- **UMAT** Undergraduate Medicine and Health Science Admission Test
- UCRH University Centre for Rural Health (Lismore)
- **UDRH** University Department of Rural Health
- VET Vocational Education and Training
- WACRH Western Australia Centre for Rural Health

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Executive Summary

Executive Summary

Introduction

The Rural Health Multidisciplinary Training (RHMT) program is one of several Commonwealth rural health workforce programs aiming to increase the number of health professionals working in rural, remote and regional Australia.

Through the RHMT program and its precursors, the Commonwealth has demonstrated a twenty year commitment to support the training of health students in rural, remote and regional Australia as an initial step towards a rural health career. Twenty-one universities are currently funded under the RHMT program, establishing a national network of 19 Rural Clinical Schools (RCSs) and 16 University Departments of Rural Health (UDRHs) to provide the infrastructure and academic networks for teaching and training.

The RHMT program operates in a complex and somewhat fragile environment where geographic health workforce maldistribution exists. It is a health workforce program delivered through the higher education sector where education policies can take precedence over rural workforce policies and as such is impacted by changes in higher education policy and funding. While Commonwealth, state and territory health workforce training and employment policies intersect with the RHMT program, alignment of these programs is not consistently visible or maximised.

In April 2019 KBC Australia was commissioned to undertake an evaluation of the RHMT program to assess the extent to which the current design and delivery of the program is achieving the program's aim of improving the recruitment and retention of medical, nursing, dental and allied health professionals in rural and remote Australia. In addition, the evaluation has considered the benefits to local health delivery from engagement in teaching and training through the RHMT program.

The evaluation used a mixed-methods approach. This included interviewing over 980 stakeholders in semi-structured interviews, focus groups and roundtables, 30 written submissions from peak and professional bodies, two national electronic surveys (Multidisciplinary Health Workforce Survey >4,000 responses; RHMT program staff survey, 411 responses), review of longitudinal workforce data, and review of program reports and expenditure data. An Expert Reference Group provided advice to the Department of Health (the Department) and the evaluators in the development of the methodology and execution of the evaluation.

It should be noted that the evaluation was at a program level, not of individual universities or organisational units and inherent differences between universities based on the length of time they had been running and historical funding received was recognised. However, the evaluation found great variability between universities in terms of delivering on targets, quality of placements, financial support from the individual university to their RCS and/or UDRH and, alignment of the university goals with the RHMT program goals and intent. This may reflect differing commitment to the RHMT program at the universities' central campuses which can require strong advocacy from the RCS/UDRH Directors to promote rural training and to bring about changes towards program objectives.

This evaluation found that overall, the RHMT program has been an appropriate response and important contributor to addressing rural workforce shortage. After two decades it is a strong foundation for rural health workforce training and research in rural, remote and regional areas which is now considered routine.

The maturity of the RHMT program is recognised, as is the inherent value it provides to communities and health services.

Overview of Program Achievements

The RCSs and UDRHs have established a university presence in rural communities across Australia, built new capital infrastructure, developed local academic and professional networks, enabled the teaching and supervision of health students beyond the confines of the city, developed rural and remote research capacity and expertise, and strengthened clinical service delivery across Australia.

Teaching Innovation

Teaching innovation is a hallmark of the RHMT program, demonstrating that universities can be supported to deliver tertiary-level teaching and training to health students in rural, remote and regional settings to an equivalent, or higher, standard than that of metropolitan settings.

RCSs have developed networks of clinical supervisors in rural, regional, remote and very remote locations and in hospital, general practice and Aboriginal and Torres Strait Islander primary health care settings for the delivery of extended and short-term placements for medical students. These local networks offer innovative and diverse learning opportunities for medical students during extended placements.

Some excellent new service-learning allied health placement models have emerged. While they were initially in response to community and workforce need, they are becoming widely spread across the UDRH network for "real world" training opportunities and, provide therapeutic interventions to meet local health service gaps. Service-learning placements have been developed for a range of disciplines and are delivered in a diversity of settings such as schools, residential aged care, Aboriginal Community Controlled Health Organisations (ACCHOs), private practices, community organisations, hospitals and remote health clinics.

While nursing curricula requires the majority of clinical placements to be short-term and to occur in acute care settings, the UDRHs have developed strategies to support rural and regional hospitals to increase the volume of student placements as well as developing new placement opportunities to enable student nurses experience of and exposure to primary care, mental health, aged care and remote health.

Workforce Outcomes

Many external factors influence where health professionals work. The established evidence base describes community, personal and professional factors as drivers for recruitment and

retention of health professionals to rural and remote areas. Furthermore, Commonwealth and state/territory health workforce policies and initiatives impact on the availability of vocational training and employment opportunities for all health professionals.

The evaluation found strong evidence of the positive impact of longer-term rural medical placements on rural workforce outcome. This is supported by the available literature that demonstrates after controlling for rural background, students who are RCS participants are significantly more likely to take up rural practice; and those exposed to clinical training in both general practice and rural hospital settings were associated with subsequent practice in smaller regional and rural centres.

With the exception of one inter-university study the majority of literature to date is from singleinstitution studies. The assessment of the impact of the RHMT program would be strengthened by universities agreeing common methodology and variables to enable comparison of medical workforce outcomes across universities and at a program level. (Recommendation 21)

Relative to the research literature on RCS program effectiveness, few studies have investigated workforce outcomes associated with rural placements for nursing, allied health and dental students. While the intent of graduate tracking of multidisciplinary students is to determine the impact of the UDRH supported placement on rural workforce outcome, the evaluation identified multiple confounders that challenge the feasibility of UDRHs tracking students. (Recommendation 22)

Given the absence of research into the impact of undergraduate rural placements on rural workforce outcomes for nursing and allied health, the Multidisciplinary Health Workforce Survey was conducted. It is the first national study to demonstrate the impact of allied health and nursing undergraduate rural placement on rural work. It found that graduates who had the most rural clinical placement student experience (average of 20 weeks) were working more in regional, rural and remote Australia (ASGC RA2-5) than graduates who did not undertake a rural clinical placement. On average, allied health professionals worked an additional 12.07 hours of rural work per week (0.32 FTE) and nursing and midwifery graduates worked 18.02 more hours per week (0.47 FTE). These findings demonstrate the impact of cumulative rural placement and positive rural placement experiences on future rural work for nurses and allied health professionals.

Community Benefits

The RHMT program provides a range of benefits to the communities in which they operate, noting the variation between universities and between sites.

The RHMT program has a direct economic benefit to communities and regions through the investment in university infrastructure, academic and professional staff, accommodation, student support and student expenditure while on placement. Economic analyses undertaken by two universities demonstrate a positive multiplier effect of around two i.e., for every dollar spent under the RHMT program another dollar is generated in the local economy.

Academic and professional staff contribute to the social fabric of the communities where they reside through their participation in professional and community networks, local governance and regional development activities, and as individual citizens.

Across RHMT program sites, students were found to contribute to communities through volunteering, mentoring young people, participation in sporting and community activities and career expos. They also provide additional capacity to health and community services both directly through service-learning placements and indirectly supporting local clinicians in the development of new health programs and resources and support for research and quality improvement activities.

Community development activities supported through the RHMT program were found to be multi-faceted and extensive. There were multiple examples of RCSs and UDRHs working with local government, ACCHOs and non-government organisations to undertake locally relevant research and needs assessments to develop funding proposals, inform health promotion projects and service development strategies, with some supporting the local government in the development of community social plans, policy and programs. Community development strategies underpinned the work of UDRHs to expand clinical placement opportunities, working with Aboriginal and Torres Strait Islander community organisations, local government, disability services and non-government organisations to develop placements and through these providing a raft of new programs or strengthening existing programs. After school programs, school holiday and youth programs, falls prevention programs and group exercise programs were examples, in addition to direct clinical and therapeutic interventions offered through service-learning placements and student-led clinics. Research networks and local conferences auspiced by UDRHs and RCSs showcase community development activities and are illustrative of the community agenda driving the research agenda.

The RCSs and UDRHs offer professional development and delivery of short courses for local health professionals. Many offer customised cultural training for health and community services and provide opportunities for health professionals to combine teaching and/or research with clinical work as a recruitment and/or retention strategy for local health services.

While the evaluation found evidence of the value of rural placements as a 'workforce generator' or supply line for graduate nurse positions and allied health positions, there were very few graduate positions available, particularly for allied health. However, there is great potential for the creation of new positions within organisations when they see the benefit arising from a placement; with longer placements effectively serving as a long interview and recruitment strategy and, supporting transition to rural work. Alumni of the RHMT program inclusive of doctors, allied health professionals, nurses and dentists were identified in many communities, working in their professions and often also teaching and supervising current students.

The precursors to the RHMT program were founded on innovation and social accountability. To ensure the rural integrity of the program is maintained and continues to be responsive to communities, universities need to ensure there are mechanisms in place for engagement with key stakeholders for planning, monitoring and review, and quality improvement specific to the major components of the program and; financial investment in the regions is maximised. (Recommendations 19, 20)

Strengthening the RCS and UDRH Research Network

Through the network of RCSs and UDRHs, rural and remote research capability and capacity has been built over time with each centre having the autonomy to develop their own research

strategy and direction.

The RCS and UDRH networks have delivered on a broad program of research and developed the research capacity of the rural and remote health workforce. The RCS and UDRH networks undertake highly valued work at local and regional levels to build research skills and capability for students, graduates, supervisors and local health professionals and undertake locally relevant research and evaluation.

The network has been instrumental in progressing research in rural and remote health, rural health workforce, rural health service delivery and rural training. Research has been funded through various sources including highly competitive National Health and Medical Research Council grants, philanthropic programs, tenders, locally commissioned research and evaluation projects, and RHMT program funds. Access to national and competitive research funds are highly dependent on academic leadership in the RCS and UDRH. An extensive body of publications has been produced and several key collaborative research efforts have informed a number of Commonwealth health workforce policy initiatives.

The evaluation found central university recognition and support of rurally based researchers was variable. Research capability and capacity across the RCS and UDRH network could be strengthened by central universities supporting rural and remote health service and health practitioner education researchers to connect with established research teams and institutes. Facilitating and supporting collaborations across universities and across jurisdictions is required to address nationally relevant research questions. (Recommendations 15, 16)

Value for Money

The evaluation has found that through the RCS and UDRH networks the RHMT program has delivered multifaceted social and economic benefits to rural communities, health and community services, rural health professionals, supervisors and students, in addition to those benefits directly related to teaching and research. In the next iteration of the program, the universities should be encouraged to report and evaluate the efficacy and impact of these initiatives and in so doing, demonstrate the value-add of the RHMT program investment in the regions. (Recommendation 24)

In 2018, recurrent funding for participating universities totalled \$127m for RCSs, \$66.1 m for UDRHs and approximately \$3.7m for the Dental Training Expanded Rural Placement program (DTERP). The weighted average cost per rural placement week was \$1,245 (std. dev. \$761) for RCS rural placements; \$953 (std. dev.: \$629) for UDRH placements and \$1,210 (std. dev.: \$571) for dental placements. Approximately three quarters (74.5%) of RCS rural placement weeks and 95% of UDRH placement weeks had an average cost of less than \$1,500 per week.

The positive contribution of the RHMT program to rural medical workforce has been described. While the evaluation has established an indicative cost of rural medical placements, data limitations precluded a cost effectiveness analysis of the RHMT program for medical workforce outcomes.

The evaluation provides evidence of the positive impact of rural clinical placements for nursing and allied health students on future rural work. The cost-effectiveness analysis shows that an

investment of approximately \$19,000 in 20 weeks of undergraduate rural placement yields an additional 12 or 18 hours of rural work per week by an allied health professional or Registered Nurse respectively. While the Multidisciplinary Health Workforce Survey could not differentiate UDRH supported placements from non-UDRH rural placements, the analysis demonstrates the value to the rural workforce by investment in rural placements.

Greater transparency of allocation of resources (in-kind and financial) and program expenditure by the universities and, more targeted performance and outcome measures at a program and university level would enable a stronger assessment of value for money.

Evidence to Inform Program Improvement

The research generated through the RHMT program provides a strong body of evidence for the predictors of rural practice. These include selection of rural origin students; the rurality of placement; placement setting inclusive of primary care and acute care in both regional and small hospitals; quality of placement of which supervision capability is essential and; a positive rural training experience inclusive of access to accommodation, financial and pastoral support. This evidence offers a sound framework for assessment of the training aspects of the program and to inform future training models to improve rural health workforce outcomes.

Rural background and student selection

Rural origin targets have been in place for medicine since the establishment of RCSs and introduced for nursing, allied health and dental in the 2016-2018 agreement as a strategy to develop the future rural health workforce. Most universities have met their respective targets although two medical programs struggled to meet the rural origin targets as did four universities for allied health. Competition between universities for rural origin students was identified as a contemporary issue.

While the RHMT program has influenced rural origin student enrolments, mechanisms to identify and preference rural students, as well as those with an interest in future rural work, for rural placements differs between universities and between health courses. Furthermore, generating the interest of metropolitan students in rural health is challenged by limited rural health topics in course curricula. (Recommendation 5)

The increased number of tertiary health programs and student enrolments has increased the demand for student placements. Furthermore, rural placements are increasingly being recognised as opportunities for good learning experiences. Therefore, selection of students for rural placements should identify and preference students with a genuine interest in rural and remote health. (Recommendation 3)

Clinical Placements

The RHMT program has successfully supported the provision of rural training experiences for thousands of students across a wide range of health disciplines for the past two decades. In 2018, 997 graduating medical students had completed a clinical placement of a year or more at an RCS and more than 2,400 graduating medical students undertook short rural placements.

The RCSs provided a total of 6,384 rural placements in 2018 of which 1,627 (25%) were long placements and 4,757 (75%) short placements. In total the RCSs supported 95,961 placement weeks.

In the same year, a total of 13,133 placements were provided by 15 UDRHs, totalling 65,014 placement weeks with an average length of 5 weeks. UDRHs have developed strong academic networks in local communities and in recent years have demonstrated significant innovation in creating and sustaining service-learning placements and student-led clinics that directly support the health of rural communities. Students express high levels of satisfaction with rural placements and value the breadth of clinical exposure, opportunities to have "hands on" experience and individualised teaching they receive through the RHMT program.

Quality of placement

The RHMT program has multiple and inter-twined components that underpin the delivery of quality placements. While 'quality' is not defined under the RHMT program framework, an evaluative rubric was developed and applied to assess placement quality.

UDRHs, to a greater extent than RCSs, are challenged in consistently delivering quality placements and meeting placement targets. The evaluation found that there is a tension between delivering high-quality innovative placements that are resource intensive or shorter and less intensive placements (e.g. providing accommodation) that "deliver the numbers" to meet placement targets. Placements such as service-learning and student-led clinics enable students to gain experience in rural models of care, and increase service capacity or meet local health care gaps. However, to sustain these types of service-learning placements UDRHs require a consistent stream of students who value the rural experience. Where this has been achieved, UDRHs have been able to negotiate with universities or faculties, with similar commitment to rural communities, for flexibility in placement duration and setting. Establishing, managing and maintaining partnerships with placement partners requires sustained effort by the UDRHs.

It is recognised that placement targets and benchmarks are valuable for assessing the implementation, reach and achievements of the program. However, in developing performance measures more nuance is needed in the way placements are reported that considers a range of factors such as duration, setting, location, opportunities for inter-professional learning, as well as how quality is determined, and data interpreted. (Recommendations 6, 7, 12, 13)

Supervision quality and capacity

The quality of rural training is highly dependent on the quality of supervision. The evaluation identified innovative supervision models and supports structured to build and maintain local and regional capacity. Direct employment or sub-contracting is often used by UDRHs. Some RCSs offer part-time employment as a mainstay for rural and remote sites, while others have used adjunct appointments or a mix of engagement arrangements.

RCSs and UDRHs described a range of activities to develop supervisory skills and capability, while recognising this is an area for ongoing effort and improvement, particularly in an environment where there is considerable movement of supervisors. An evaluative rubric for supervision

capacity and capability was developed providing a benchmark for assessing supervision capacity building and could be used by the universities for ongoing quality improvement. To ensure sustainability universities need to be proactive in developing supervision capacity, particularly in areas of workforce fragility in smaller communities. (Recommendations 11,12)

Placement duration

Rural placement duration is determined by each faculty based on their program accreditation. While the RCS placements are usually a year, UDRHs have limited influence over the length of placements. A small number of UDRHs were identified as having worked with their central university to review allied health curricula and establish longer rural immersions (up to a year). Some UDRHs have been innovative in developing nursing placements in primary care, community mental health and remote health by topping and tailing acute care placements with these non-acute placements. To facilitate longer rural placements and in care settings reflective of rural and remote employment options requires universities to review allied health and nursing curricula and course requirements in the first instance and, to negotiate placement length and settings with state health and other services. (Recommendation 7)

Rurality of Placement and Placement setting

Workforce maldistribution persists in rural, remote and very remote locations (RA3-5) for general practitioners, general medical specialists, allied health professionals and dentists. While the nursing workforce is distributed across geographical areas it is an ageing workforce in rural and remote locations. The health needs of communities are changing with an ageing population, increased prevalence and acuity of chronic disease, and with this, changing models of care and approaches to service delivery are required.

Emerging evidence indicates that rurality of clinical placement and placement setting are both predictors for rural practice and working in smaller communities. However, the majority of clinical placements delivered through the RHMT program occur in RA2 areas. In 2018, nearly three quarters (73%) of long rural medical placements, over half (56%) of all allied health and nursing placements and 80% of DTERP supported placements were in RA2 (inner regional) locations.

More than two thirds of long-term medical placement weeks are in the hospital setting, with the remainder in general practice, ACCHOs and combined GP/hospital settings. Teaching in hospitals in RA2 is generally by medical specialists and hence students have limited exposure to general practice. Similarly given the changing demographics and health needs, allied health and nursing students require placements in non-acute care settings.

To prepare the future health workforce for this changing rural health environment and workforce requirements the RHMT program needs a more nuanced approach to training that considers the evidence of the impact of placement duration, location and setting on workforce outcomes. As a mature program, it can build on the training capacity that has been established, predominantly in RA2 and regional settings, as a stepping-stone, to increase and support placements and supervision in smaller towns. Where there may be limited options for extended placements in smaller communities, actively using regional towns as hubs to support students and supervisors

for placements in smaller rural and remote sites should be encouraged. (Recommendations 6, 11, 14, 27)

Aboriginal and Torres Strait Islander health

An objective of the RHMT program is to support health professionals to improve Aboriginal and Torres Strait Islander health. The evaluation has found that Aboriginal and Torres Strait Islander health should be embedded across all aspects of the program rather than activity being described in a separate parameter (Parameter 6) in particular ensuring the cultural safety of students, staff and supervisors; ensuring culturally safe placements and workplaces for Aboriginal and Torres Strait Islander students and staff and; ensuring reciprocal benefit to ACCHOs and communities that host student placements.

Aspects of Parameter 6 are the responsibility of the central university rather than the RCSs or UDRHs for example, enrolment and graduation of Aboriginal and Torres Strait Islander students, and the extent to which Aboriginal and Torres Strait Islander health is scaffolded into program curricula. (Recommendation 4).

Cultural Safety

Cultural safety training aims to ensure that students and staff act in ways that recognise and respect the cultural identify of a person and safely meet their needs, expectations and rights and, is an essential element of quality placement and supervision. Cultural preparedness of students for rural placement is a core requirement of the RHMT program, with universities required to report on the number of students receiving "cultural training". However, cultural training in this context is not clearly defined.

The Australian Health Practitioner Regulation Agency, through its Strategy Group, led by the Aboriginal and Torres Strait Islander members and in partnership with the National Health Leadership Forum, consulted on and finalised a baseline definition of cultural safety.¹ While a number of RHMT program sites have developed and deliver cultural safety training that aligns with this standard, this is not consistent across the RHMT program network. (Recommendation 8)

Engagement with Aboriginal and Torres Strait Islander health services and communities

Establishing placements in ACCHOs requires the universities to have a genuine commitment to developing the cultural responsiveness of non-Indigenous students and providing reciprocal benefit to the ACCHO and/or local community. The evaluation identified numerous examples where this reciprocal benefit was evident and, in most cases where there was meaningful engagement with local ACCHOs this was facilitated by Aboriginal and Torres Strait Islander staff taking the lead.

UDRHs and RCSs draw on local Aboriginal and Torres Strait Islander people to fulfil a range of roles to support the delivery of cultural safety training to non-Indigenous students, supervisors

¹ <u>https://www.ahpra.gov.au/About-AHPRA/Aboriginal-and-Torres-Strait-Islander-Health-Strategy.aspx</u>

and other health professionals, provide mentoring and support to Aboriginal and Torres Strait Islander students and participate in various teaching activities. Many of these roles are performed on a casual or ad hoc basis. However, the evaluation found the inflexibility of human resource policies and processes in some universities challenged respectful engagement, employment and recognition of their Aboriginality as a qualification. (Recommendation 10)

By strengthening Aboriginal and Torres Strait Islander teams and leadership within the RCSs and UDRHs, the universities can leverage on this expertise for input into the planning, delivery, monitoring and review of the key components of the RHMT program including teaching, placements, supervision capacity building, cultural safety of placements, cultural safety of the workplace, research, community and service engagement and community development. (Recommendations 9,10).

Transitioning medical students to Rural Work

The evidence indicates that for medicine, participation in rural and regional internships, prevocational training and GP training are predictors for rural practice. Regional Training Hubs (RTHs) are part of the Integrated Rural Training Pipeline which recognises the gap between graduation from medical school into regional prevocational and vocational training, and variable, and often limited availability of accredited training posts.

While the evaluation identified concerns in the negotiation and early implementation of the RTHs, they clearly have a role in supporting the transition of RCS graduates and other medical students with a genuine interest in rural health into prevocational training in the regions. Only about half the RTHs were found to directly engage with medical students and junior doctors for career planning, vocational guidance and facilitating linkage with a rural clinical mentor. This should be a priority for all RTHs. (Recommendation 17)

The Commonwealth funds rural medical training initiatives targeting junior doctors (i.e. Rural Junior Doctor Innovation Training Fund) and registrars to progress GP specialist training through the Australian General Practice Training rural stream and Rural Generalist Pathway and; non-GP specialist vocational pathways (i.e. Specialist Training Program and Integrated Rural Training Pipeline stream). In addition, the Commonwealth funds the Rural Workforce Agencies to support the recruitment and retention of GPs to rural areas. States and territories have responsibility for the employment and training of interns, junior doctors and hospital-based registrars on vocational pathways.

While the focus of RTH activity has been on non-GP specialist training pathways, including by supporting health services to apply for Specialist Training Program and Integrated Rural Training Pipeline posts, increased attention could be given to the RTHs working with other stakeholders to progress generalist (GP and non-GP) pathways in the future, given the reliance of rural communities on a primary care and the generalist workforce.

The evaluation identified examples where common interests and shared goals between key stakeholder groups (i.e. Local Health Network, regional and rural hospitals, general practices and/ or ACCHOs, GP Regional Training Organisations, the RTH and RCS) enabled the development of rural medical training pathways and development of the medical workforce relevant to local need. The co-design of medical training and employment strategies at jurisdiction and regional levels offers the potential for aligned activities toward regional workforce outcomes across

these programs. (Recommendation 18)

Clarifying the focus and intent of the RHMT program

Analysis of the funding schedule and feedback from program participants shows there is insufficient alignment and clear connection between the key elements of the operational framework of the RHMT program (i.e. the overarching aim, objectives, and parameters that focus key areas of activity) and core requirements against which universities are required to report.

Across the RHMT program, there is no penalty for universities if program targets or objectives are not met. Furthermore, the evaluation found very little evidence of internal evaluation of individual university programs. The RHMT program would be enhanced by having a set of principles and focused program objectives and outcome measures that reflect the intent of the program, and teaching and research activities for which universities are directly accountable. (Recommendations 1,2)

A monitoring and evaluation framework at both a program level and individual university level would provide a stronger mechanism for assessing and monitoring performance for formative and summative purposes in the next iteration of the program. (Recommendation 23, 24).

Funding and Innovation

Progressing a multidisciplinary training and career pathway

For allied health and nursing, emerging evidence indicates that the most significant predictive factor for longer term rural practice was initial rural practice i.e. the first job for allied health and nurses after an undergraduate degree. The evaluation identified a role for UDRHs to support the transition of graduates into rural work. UDRHs have demonstrated their capacity and capability to directly supervise students, develop and support supervision capacity of other health professionals in acute and community care settings, and provide pastoral care and support to individual students, all of which can be applied to early career graduates and the services in which they work. Furthermore, augmenting supervision capacity in local health and community services provides future benefit to the UDRH through increased student placement capacity and supervision capability. (Recommendation 28).

Stakeholders contributing to the evaluation identified a role for the UDRHs and RHMT program funded universities to develop pathways to articulate training for Enrolled Nurses, Aboriginal Health Workers and Practitioners, and Allied Health Assistants to tertiary qualifications. As locally placed entities UDRHs are well positioned to develop pathways between rural secondary schools, the Vocational Education and Training sector and universities, and could provide educational support and placement support to rural and remote residents enrolled in online health courses. This extends opportunities for end to end training and aligns with the *National Regional, Rural and Remote Education Strategy* to improve access to tertiary study options for students in rural, remote and regional areas. (Recommendation 29).

Expanding RHMT program activities to increase reach

UDRHs are located in each state and the Northern Territory. However, there are obvious geographic gaps in coverage including Central Queensland and the South West and Goldfields regions of WA. Developing placements in these regions would increase training opportunities in smaller towns and communities (MM 3-7 regions). (Recommendation 25)

Currently, each UDRH receives a comparable quantum of funding. However, there are higher operating costs for UDRHs that support and maintain staffing and supervision across dispersed communities as well as costs associated with supporting students to undertake placements (i.e., transport and relative accommodation costs) in more remote locations.

It is acknowledged that the RHMT program operates within a finite budget and, in the absence of an increase in program funding, re-allocation of existing resources would be required to recognise differences in operating costs and support training in more remote environments. (Recommendation 26)

Progressing innovation

The RCS and UDRH network have established approaches to training and research in their regions. This evaluation suggests that universities should be encouraged to develop and progress new models for training and supervision, research collaborations and community consultative mechanisms to provide benefit within their own geographic region and to inform the broader RHMT program participants. Furthermore, there is a small number of universities that deliver the majority of their placements in RA 3-5 (MM 4-7)² which can be built on with targeted resourcing. (Recommendation 27)

Recommendations

Recommendations are offered to improve the various components of the RHMT program to ensure it continues to be an appropriate approach to addressing current and emergent rural health workforce shortages, contemporary models of care, and characteristics of the new generation of health professionals. The RHMT program is situated in a complex and changing health and higher education policy environment which needs to be considered in the future iteration of the program.

Program Outcomes, Objectives and Principles (Recommendations 1, 2)

Recommendation 1

The Department, in consultation with the universities, refine the objectives and outcomes of the RHMT program to better reflect the sphere of influence of the universities toward achieving the long-term goal of a health workforce that is clinically and professionally capable and culturally responsive for rural and remote health practice.

² Currently the RHMT program uses the ASGS – RA classification of geographical remoteness. There is a recognised anomaly of this classification particularly for RA3. The Department is moving to adopt the Modified Monash (MM) Model geographic classification for all workforce programs and it is our understanding that the RHMT program will transition to MM.

Recommendation 2

The Department, in consultation with the universities, adopt a set of principles to underpin the objectives and implementation of the RHMT program.

Student Selection (Recommendation 3)

Recommendation 3

The RHMT program requires each university to demonstrate how their selection process for rural placements identifies students with a genuine interest in rural health and preferences these students for extended and/or innovative rural placements.

Curricula (Recommendations 4, 5)

Recommendation 4

The RHMT program requires universities to demonstrate that they meet Australian Medical Council, Australian Nursing Midwifery Accreditation Council or professional association accreditation requirements for the inclusion of Aboriginal and Torres Strait Islander health in their health program curricula.

Recommendation 5

The Department consult with the universities to determine how rural health could be incorporated into their health program curricula

Placement Quality (Recommendations 6 - 13)

Recommendation 6

In setting targets and benchmarks at both the RHMT program and individual university levels, the Department should consider factors including: placement location; placement setting; quality and; innovative nature of the placement.

Recommendation 7

To facilitate longer rural immersive placements, the RHMT program encourages:

- Universities to review allied health and nursing curricula and clinical placement requirements to enable longer rural placements in and across acute, nonacute and community care settings reflective of employment options in rural and remote communities.
- UDRHs to work with specific and/or like-minded universities or faculties and health and community services to develop longer rural immersions for nursing and allied health students, particularly to sustain student-led service-learning models.

Recommendation 8

The RHMT program adopts the Ahpra definition of cultural safety to inform the development and delivery of cultural safety training for students, staff and supervisors.

Recommendation 9

Through the RHMT program the universities be required to demonstrate their strategy for ensuring cultural safety of student placements and workplaces for all students, staff and supervisors.

Recommendation 10

Through the RHMT program, the universities are encouraged to:

- Employ senior Aboriginal and Torres Strait Islander academics in leadership positions
- Recognise and value Aboriginal and Torres Strait Islander expertise in addition to academic and/or professional qualifications for employed staff and people employed on a casual or contract basis
- Develop a team of Aboriginal and Torres Strait Islander staff to work with and enact strategies for ongoing engagement with Aboriginal and Torres Strait Islander health services, organisations and communities, deliver cultural safety training and support Aboriginal and Torres Strait Islander students on placements
- Develop tailored professional development programs aligned to career goals of Aboriginal and Torres Strait Islander staff

Recommendation 11

To strengthen supervision capacity and capability in rural, remote and regional sites, the RHMT program encourages universities to engage with current and potential supervisors on a regular basis to identify and implement:

- Supports and skills development required to commence or continue to provide supervision to students
- Employment or other engagement and recognition arrangements required recognising possible differences between localities, settings and disciplines
- ► Opportunities for localised or regional innovative supervision models.

Recommendation 12

The RHMT program requires each university to adopt a continuous improvement process to benchmark and review the quality of placements and supervision capacity building strategies.

Recommendation 13

The Department consult with the universities to determine how interprofessional learning could be progressed through the RHMT program.

Responding to community and workforce need (Recommendation 14)

Recommendation 14

In the next iteration of the program, the RHMT program requires all universities to:

- Invest to incrementally increase the proportion of placements provided in smaller communities
- Develop and sustain extended medical placements with exposure to general practice, ACCHOs, primary health care and rural hospitals to enable students to develop knowledge of the clinical skills and professional capabilities required of doctors working in rural and remote generalist models of care
- Develop longer immersive allied health and nursing placements in community and non-acute care settings in conjunction with local health and community care providers

Strengthening research networks (Recommendations 15 - 16)

Recommendation 15

Through the RHMT program, the universities be required to demonstrate that they are supporting rural research through the RCS and UDRH network by:

- Delivering high-quality research training, skills development and research support to local health professionals, supervisors, students and broader community stakeholders
- Developing regional consultative mechanisms to identify and respond to local research needs.

Recommendation 16

Through the RHMT program universities be required to demonstrate how:

- RCS and UDRH researchers are mentored and supported to build their research capabilities and careers
- Targeted support and mentoring is provided for rural based early career researchers, mid-level and senior researchers to enable them to join established research teams to address national and global research questions related to rural and regional health and health workforce
- ▶ Rural research and teaching is recognised, valued and rewarded
- Collaborations with other RHMT program participants are developed and maintained to progress multi-site, multi-university and cross jurisdictional research to address nationally relevant questions and strategies for translation and dissemination.

Transitioning medical students to rural work (Recommendations 17 - 18)

Recommendation 17

Through the RHMT program, RTHs place emphasis on engagement with RCS students and junior doctors for individual vocational planning and career guidance, with linkage to a rural clinical mentor.

Recommendation 18

To enhance the impact of RTHs at a regional level, the Department work with the state and territory governments to explore mechanisms to progress the Integrated Rural Training Pipeline with consideration of a framework that identifies shared goals, joint planning processes, and alignment of resources to support regional training and workforce development.

Social Accountability (Recommendations 19 - 20)

Recommendation 19

The RHMT program requires the universities to have formal consultative mechanisms for engagement with communities and key stakeholders (i.e., health and community services, supervisors, local government) to:

- Identify local and regional training, research, community development priorities
- ▶ Develop, implement, monitor and review collaborations
- Progress evaluation and quality improvement of program components including placements and supervision capacity building
- Provide feedback on initiatives and activities

Recommendation 20

To maintain the rural integrity of the RHMT program, the Department has clear contractual requirements to protect and quarantine rural funding and maximise investment of RHMT program funds in the regions. This includes evidence of:

- Identifying and reporting on investment of RHMT program funds in rural communities
- Involvement of rurally based academics in university and faculty governance processes
- Purchasing locally wherever possible
- Employment of local staff and engaging local contractors
- Engagement with community targeted consultative mechanisms
- Articulation and quantification of in-kind contribution by the university

- Delivering full or extended components of university degrees in regional campuses
- Senior leadership living rurally
- Employment arrangements for rurally based staff comparable to metro counterparts.

Measuring program impact (Recommendations 21 - 22)

Medicine

Recommendation 21

The Department consult with universities to review current approaches to graduate tracking to determine an agreed methodology and variables in order to enable comparison of outcomes across universities.

Nursing and allied Health

Recommendation 22

The Department review the current requirement for UDRHs to track individual allied health and nursing students under the RHMT program agreement.

Program performance (Recommendations 23 - 24)

Recommendation 23

The Department develops a national monitoring and evaluation framework for the RHMT program.

Recommendation 24

The Department require each RHMT program funded university to conduct an evaluation of their RHMT program in the next iteration of the program, using the national monitoring and evaluation framework.

Funding and Innovation (Recommendations 25 - 29)

Recommendation 25

In recognition of geographic gaps in the delivery of multidisciplinary placements, the Department investigate the feasibility of the RHMT program network expanding functions into these regions or establishment of additional UDRH(s).

Recommendation 26

The Department review the funding allocation formula for the RHMT program to take into consideration remoteness for the delivery of the whole program.

Recommendation 27

In the next iteration of the RHMT program, the Department considers:

- Establishing an innovations funding pool to support and drive new initiatives including training, research and community engagement, to enable universities to be agile and responsive within the changing rural environments in which they operate
- Targeted investment to increase training in MM 4-7 through universities that can demonstrate their capacity to deliver high quality, value for money placements in rural and remote areas.

Recommendation 28

In the next iteration of the RHMT program, the Department resources the universities to extend the role of the UDRHs to facilitate transition of allied health and nursing students into graduate roles in rural, remote and regional areas. The key functions include:

- Augment the supervision capacity and capability of local health and community services to enable these agencies to establish graduate and early career positions (i.e., PGY 1-4)
- Engage with students on placement to provide career guidance outlining pathways to rural work and rural careers
- Provide additional education, professional development and mentoring support to new graduates and early career practitioners.

Recommendation 29

The Department of Health consult with the Department of Education, Skills and Employment on the *National Regional, Rural and Remote Education Strategy* to determine the feasibility of extending the role of UDRHs into the pre-university sector and in supporting students enrolled in online health courses.

DRAFT Principles

A set of draft principles is offered for consideration to underpin refinement of the program objectives, recognising the maturity of the RHMT program and the need to reflect the contemporary environment in order to meet current and emergent health and workforce needs of rural and remote communities. We suggest a clear and comprehensive set of objectives could replace current objectives and parameters. This allows for flexibility in how individual universities meet those objectives.

Principle	Rationale
The intent of the RHMT program is to contribute to rural workforce through high quality training and facilitating student engagement with communities to influence rural career choices.	It is designed to help secure a health workforce in rural and remote Australia which is well distributed and made up of the right kind of health professionals, in the right places, at the right time.
The RHMT program is a 'value-add' program.	It aims to assist universities to enhance existing rural health professional education programs where they are committed to contributing to address the rural health workforce issues and developing and testing innovations to do so.
Full and ongoing participation by Aboriginal and Torres Strait Islander people and organisations in activities across the whole RHMT program is central to improving equity and access, strengthening cultural safety and sustaining the community responsiveness of the program.	Equity and access are fundamental to improving the meaningful participation of Aboriginal and Torres Strait Islander people in the RHMT program. Genuine partnerships with Aboriginal and Torres Strait Islander people, organisations and communities will enhance the capacity of universities to deliver on all aspects of the program. Aboriginal and Torres Strait Islander people should be actively supported to participate in the program as students, employees, leaders and partners.
 The RHMT program complements other rural health workforce and education programs. 	It forms part of a suite of programs at Commonwealth, State and local levels and should complement, not duplicate.
The RHMT program has a longitudinal orientation towards 'building rural careers'.	This recognises the role of universities in preparing students for rural careers and in connecting with and supporting post graduate initiatives and programs.

Principle	Rationale
The RHMT program is underpinned by a commitment to community investment and contributes to the social capital of the communities in which it is embedded.	It is important to recognise the economic, social and employment value of rural training sites to their rural communities and the contribution communities and health professionals make to student training.
The RHMT program strongly supports high-quality education and training models that focus on developing rurally capable graduates across a range of health professions.	A generalist rural and remote workforce is required to meet the needs of rural communities including GPs, general specialists, generalist nurses and generalist allied health professionals.
The RHMT program will be responsive to identified and changing workforce needs over time, supporting opportunities for workforce training and retention particularly in smaller communities.	Workforce shortages continue to exist in many locations, particularly in MM 3-7 areas, and these shortages have changed over time. Training should prepare health professionals to be work ready and for the workforce in the right places, that is needed now and in the future.
The RHMT program strongly supports high quality research focused on rural workforce, rural training and service delivery and; research capacity building in rural communities.	Rurally focused research develops an evidence base to inform innovative education and training, rural workforce strategies, rural and remote models of care and service delivery.
The RHMT program has regular and transparent performance monitoring, review and evaluation.	The Department and universities need to be accountable for program delivery ensuring outcomes, benefits and investment is maximised.
The RHMT program supports innovation and collaboration locally, regionally, nationally and internationally.	The RHMT program is part of a complex health workforce and higher education system where community needs, models of care and workforce needs change over time. Responding to these changes requires collaboration, agility and innovation.

1. Background and Introduction

1. Background and Introduction

The Australian Government, Department of Health (the Department) commissioned KBC Australia to undertake an independent evaluation of the Rural Health Multidisciplinary Training (RHMT) program. The RHMT program is a health workforce program, managed by the Health Workforce Division, and is one of a number of Commonwealth initiatives to address rural health workforce shortages and maldistribution.

1.1 RHMT Program

The RHMT program funds a national network of 19 Rural Clinical Schools (RCSs), 16 University Departments of Rural Health (UDRHs) and six dental schools supporting rural placements for medical, nursing and allied health, and dental students, respectively. The program also encompasses the Northern Territory Medical Program (NTMP) and Rural Health Clubs (RHCs). Twenty-one universities participate in the RHMT program with current funding of approximately \$200 million per annum.

The program is grounded upon well-established theory linking undergraduate exposure to rurally based clinical training and the subsequent uptake of a rural health career (Azer et al., 2001; Courtney et al., 2002; Critchley et al., 2007; Dunbabin & Levitt, 2003; Laven & Wilkinson, 2003; Playford et al., 2006; Somers et al., 2007; Playford et al., 2017; O'Sullivan et al., 2018a; McGirr et al., 2019).

1.1.1 Program history

It has been two decades since the first UDRHs and RCSs were established (as separate programs) to provide the infrastructure and academic network needed to train medical, nursing, midwifery and allied health professionals in rural, remote and regional Australia. In 2016, these elements were consolidated under the RHMT program.

The RHMT program uses the Australian Statistical Geography Standard (ASGS), which determines five levels of remoteness (1—major cities, 2—inner regional, 3—outer regional, 4—remote, 5—very remote). RHMT program funded universities are required to provide clinical training placements for students in RA2-5 areas.

University Departments of Rural Health

The first seven UDRHs were established between 1997-1999. Four more were established between 2000 and 2006, and a further four between 2016 and 2017, including the restructure of an existing UDRH (see Table 1-1).¹

Prior to consolidation of the RHMT program (2016-2018), the UDRHs' overarching objective was to improve access to appropriate health services in rural and remote communities by promoting the education, training and professional support of Australia's rural health workforce. Recruiting urban-based professionals to work in rural, remote and regional areas has also been a focus, alongside encouraging students to undertake supported clinical placements in non-urban localities.

UDRHs provide education and training facilities in non-metropolitan locations across Australia, offering opportunities for medical, nursing, midwifery, dental, pharmacy and other allied health students to develop clinical skills in the rural environment. UDRHs also provide education, training and support for local health professionals and conduct research into rural and remote health issues, rural workforce development and service delivery models. The UDRHs are descirbed in Table 1-1.

UDRH ²	Year established	Host university	Region
Broken Hill UDRH, New South Wales, Broken Hill , Bourke, Dareton	1997	University of Sydney	Far West and North West New South Wales
Mt Isa Centre for Rural and Remote Health, Mt Isa , Cloncurry, Longreach, Queensland	1997	James Cook University	Central, North and Far North Queensland
University of SA Department of Rural Health, Whyalla , South Australia	1997	University of South Australia	Barossa Valley, Eyre Peninsula, Far North, Fleurieu Peninsula, Limestone Coast, Mid North, Murraylands, Riverland, Yorke Peninsula
University Department of Rural Health, Launcesto n, La Trobe, Tasmania	1997	University of Tasmania	Rural Tasmania
Centre for Remote Health, Alice Springs, Katherine and Darwin, Northern Territory	1998	Flinders University (and Charles Darwin University)	Rural and Remote Northern Territory
Combined Universities for Rural Health (now Western Australia Centre for Rural Health) Geraldton , Karratha, Mt Magnet Western Australia	1999	University of Western Australia (partners: Curtin, Edith Cowan, Notre Dame, Murdoch)	Mid-West and Pilbara, Western Australia

Table 1-1	University Departments of Rural Health
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² Main sites in **bold**
UDRH ²	Year established	Host university	Region
University of Melbourne University Department of Rural Health, Shepparton , Ballarat, Wangaratta, Victoria	1999	University of Melbourne	Goulburn, Murray and Grampians regions, Victoria
Greater Green Triangle UDRH, Warrnambool, Hamilton, Mt Gambier	2000–2015	Flinders University (and Deakin University)	Barwon South West and Grampians, Victoria and Limestone Coast, South Australia
University Centre for Rural Health, Northern Coast, Lismore , Grafton , Murwillumbah , New South Wales	2001	University of Sydney (and Southern Cross University)	Northern Rivers, New South Wales
Northern NSW University of Department of Rural Health, Tamworth , Armidale, Moree, Taree New South Wales	2002	University of Newcastle (and University of Armidale)	Hunter Valley, North West slopes, Northern Tablelands and Low and Mid North Coast, New South Wales
Monash University Department of Rural and Indigenous Health, Morwell, Bendigo , Tralagon, Bairnsdale Mildura, Victoria	2006	Monash University	Gippsland and Loddon Mallee, Victoria
Deakin Rural Health, Warrnambool , Ballarat, Victoria (restructured Greater Green Triangle UDRH)	2016	Deakin University	Barwon South West and Grampians, Victoria
Flinders Rural Health, Renmark, Mt Gambier, Victor Harbour, Murray Bridge , South Australia	2016	Flinders University	Barossa Valley, Hills Mallee Fleurieu and Kangaroo Island, Mid North and Yorke Peninsula, Riverland, South East, Far North and Eyre Peninsula, South Australia and western Victoria
Kimberley Rural Health Alliance Broome , Western Australia	['] 2017	University of Notre Dame (partners: Curtin, Edith Cowan, Murdoch, Charles Darwin)	Kimberley region, Western Australia

UDRH ²	Year established	Host university	Region
Southern Queensland Rural Health, Toowoomba, Charleville , Queensland	2017	University of Queensland (partners: University of Southern Queensland, the Darling Downs and the South West Queensland Hospital and Health Services)	Darling Downs and South West Queensland
Three Rivers Department of Rural Health, Wagga Wagga, Orange, Albury, Dubbo and Griffith , New South Wales	2017	Charles Sturt University (partners: University of New South Wales, Notre Dame, Western Sydney University)	Riverina and Central West, New South Wales

Lyle and Greenhill (2018, p. 317) and Department of Health documentation. Note that the UDRH names and details reflect year of establishment

UDRHs are predominantly administered by metropolitan-based medical schools and faculties of health science. UDRHs link with local health services and other stakeholders, create partnerships to facilitate student placements, build support for clinicians as supervisors and academics, and provide a foundation for the development of local research capacity.

Rural Clinical Schools

RCSs offer rurally based clinical education and training for medical students. RCSs offer placements of varying duration, with longer-term placements of a year or more common among students in more advanced stages of their medical degrees. RCSs generally form part of the medical faculty of the university and are managed by locally based academic and administrative staff. Building on the earlier efforts of a number of metropolitan-based universities to offer training in rural areas, a total of 21 RCSs were established between 2000 and 2015 (see Table 1-2). Universities with more than one RCS consolidated these over time, resulting in a total of 19 RCS.³ RCSs operate under a distributed model with academic and professional staff employed at a number of sites.

Table 1-2	Rural C	Clinical	Schools
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Rural campuses	University RCS	Year operation commenced
Wagga Wagga, Albury Wodonga and Griffith, New South Wales	University of New South Wales	2000
Dubbo and Orange, New South Wales	University of Sydney	2001
Bairnsdale, Bendigo, East Gippsland, Mildura, Victoria	Monash University	2001
Port Macquarie, Coffs Harbour and Kempsey, New South Wales	University of NSW	2001
20 sites throughout rural South Australia, including the Riverland	Flinders University	2002
Shepparton, Wangaratta, Bendigo and Ballarat, Victoria	University of Melbourne	2002
Toowoomba, Bundaberg, Rockhampton and Hervey Bay, Queensland	University of Queensland	2002
Burnie and La Trobe, Tasmania	University of Tasmania	2002
4 sites in 2002 increasing to 14 locations throughout Western Australia (Admin. HQ: Kalgoorlie)	University of Western Australia	2002
10 sites throughout South Australia and Broken Hill, New South Wales	University of Adelaide	2003
Cairns, Mackay, Townsville, Queensland and Darwin, Northern Territory	James Cook University Regional Medical School	2005
Bega, Cooma, Cowra, Eurobodalla, Goulburn and Young, New South Wales	Australian National University	2006
Tamworth, Taree, Armidale, Moree, Port Macquarie and Coffs Harbour, New South Wales	Newcastle University	2006
Darwin, Katherine, Alice Springs and Nhulunbuy Northern Territory	Flinders University, Northern Territory	2006
10 locations throughout Western Australia in partnership with UWA in 2007, expanded to 14	The University of Notre Dame	2007
Geelong, Warrnambool, Ballarat, Box Hill, Victoria	Deakin University Regional Medical School	2009

Rural campuses	University RCS	Year operation commenced
30 communities in rural and regional New South Wales	University of Wollongong	2009
Lismore and Bathurst, New South Wales	University of Western Sydney	2009
Lismore, New South Wales	University of Sydney	2009
Wagga Wagga and Lithgow, New South Wales; Ballarat, Victoria	University of Notre Dame (Sydney)	2011
Kingaroy, Dalby, Toowoomba, Warwick and Stanthorpe and other rural towns, Queensland	Griffith University	2015

Lyle and Greenhill (2018, p. 318) and Department of Health documentation

1.1.2 University partnerships to deliver rural training placements

The Rural Clinical School of Western Australia (RCSWA) is a partnership, established in 2007, between the University of Western Australia and the University of Notre Dame (Fremantle) to deliver year-long rural placements for third-year medical students of both universities at 14 sites across Western Australia. Through the RCSWA, these universities jointly manage five-week rural placements and electives for final-year medical students. The partnership was expanded to include Curtin University in 2019, following the establishment of a new medical program.

The North Coast Medical Education Collaboration (NCMEC) is a partnership between the University of Wollongong, University of Sydney and Western Sydney University to provide longstay medical student placements in the New South Wales North Coast region. The collaboration commenced in 2009 under the auspice of the University of Sydney and is managed locally by the University Centre for Rural Health (UCRH) in Lismore. The University of Wollongong employs an academic and a professional staff member to provide academic leadership and support, student pastoral care and day-to-day management of the program. Placements operate across three main sites at Lismore, Murwillumbah and Grafton.

The Extended Clinical Placement Program (ECPP) is a longitudinal integrated program administered by the Broken Hill UDRH in close association with the University of Adelaide, University of Sydney and University of Wollongong. Up to 11 medical students spend up to 40 weeks in Broken Hill. Each group has distinct core curricular requirements and a variable amount of input from its home university. In addition to placements in general practices and the Broken Hill Hospital, students have remote four-week general practice and community hospital placements at Menindee, Wilcannia or Bourke.

Four UDRHs have been established under consortia arrangements (see Table 1-1). These include:

• The Western Australia Centre For Remote Health (previously known as the Combined

Universities for Rural Health)—The University of Western Australia is contracted by the Department to lead this consortium

- Majarlin Kimberley Centre for Remote Health (previously the Kimberley Rural Health Alliance)—University of Notre Dame Australia is the lead and holds the contract with the Department
- Three Rivers UDRH—Charles Sturt University is the lead and holds the contract with the Department
- Southern Queensland Rural Health—University of Queensland holds the contract with the Department

UDRHs support the coordination of nursing, allied health and dental placements for multiple universities, including universities not in receipt of RHMT program funds.

1.1.3 Consolidation of the Rural Health Multidisciplinary Training program

In 2016, the Department consolidated its support of the UDRH and RCS⁴ initiatives into the national RHMT program. The consolidation also incorporated the NTMP and Dental Training Expanding Rural Placements (DTERP) program. In 2017, Regional Training Hubs (RTHs) were introduced as part of the Integrated Rural Training Pipeline for Medicine (IRTP) initiative, with funds for hubs included in their respective universities' program agreements.

The rationale for consolidation was to:

- Streamline administrative arrangements through consolidation of funding agreements, whilst ensuring maintenance of critical RCTS, UDRH, DTERP and NTMP program activities
- Embed a focus on workforce outcomes, including identification of rural-origin and Aboriginal and Torres Strait Islander enrolment and graduation targets for all disciplines; collection of data on rural workforce outcomes resulting from training activity; and targeting of research activity toward rural health workforce and rural health service delivery issues⁵
- Contribute to the development of the Aboriginal and Torres Strait Islander health workforce, including students and professionals

The anticipated benefits of consolidation included:

- Increased flexibility for universities to facilitate the delivery of high-quality rural health training across training sites
- A reduction in universities' reporting requirements and regulatory burden
- Development of innovative, inter-disciplinary training models
- Increased focus on program activities that enhance rural health workforce retention
- Better collection of rural workforce outcomes data to assess progress toward program

⁴ Formerly under the auspices of the Rural Clinical Training Support (RCTS) program.

⁵ Department of Health (not dated). Discussion Paper: Rural Health Multidisciplinary Training Program Design (Draft)

objectives

• Increased focus on the development of the Aboriginal and Torres Strait Islander health workforce

Under the 2016-2018 program agreements, the **objectives** of the consolidated RHMT program were to:

- Provide effective rural training experiences for health students
- Develop the evidence base for the efficacy of rural training strategies in delivering rural health workforce outcomes
- Support rural health professionals to improve Aboriginal and Torres Strait Islander health
- Increase the number of rural-origin health and medical students
- Maintain well-supported academic networks to enhance the delivery of training to students, junior doctors and specialist trainees in rural, remote and regional areas

The seven **parameters** of the RHMT program outline the expected areas of activity for participating universities to:

- 1. Deliver effective rural training experiences for medical, nursing, dental and allied health students (prior to gaining professional registration)
- 2. Ensure rural training experiences are of a high quality
- 3. Increase the number of rural-origin students in all health professions and create a rural stream for medical students with a genuine interest in rural practice
- 4. Engage key partners and the local community to support the delivery of training to students
- 5. Maintain and progress an evidence base and the rural health agenda, including collecting data on rural workforce outcomes resulting from RHMT program activity
- 6. Improve Aboriginal and Torres Strait Islander health, including embedding Aboriginal and Torres Strait Islander health issues in rural curricula, developing training and education courses about Aboriginal and Torres Strait Islander health and for Aboriginal and Torres Strait Islander people, and increasing the number of graduating Aboriginal and Torres Strait Islander students in the health disciplines
- 7. Promote regional leadership in developing innovative training solutions to address rural workforce recruitment and retention

The RHMT program parameters are elaborated at Appendix 1.

The **intended outcomes** of the RHMT program are to:

- Increase the number of appropriately qualified health professionals working in rural, regional and remote Australia
- Provide high-quality training across eligible areas of Australia
- Build regional capacity

• Ensure a well-distributed health workforce

1.1.4 Overview of the additional components of the RHMT program

Northern Territory Medical Program

The NTMP commenced in 2011 to address medical workforce shortages and retention issues in the Northern Territory. Prior to 2011, Year 3 and Year 4 of the Flinders University medical curriculum were delivered in Darwin, with students having undertaken earlier training in Adelaide. Through the NTMP, Flinders University now offers Northern Territory students a fully accredited four-year post-graduate medical program delivered entirely within the Northern Territory. Prospective students are drawn from an undergraduate entry pathway through the Charles Darwin University's Bachelor of Clinical Sciences program and graduate-entry applicants.

Under the NTMP, 24 student training places are offered each year with a target of eight (8) commencing Aboriginal and Torres Strait Islander students per year. The Northern Territory Government funds the Northern Territory Bonded Medical Scheme (NTBMS), a four-year industry-sponsored placement for all NTMP students. These training places are not Commonwealth Supported Places (CSP) and as such students do not incur a Higher Education Contribution Scheme (HECS) debt. Upon graduation, NTMP students are bonded to practise in the Northern Territory for a period of two years, increasing to four years for students graduating from 2020 onwards.

Dental Training Expanding Rural Placements Program

The DTERP was established as a Commonwealth budget initiative in 2007. Six universities received capital funds to establish training sites and recurrent support to deliver extended rural placements for dental students. Participating universities include the University of Sydney, University of Western Australia, University of Melbourne, University of Adelaide, University of Queensland and Griffith University.

Regional Training Hubs

Leveraging established capacity and infrastructure, the RHMT program funds a total of 26 RTHs across Australia—nine (9) in NSW, one (1) in the Northern Territory, six (6) in Queensland, two (2) in South Australia, one (1) in Tasmania, four (4) in Victoria and three (3) in Western Australia. The RTHs aim to enhance the rural medical training pipeline by determining regional medical workforce needs; building connections with local health services and general practices; linking and expanding local training capacity; assisting health services to increase provision of accredited training positions; and supporting medical students, junior doctors and specialist trainees through mentoring, career planning and professional networking.

1.2 RHMT Program context

(Mal)distribution of the Australian health workforce 1.2.1

Australia's population is highly urbanised, with nearly 90% of residents living in major cities or inner-regional areas in 2017 (see Table 1-3). Urban concentration has increased in the fiveyear period from 2013, with the populations of major cities and inner regional areas increasing by 7.8% and 4.3%, respectively, compared to a decrease in the populations of remote and very remote localities over the same period of 4.0% and 5.6%, respectively. This ongoing urbanisation of the population presents challenges for effective health workforce planning and service delivery, particularly against a backdrop of relative and absolute increases in the aged population (65+ years) in outer regional, remote and very remote areas (see Figure 1-1).

	ERP (2013	5)	ERP (2017)
ASGS remoteness area	%	n (million)	%	n (million)
Major Cities of Australia	70.9%	16.40	71.8%	17.67
Inner Regional Australia	18.2%	4.21	17.8%	4.39
Outer Regional Australia	8.7%	2.02	8.3%	2.05
Remote Australia	1.3%	0.30	1.2%	0.29
Very Remote Australia	0.9%	0.21	0.8%	0.20
Total	100%	23.15	100%	24.60

Table 1-3 Estimated resident population (ERP) by remoteness area (2013, 2017)

ABS (2018b)



Population growth by remoteness area and age group (2013-2017)† Figure 1-1

⁺ Compound Annual Growth Rate (CAGR). ABS (2018b)

In 2017, the Australian medical workforce was comprised of 100,966 full-time equivalent (FTE) medical practitioners, including 22,924 specialist General Practitioners (GPs), 36,794 non-GP specialists and 41,247 'other medical practitioners' (see Table 1-4).⁶ Nationally, there were 410.4 FTE doctors per 100,000 residents, a 7.4% increase since 2013. Accounting for population growth, most of the increase in FTE practitioners per 100,000 residents was actualised through the addition of non-GP specialists and other medical practitioners, rather than specialist GPs (8.1%, 11.2% versus 0.2%, respectively). In the same period, Australia's registered nurse and midwife workforce(s) was maintained at 2013 levels on a per population basis. The FTE rate of allied health Australian Health Practitioner Regulation Agency (Ahpra) practitioners increased, with 9.3% growth in the five-year period to 2017. Growth was particularly strong among occupational therapists, physiotherapists and podiatrists with an additional 20.0%, 14.4% and 13.1% FTE per 100,000 residents, respectively. The 61.5% increase in Aboriginal and Torres Strait Islander Health Practitioners per 100,000 residents is largely reflective of the recent recognition and differentiation of the Practitioner qualification from the Health Worker gualification. Finally, the country had 75.2 FTE dental practitioners (inclusive of dentists, oral health therapists and dental hygienists) per 100,000 in 2017, a 4.7% increase from 2013.

The Australian Government has instigated a range of strategies to address health workforce shortages, including (but not limited to): recruitment of internationally trained medical graduates (IMGs) and other health professionals; doubling the number of medical school places in 2006; and, in response to the *Review of Higher Education (Bradley Review)* (Bradley et al., 2008), uncapping university training places for nursing and allied health students (see Appendix 2). In 2017, approximately 32% of medical practitioners working in Australia had gained their initial medical qualification overseas. Between 2013 and 2017, the number of Australian trained medical graduates increased by 19% (to 68,309). At the same time, IMGs increased by 24% (33,416). Notwithstanding policy initiatives to decrease local dependence on medical practitioners trained abroad, the overall proportion of IMGs in the Australian health workforce remained roughly unchanged over the five-year period to 2017 (AIHW, 2017).

Profession	FTE 2013	FTE 2017	FTE rate 2013 ⁺	FTE rate 2017 ⁺	FTE rate Change
Medical Practitioner (all)	88,382	100,966	382.1	410.4	7.4%
Specialist GP	21,513	22,924	93.0	93.2	0.2%
Non-GP Specialist	32,007	36,794	138.4	149.6	8.1%
Other Medical Practitioner	34,862	41,247	150.7	167.7	11.2%
Nurse/midwife	267,164	284,120	1,155.1	1,154.9	0%
Allied Health	98,545	114,606	426.1	465.8	9.3%
Aboriginal and Torres Strait Islander Health Practitioner	296	520	1.3	2.1	61.5%
Chiropractor	3,665	4,045	15.8	16.4	3.8%
Chinese Medicine Practitioner	2,959	3,112	12.8	12.7	0%
Medical Radiation Practitioner	10,942	12,575	47.3	51.1	8.0%
Occupational Therapist	11,663	14,886	50.4	60.5	20.0%
Optometrist	3,973	4,447	17.2	18.1	5.2%
Osteopath	1,482	1,772	6.4	7.2	12.5%
Pharmacist	20,825	23,137	90.0	94.0	4.4%
Physiotherapist	19,277	23,452	83.3	95.3	14.4%
Podiatrist	3,540	4,249	15.3	17.3	13.1%
Psychologist	19,925	22,411	86.2	91.1	5.7%
Dental Practitioner	16,604	18,507	71.8	75.2	4.7%
Total	470,695	518,199	2,035.2	2,106.3	3.5%

 Table 1-4
 Australian health workforce, total full-time equivalents, FTE rate and % change (2013, 2017)

[†] Per 100,000 resident population. ABS (2018b); AIHW (2017)

While Australia's overall health workforce has increased, its distribution does not generally mirror the distribution or health needs of the population. Major health status inequities persist among people residing in rural, remote, very remote and regional Australia when compared with metropolitan areas (NRHA, 2010). The Australian Institute of Health and Welfare (AIHW) (2018) has explicitly linked a number of geographically based public health disparities to the challenges of providing equitable health services to diffuse population centres with limited infrastructure and the higher overall costs of rural health service delivery. People living in non-metropolitan localities experience higher rates of tobacco use, excessive alcohol consumption, physical inactivity and obesity, and generally higher prevalence of chronic conditions. Potentially preventable hospitalisations, age-standardised mortality rates and potentially avoidable deaths of people under the age of 75 also increase with remoteness. With regard to the latter, in 2015, the potentially avoidable death rate among people living in very remote areas was over 2.5 times that of people living in major cities (p. 265). These health inequities have been linked to disparate access to medical practitioners, allied health professionals, pharmacists and dentists

in rural, remote and regional areas. The geographic distribution of Australia's health workforce is summarised in Figure 1-2.



Figure 1-2 Employed health professionals—full-time equivalent rate, by remoteness area (2017)

AIHW (2019b)

While the specialist-GP FTE rate (per 100,000 population) is relatively higher in remote and very remote areas, this figure does not reflect population dispersion nor residents' ability to access services. The Geographic Index of Relative Supply (GIRS) adjusts the known workforce supply for land size, population dispersion and proximity of the population to relevant service locations. GIRS scores range from 0 to 8. Areas with lower GIRS scores are more likely to face workforce supply challenges than those with higher scores. Figure 1-3 illustrates that relative to major cities, remote and very remote areas of Australia face substantially higher GP workforce

supply challenges.



Figure 1-3 GIRS index scores, Specialist General Practitioners by SA2 (2014)

Compared to other health professions, the nursing and midwifery workforce is relatively more evenly distributed (see Figure 1-4). This is largely reflective of the availability of jobs in rural, regional, remote and very remote areas for nurses, which differs to allied health professions where jobs are usually more concentrated in regional areas.



Figure 1-4 Full-time equivalent Registered Nurses, Midwives and Enrolled Nurses by remoteness (2013, 2017)

AIHW (2019b)

1400

1.3 Policy Environment

The RHMT program is one of many initiatives to address rural health workforce shortages and maldistribution. To put the evaluation into context, it is important to understand the breadth of other rural education, training and workforce initiatives implemented by the Commonwealth, States and Northern Territory.

A summary of relevant Commonwealth health policy initiatives and workforce development programs for the 30-year period to 2020 has been compiled at Appendix 2 and Appendix 2a. This summary draws on information reported in the Review of Australian Government Health Workforce Programs (Mason, 2013), recent research by Lyle and Greenhill (2018) outlining key national rural health education and training initiatives, an online search, and prior knowledge of the rural health services sector. In addition, the states and territories have a number of workforce policies and programs that align with the intent of the RHMT program. An overview of points of intersection between jurisdictions' rural workforce policies and the RHMT program is provided at Appendix 3.

Rural Medical Workforce Initiatives

Figure 1-5 outlines the Commonwealth's current investment in medical training initiatives to increase the medical workforce in rural, remote and regional Australia. These initiatives are focused on medical student, postgraduate training and skills maintenance for rural GPs (see Appendix 2a for further detail). In addition, the Commonwealth funds the Workforce Incentive Program – doctor stream, to promote the recruitment and retention of rural GPs.

MEDICAL SCHOOL

Rural Health Multidisciplinary Training Pipeline

To improve geographic distribution of health workforce through rural training experience including:

- Rural Clinical Schools (19)
- University Departments of Rural Health (16)
- Northern Territory Medical Program (through Flinders University)
- 26 Regional Training Hubs to better connect the rural medical training pipeline
- National Rural Health Student Network peak body for Rural Health Clubs

Murray Darling Medical School Network

• End to End rural medical school programs - commencing 2021

John Flynn Placement Program

• To enable medical students to form long-term relationships with rural communities through a minimum two week placement per year over four years (300 students per year)

PRE-VOCATIONAL (INTERN / RESIDENCY)

Junior Doctor Training Program – Rural Primary Care Stream

• Rural Junior Doctor Innovation Fund PGY1 - PGY2 rotations into a rural primary care setting (240 rotations per annum)

Junior Doctor Training Program – Private Hospital Stream

- PGY 1-3 places in private hospital sector (200 places per annum)
- Commonwealth investment in Intern training is delivered through this stream

REGISTRAR

Specialist Training Program (STP) managed and administered by 13 non-general practice specialist medical colleges:

- core STP posts (957 full time equivalent FTE per year)
- STP Integrated Rural Training Pipeline (100 FTE per year) and
- Tasmania Project (62.6 FTE per year).

Australian General Practice Training Program

• Fully funded postgraduate vocational training program for medical practitioners wishing to pursue a career in general practice (1,500 places per year)

Remote Vocational Training Scheme

• Fully funded postgraduate vocational training program for medical practitioners wishing to pursue a career in general practice (32 places per year)

Rural Generalist training - To be implemented in 2021 (additional 100 training places)

Non Vocationally Recognised Fellowship Support Program - subsidy to assist medical practitioners to gain fellowship and vocational registration as a specialist general practitioner

POST-FELLOWSHIP / SPECIALIST

General Practice Procedural Training Support Program - anaesthetics and obstetrics grants (25 grants per year)

Procedural Training Programs

- Rural Procedural Grants Program (entitlement program); delivered by RACGP and ACRRM with payments to rural GPs to support CPD in procedural skills
- General Practice Procedural Training Support Program to support attainment of procedural qualifications in obstetrics and anaesthetics.

This evaluation is timely as there are a number of significant national health workforce policy reforms and initiatives to be considered in relation to the future direction of the RHMT program.

With respect to medicine, the Commonwealth is currently developing a *National Medical Workforce Strategy* to guide long-term collaborative medical workforce planning across Australia (Department of Health, 2019b). The *Strategy* aims to ensure the availability of high-quality health care to all Australians, no matter where they live, and to guide medical workforce planning at all levels, matching the supply of GPs, non-GP specialists and consultant physicians to communities' anticipated service needs. Of particular relevance will be findings from the RCS and RTH components of the RHMT program evaluation in relation to the following focus areas:

- Improving coordination in medical workforce planning through joint decision-making and a common approach to data collection and sharing
- Reducing workforce maldistribution to achieve equitable access to care
- Balancing generalist and sub-specialist skills to reduce fragmentation of care
- Managing training and career pathways to remove bottlenecks
- Growing the number of Aboriginal and Torres Strait Islander doctors to enhance equity of access for Aboriginal and Torres Strait Islander people to culturally safe medical services
- Ensuring doctor work readiness by giving young doctors more exposure in the right settings

The Strategy will be taken to Health Ministers for endorsement in early 2021.

In addition, the National Rural Health Commissioner has led the development of a *National Rural Generalist Pathway*. The *Pathway* bridges medical education in RCSs and other regional medical programs with high-quality rural training for junior doctors, Rural Generalist registrar positions and specialist fellowship. The delivery of the training pathway is intended to leverage extant education and training clusters comprised of Regional Training Organisations (RTOs), Rural Generalist (RG) programs (in some jurisdictions), regional medical programs, and two key components of the RHMT program: the RCSs and RTHs (Department of Health, 2018).

Allied Health

The evaluation of the RHMT program is also concurrent with a second key piece of work by the National Rural Health Commissioner, which aims to inform Commonwealth investment and policy reform to improve rural allied health service quality, access and distribution. The Commissioner has delivered an interim report (Department of Health, n.p.) focused on key policy areas including:

- Invest and implement integrated allied health services across clusters of smaller rural and remote communities to support sustainable employment and viable rural markets
- Invest in strategies to increase the number of Aboriginal and Torres Strait Islander allied health practitioners and increase culturally safe and responsive services
- Increase undergraduate and postgraduate training opportunities in rural and remote settings (including expansion of the allied health rural generalist pathway)

• Leadership through appointment of a Chief Allied Health Officer

Nursing and Midwifery

The *Educating the Nurse of the Future Review* (Department of Health, 2019a) aims to ensure that the educational preparation of nurses meets the future service delivery needs of the Australian health system. The review considered nursing education in all its contexts as well as how to attract people to nursing, the international competitiveness of Australian nursing education programs, and the articulation and career paths of the preparation programs for enrolled and registered nurses as well as nurse practitioners.

A number of recommendations from the review have implications for the RHMT program, in particular, the role of UDRHs in supporting adequate clinical placements for nursing students, UDRHs' potential to support articulated training for enrolled nurses, supporting students undertaking online courses in the regions, and graduate support. Other recommendations include:

- An accreditation system for clinical placements
- Developing a national, web-based Transition to Practice Program for graduate nurses
- Interprofessional learning as required by current accreditation standards to be more visibly embedded in curricula and monitored
- Robust articulation arrangements, from Vocational Education and Training (VET) credentials to tertiary degrees
- Research to determine the role of simulation and its relationship to the required number of clinical placement hours

Universities Australia Indigenous Strategy 2017-2020

Universities Australia Indigenous Strategy 2017-2020 (Universities Australia, 2017) is a sectorwide initiative formally adopted by Universities Australia's 39 member universities to make further gains in Aboriginal and Torres Strait Islander participation, retention and success in universities. Actions pledged under the strategy seek to:

- Improve enrolments and the performance of students, academics and staff
- Increase engagement of non-Indigenous people with Indigenous knowledge, culture and educational approaches
- Improve the university environment for Aboriginal and Torres Strait Islander people

Parameter 6 of the RHMT program specifically requires participating universities to develop and implement strategies to include Aboriginal and Torres Strait Islander health in rural curricula, develop training courses about Aboriginal and Torres Strait Islander health and for Aboriginal and Torres Strait Islander people, and increase the number of graduating Aboriginal and Torres Strait Islander students in health disciplines. To this end, each university funded under the RHMT program has targets relating to enrolments and graduation.

Jurisdiction Workforce Policies

Each of the jurisdictions has workforce policies that align with the intent of the RHMT program and Commonwealth rural workforce initiatives more broadly (Appendix 3). There are areas of commonality with respect to jurisdictions' workforce policies around:

- Developing the rural workforce in line with models of care relevant to the needs of rural, remote and regional communities
- Interdisciplinary approaches to care underpinned by training in acute and community settings
- Generalism, particularly for medicine and, to a lesser extent, allied health and nursing
- Health professionals working to full and advanced scope of practice
- A 'growing your own' approach to workforce development—offering pathways that integrate school-based, VET sector and tertiary-level training for rural-origin students and Aboriginal and Torres Strait Islander peoples
- Capturing data to better inform workforce planning and development

The RHMT program's sphere of influence is predominantly in the education and training of the future health workforce (i.e., allied health, nursing, medical and dental students). The employment opportunities, industrial arrangements and workforce priorities of the jurisdictions influence the transition of rurally trained students to rural work, particularly in the early career phase.

1.4 Higher Education

1.4.1 The demand-driven system

Over the last twenty years, there have been significant changes throughout Australia's higher education sector. The *Bradley Review* recommended uncapping the number of university training places in favour of a demand-driven system (DDS). Introduction of the DDS included new higher education goals to improve access (with an aim of at least 40% of 25-34 year olds having a bachelor degree or above by 2025) and equity (with an aim of 20% low socio-economic status student enrolment share by 2020). The DDS was fully introduced in 2012 for all bachelor's degree places at public universities, with the exception of medical places.

The impact of the DDS on increased enrolments of domestic and international students in nursing and allied health is reflected in Figure 1-6 and Figure 1-7, respectively.



Figure 1-6 Commencing enrolments for a General Nursing course by student status (2001–2018)



Figure 1-7 Commencing enrolments for an Allied Health⁺ course by student status (2001–2018)

⁺Allied Health courses: pharmacy, dentistry, optometry, physiotherapy, occupational therapy, speech pathology, audiology, podiatry, nutrition and dietetics, human movement, paramedical studies Department of Education and Training (2019a)

International education is one of Australia's key trade exports and the Australian Government

Department of Education and Training (2019a)

has committed to making the country a global leader in education and research, as well as increasing the number of international students studying in Australia.

In its 2017 Mid-year Economic and Fiscal Outlook, the Commonwealth announced a funding freeze and capped Commonwealth funding for non-medical, bachelor level places at 2017 public universities (nominal) levels, effectively ending the DDS. The freeze has financially impacted the universities in that:

- Where universities enrol more students than in 2017, they only receive the 2017 level of Government CSP funding
- Total funding for bachelor level CSPs is not currently indexed for inflation, eroding the perstudent value of Commonwealth funds over time
- From 2020 'performance-based funding' will provide for funding growth in line with the 18 to 64 year old population. However, this will not fully offset the impacts of inflation

In addition, the Education Investment Fund (EIF), established in 2008 to fund projects that develop infrastructure in higher education, research and VET institutions was abolished with the final payment made in 2018-19. From 2008 to 2018-19, the EIF provided approximately \$4.2 billion. The Government announced in the 2019-20 Budget that remaining uncommitted funding from the dormant EIF would be used to fund a new Emergency Response Fund from 1 October 2019, to fund natural disaster recovery and response initiatives above and beyond existing state and federal programs.

As a result of these changes, higher education funding is not growing as quickly as previously and there is a greater degree of fiscal uncertainty throughout the sector. While the RHMT program provides specific, separate Department of Health funding to 21 universities, the Department of Education, Skills and Employment, via the Commonwealth Grant Scheme (CGS), provides the bulk of the Commonwealth's investment in professional-entry training of the future health workforce to universities. Programs such as the RHMT program, which build on existing university capacity and capability, may be impacted by the reduced growth in universities' base funding.

1.4.2 Review of Higher Education Provider Standards

The recent the Review of Higher Education Provider Category Standards (Coaldrake, 2019) has proposed the introduction of specific benchmarks that demonstrate universities' status as research institutions. On 10 December 2019, the Australian Government accepted the intent of all of the recommendations of the Coaldrake Review⁷, including the new threshold research requirements (Recommendation 5), which include benchmarks for research quality and output.⁸ In addition to a benchmark of 'world standard', the Government is considering

⁷ Australian Government Department of Education (2019) Australian Government response for the Review of Higher Education Provider Category Standards Review, released 10 December 2019.

⁸ Universities have always been required to undertake research. However, the review specifically recommends that to be eligible to be called a university, an institution will, from the commencement date of the new Standards instrument, have to undertake research at or above world standard in at least three, or at least 30 per cent of the broad (2-digit) fields of education it delivers, whichever is greater (rising to 50 per cent ten years after commencement of the instrument), or all broad fields in the case of a university with a specialised focus.

how to recognise research of national significance to Australia that may not be captured by standard international measures. Implementation of Recommendation 5 could impact the type of research undertaken in some universities. Affected disciplines may potentially include local-level and domestic rural health services research. However, the Government's response also recognised the need to support research specialisation that is in the national interest, including research 'of significance to regional, rural and remote locations'.

1.4.3 Other reviews

Over the last three years, the Australian Government has commissioned a number of other reviews into the higher education sector with implications for the RHMT program. The *Independent Review into Regional Rural and Remote Education* (Halsey, 2018), for example, supported the establishment of Regional Study Hubs (now called Regional University Centres) to provide rurally-based tertiary students access to online education and supports, allowing them to complete a university degree while remaining in their communities.

Following this review, a Regional Education Expert Advisory Group, led by the Hon Dr Denis Napthine, was established to drive a National Regional, Rural and Remote Education Strategy (Department of Education and Training, 2019b). The National Regional, Rural and Remote Tertiary Education Strategy final report (Napthine Review) made seven recommendations and proposed 13 individual actions covering:

- Improving access to tertiary study options for students in rural, remote and regional areas
- Improving access to financial support, to enhance fairness and equity of opportunity
- Improving the quality and range of student support services for rural, remote and regional students to facilitate transition into study and mitigate attrition
- Strengthening rural, remote and regional schools to build aspirations and better prepare students for success
- Improving participation and outcomes for rural, remote and regional students from equity groups, including students with of low socioeconomic means, Indigenous students, students with disabilities and remote students
- Strengthening the role of tertiary education in regional development

Implementation of the Napthine Review has particular relevance for the RHMT program, whose underpinning principles include the selection and support of rural-origin and Aboriginal and Torres Strait Islander students.

The Strengthening Skills: Expert Review of Australia's Vocational Education and Training (VET) System report (Department of Prime Minister and Cabinet, 2019) recommended modernising Australia's VET sector to facilitate provider collaboration and enable new student pathways across the VET and higher education sectors.

Also under consideration is the potential role of UDRHs in developing and supporting pathways for rural and remote students undertaking VET courses in areas such as nursing, aged care, Aboriginal and Torres Strait Islander health, allied health assistance and disability services, as well as supporting students undertaking a bachelor's degree online.

1.5 Intersection of higher education and health policy

The lead up to and introduction of the DDS coincided with a range of signals regarding the need for a larger and differently organised health workforce. Subsequent calls for significant health system and workforce policy reforms included:

- Australia's Health Workforce (Productivity Commission, 2005)
- Australian Health Reform Agreement (CoAG, 2011)
- Work and modelling by the National Health Workforce Taskforce and Health Workforce Australia (HWA) from 2007-2010 and 2010-2014, respectively
- *Review of Australian Government Health Workforce Programs* (Mason, 2013)

Each considered the connection between health professional education and workforce development in relation to skills and distribution. As the DDS progressed and higher education became increasingly globalised, universities responded to growing market demand for health professionals by increasing both domestic and international health student enrolments as shown in Figure 1-6 and Figure 1-7 above.

Funds were available at that time, largely through Health Workforce Australia and the Clinical Training Fund, to further expand clinical placements to service settings and geographical areas of need, and to improve health workforce distribution more broadly. As UDRHs and RCSs were in place, support was provided to expand clinical placements. While the Clinical Training Fund successfully supported placement expansion into non-traditional settings, most of the funding supported placements in urban settings.

An unintended consequence of the Clinical Training Fund and growing number of health students was the development of a 'market' for clinical placements within private and state-funded services.⁹ These services increasingly charged universities for clinical placements despite—in the case of public health and hospital services, at least—receiving Commonwealth and state funds for teaching, training and research. Clinical placement fees to universities have remained in place, despite the dissolution of the Clinical Training Fund and other clinical education funds.

Universities Australia has advised this evaluation that clinical placement charges are extremely variable across and between disciplines, jurisdictions, health authorities and health services, and that the introduction of clinical placement fees have added significantly to the costs of delivering health professional courses.

Nonetheless, the 2018 Transparency in Higher Education Expenditure Data Collection Report, undertaken by the Deloitte Access Economics for the Commonwealth Department of Education, found that higher education courses in health disciplines on average received more than sufficient funding to meet the costs of teaching these courses.

2. Evaluation Overview



2. Evaluation Overview

2.1 Purpose

The purpose of this evaluation is to inform the future design of the RHMT program and the government's broader approach to training the future health workforce.

2.2 Focus and Scope

The primary focus of the evaluation is the delivery of the RHMT program since consolidation in the period January 2016 to December 2018. The secondary focus of the evaluation is the development of the program since the previous evaluation in 2008. The evaluation considers the impact of the RHMT program's individual streams, as well as the program as a whole.

The scope of the evaluation is limited to:

- Commonwealth-funded programs only
- Recommendations for reform that relate to activities within the Commonwealth's jurisdiction
- Assessment of progress in implementation of recently implemented RHMT program activities (since 2017).

2.3 Objectives of the Evaluation

The objectives of the evaluation are to:

- Assess the extent to which the current design and delivery of the RHMT program is achieving the program's aim of improving the recruitment and retention of medical, nursing, dental and allied health professionals in rural and remote Australia
- Consider the benefits to local health delivery from engagement in teaching and training through the RHMT program

2.4 Intended Audience

The Department of Health (the Department) and relevant Ministers are the primary audience and intended user of the evaluation to inform policy direction. The Department is also seeking advice on the implementation and administration of the program with consideration of clarity of goals, administrative efficiencies and information/data collected for evidence-based decision making.

Universities and education providers. The evaluation will provide advice to universities and education providers about where and how the program could do better.

Other health workforce stakeholders. The evaluation will provide advice on the value of the program to other stakeholders, including state and territory governments and local health

services, and where value could be enhanced.

2.5 Key Evaluation Questions

The Department identified eight key questions to be addressed in the evaluation:

- 1. How (well) is the RHMT program being implemented?
- 2. What have been the (positive and/or negative) impacts of the 2016 consolidation of previously separate training initiatives into a single program? For example, with respect to factors such as:
 - a. Opportunities for interdisciplinary training
 - b. Flexibility and innovation in delivery models
 - c. Resource management, including staffing and funding
 - d. Reporting and monitoring.
- 3. What (if anything) are the main challenges in the delivery of the program, and potential improvements to address these?
- 4. To what extent are universities meeting the program's objectives and intended outcomes?
- 5. What has been the impact of the RHMT program on:
 - a. The Aboriginal and Torres Strait Islander health workforce
 - b. Local communities and health services
 - c. Participation and satisfaction of rurally based and Aboriginal and Torres Strait Islander students
 - d. University health programs and curricula?
- 6. What are the lessons from the RHMT program for improving workforce outcomes? (Consider features/attributes of particular university programs)
- 7. To what extent does the RHMT program demonstrate value for money?
- 8. Is the RHMT program still an *appropriate response* to rural workforce shortages?

2.6 Program Logic

At the commencement of the evaluation KBC drew on available documentation to develop a logic model. The program logic is described at Appendix 4.

2.7 Roadmap to the Report

This report has been structured to address the key evaluation questions, as set out above. It

is important to note that the evaluation was a program level evaluation, not an evaluation of individual universities or organisational units. It was beyond the scope or intention of the evaluation to report university level data and to provide feedback directly to each university.

Throughout this report short vignettes and examples have been used to highlight issues and themes. These examples are intended to illustrate evaluation findings and are not intended to represent the 'best' performers or to suggest that other universities may not also be undertaking similar activities or have made similar achievements.

2.7.1 Data limitations

RHMT program data has been derived from core requirement reports. The Department and evaluation team have attempted to identify and amend any anomalies. However reported data should be interpreted with caution. Placement remoteness classifications may vary between ASGS-RA versions (i.e., 2011 or 2016). Students enrolled from RHMT program funded universities who participated in placements provided by a different RMHT program funded university may have been double counted. Data produced as a result of new reporting requirements introduced during the consolidation period, such as UDRH rural origin and Aboriginal and Torres Strait Islander student targets may also be of poorer quality, as universities established standardised definitions and reliable data collection processes and systems.

2.7.2 Remoteness classification

To date the RHMT program has required universities to provide clinical placements in ASGS-RA 2-5 areas. Location of placements for medical students are agreed between the Department and each university and specified individual Funding Agreements. For many health workforce programs the Department has now moved to use the Modified Monash (MM) Model for classification of remoteness. The model measures remoteness and population size on a scale of MM category MM 1 to MM 7. MM 1 is a major city and MM 7 is very remote. The MM model distinguishes between locations classified as ASGS-RA 2 and 3 based on geographical remoteness and town size.

It was suggested during consultations and by members of the Expert Reference Group (ERG) that reporting program data using MM rather than ASGS-RA would provide a more nuanced view of current and future training potential. However, all data provided by the Department in relation to the program uses ASGS-RA and it was beyond the scope of the evaluation to undertake this additional analysis. Use of MM classification has been made in formulating recommendations for future directions of the RHMT program.

2.7.3 Cultural Awareness, cultural safety and cultural training

With respect to students' cultural preparedness, the terminology of the RHMT program agreement is inconsistent. The parameters refer to the provision of effective "cultural safety training", while the core requirements use the term "cultural training". Many universities and health services implement "cultural awareness" training for students and staff. Based on consultations and discussions with the Department it is clear that there are different interpretations of these terms, but at the same time there is a level of consistency in the intent.

Cultural awareness training is generally aimed at developing understanding and being sensitive to similarities and differences that exist between cultures and using this understanding to develop ways of communicating effectively with members of another cultural group.

Cultural training, as set out in the core requirements for the RHMT program is interpreted to mean any training that aims to improve cultural awareness and/or cultural safety.

Cultural safety training aims to ensure that students and staff act in ways that recognise and respect the cultural identify of a person and safely meet their needs, expectations and rights.

Ahpra through its Strategy Group, led by the Aboriginal and Torres Strait Islander members and in partnership with the National Health Leadership Forum, consulted on and finalised a baseline definition of cultural safety.

Ahpra Definition of Cultural Safety

Principles

The following principles inform the definition of cultural safety:

- Prioritising COAG's goal to deliver healthcare free of racism supported by the National Aboriginal and Torres Strait Islander Health Plan 2013-2023
- Improved health service provision supported by the Safety and Quality Health Service Standards User Guide for Aboriginal and Torres Strait Islander Health
- Provision of a rights-based approach to healthcare supported by the United Nations Declaration on the Rights of Indigenous Peoples
- Ongoing commitment to learning, education and training

Definition

Cultural safety is determined by Aboriginal and Torres Strait Islander individuals, families and communities.

Culturally safe practice is the ongoing critical reflection of health practitioner knowledge, skills, attitudes, practising behaviours and power differentials in delivering safe, accessible and responsive healthcare free of racism.

To ensure culturally safe and respectful practice, health practitioners must:

- Acknowledge colonisation and systemic racism, social, cultural, behavioural and economic factors which impact individual and community health;
- Acknowledge and address individual racism, their own biases, assumptions, stereotypes and prejudices and provide care that is holistic, free of bias and racism;
- Recognise the importance of self-determined decision-making, partnership and collaboration in healthcare which is driven by the individual, family and community;
- Foster a safe working environment through leadership to support the rights and dignity of Aboriginal and Torres Strait Islander people and colleagues.

https://www.ahpra.gov.au/About-AHPRA/Aboriginal-and-Torres-Strait-Islander-Health-Strategy.aspx

2.8 International students

Universities enrol considerable numbers of international full fee-paying students. These students, like CSP students, need to complete clinical placements to meet the requirements of respective health discipline courses. In some cases, this will include compulsory rural placements. Advice from the Department provided to RHMT program funded universities states that where international students are offered placements at RHMT program funded sites, the university must cover the costs of the placements and cannot include them as counting towards their rural training targets. It is acceptable for universities to provide indirect RHMT program funded support (for example administrative support of placements and use of facilities where these are not being utilised for Australian students). However direct support such as payment for clinical supervision and travel or accommodation expenses should not be funded using RHMT program resources.

There is inconsistent reporting of international students in RHMT program data. This may reflect that, in the past, universities were required to give details of international student numbers and placement locations. Those numbers were not counted for the purposes of RCS/UDRH/DTERP students. Current reporting no longer includes this requirement, but some universities are still providing data on international students. It is unclear the extent to which these placements are being supported directly or indirectly by RHMT program funds.

3. Methodology



3. Methodology

An overarching evaluation framework and methodology was developed in consultation with the ERG. The resulting Evaluation Plan was agreed with the Department.

The evaluation design was based on a mixed-methods approach, recognising the diversity of RHMT program sites, students, and stakeholder groups across Australia. Data included individual and group interviews, focus groups, written submissions from peak and professional bodies, round-tables, two electronic surveys (Multidisciplinary Health Workforce Survey; RHMT program staff survey), longitudinal workforce data, and program expenditure data. The methodology had eight key elements (see Figure 3-1).





3.1 Project Scoping

The purpose of the project scoping phase was to develop a detailed understanding of the RHMT program and wider rural health workforce policy environment through a review of relevant peer-reviewed and grey literature.

3.1.1 Literature review

To inform the analytical framework of the evaluation, a thematically representative (Cooper, 1988) literature review was undertaken of peer-reviewed academic studies published between 2000 and 2019 pertaining to the estimation of RHMT program impacts on rural health workforce development in Australia. Relevant literature was initially identified through keyword searches of the biomedical database MEDLINE accessed online via PubMed.

Identified publications were differentiated according to discipline (i.e., medicine, allied health, nursing and midwifery), region (i.e., Australia, North America), primary indicative metrics (e.g., student satisfaction, intention to practise in a rural setting, internship location, recruitment and retention in regional, rural and remote settings), and methodology (e.g., qualitative, quantitative—difference in means testing, analysis of variance, linear regression). Included articles were assessed for backward citation tracking and identification of relevant comprising studies. Collated results (where available) and/or references of reviews were screened for

comprising articles indicating analyses of rural health workforce training interventions featuring longitudinal rural clinical placements under the auspices of a tertiary educational institution. Backward citation tracking yielded additional relevant articles, including several systematic reviews, policy studies and program evaluation reports.

KBC also solicited the input of the Department, ERG and RHMT program staff, who brought a number of additional studies to the attention of the review including the Department's own previous RHMT program evaluation, (Urbis, 2008).

3.1.2 Review of policies and programs

The project scoping phase also included a review of relevant national and jurisdictional health workforce policies and programs to contextualise the literature review and to enhance our understanding of the wider environment within which the RHMT program operates. Relevant policy documents and analyses were identified through KBC's prior knowledge of the sector and in consultation with the ERG and the Department.

3.2 Ethics

Ethics approval for the evaluation was obtained through Bond University's Human Research Ethics Committee (HREA JS00505).

3.3 Surveys

Two surveys were conducted:

- Multidisciplinary Health Workforce Survey of nursing, midwifery and allied health practitioners
- Survey of staff working in RHMT program funded programs

In addition, data were analysed from the Federation of Rural Australian Medical Educators (FRAME) and Australian Rural Health Education Network (ARHEN) student surveys.

3.3.1 Multidisciplinary Health Workforce Survey

The Multidisciplinary Health Workforce Survey was developed to help establish the effectiveness of rural training placements with respect to rural workforce outcomes for nursing, midwifery, allied health and dentistry.

The survey includes information on respondents' socio-demographic background, professional discipline and role, tertiary education, impediments to undertaking an extended clinical placement, clinical placement duration, current employment and primary career drivers. The full text of the survey is available at Appendix 5.

Distribution of the survey targeted all nursing, midwifery, dentistry and allied health professionals who graduated in 2005 or later, irrespective of their current work location or whether they

undertook rural placements as part of their training. Responses were collected online through the electronic survey platform *Qualtrics*. Distribution was undertaken directly by KBC and facilitated by primary health networks (PHNs), professional peak bodies, jurisdictional representatives, universities and representatives of the ERG. The survey was open for a period of approximately eight (8) weeks. Participation was encouraged but was in all cases strictly voluntary. All responses were anonymised.

After screening >4000 responses, a total of 1,185 responses from dental, pharmacy and allied health graduates and 996 responses from nursing and midwifery graduates were included in the analysis.

Quantitative analysis of survey responses was undertaken to test the statistical significance of the relationship between respondents' rural training experiences and subsequent amount of work in a rural location. This analysis accounted for a range of factors known to affect this relationship, including respondents' demographic background, education and other personal circumstances. A full description of the statistical framework used in the analysis is included at Appendix 6.

The decision to pursue a rural career is not only a matter of graduates' previous training experiences. Health professionals' choice of work location is also informed by social and economic circumstances, personal preferences and professional requirements. The Multidisciplinary Health Workforce Survey was therefore also used to identify and examine the key drivers of respondents' workforce locations.

3.3.2 Staff survey

As it was not possible to interview all RHMT program staff during the consultation process, all staff working in RHMT program roles were invited to provide additional feedback through a brief staff survey. The survey solicited respondents' views on the RHMT program's strengths, challenges and potential improvements. Responses were collected online through the electronic survey platform *Qualtrics*.

The survey was distributed via email by RCS and UDRH site Directors to all RMHT program staff (including those with conjoint appointments). The survey was open for six (6) weeks, with a reminder sent during that period to universities from which no response had yet been received. A total of 411 responses were collected.

Closed questions were reported using percentages. Open-ended questions were analysed thematically.

The full text of the staff survey is available at Appendix 7.

3.3.3 Student survey data

Secondary data was provided by FRAME and ARHEN from their respective annual student surveys.

Analysis of these data focused on the student experience during the (2016-2018) consolidation period, including student perspectives on placement quality, participant satisfaction and future

rural practice intent.

3.4 Analysis of Workforce Outcomes

The evaluators had intended to undertake a medical workforce survey to determine medical workforce outcomes attributable to the RHMT program, similar to that undertaken for the multidisciplinary health workforce. However, consultation with the Department and ERG indicated that it would not be feasible to survey medical practitioners during the period of the evaluation as the survey would compete with a contemporaneous national medical training survey and there was concern that two surveys would impact on response rates.

Therefore, the evaluation of RCS workforce impacts drew on a substantial body of peer-reviewed academic literature. In addition, each RHMT program university was asked to provide up to three (3) publications (peer reviewed or grey literature) that best reflected their program's impact on graduates' workforce outcomes.

This request yielded 51 articles for potential inclusion. After screening, 27 studies estimating the association between RCS participation and workforce outcomes were identified. A preliminary review was then undertaken to clarify study definitions, participant eligibility, sample size, time period, outcomes measured, data sources and methodological framework. The preliminary review identified nine (9) studies (published between 2015 and 2019) for inclusion in the final synthesis. Eight (8) of these studies reported outcomes from single institutions [VIC (2), QLD (2), WA (3), ACT (1)]. One (1) study reported outcomes from 12 RCSs across Australia.¹⁰

3.4.1 Audit of graduate tracking

The evaluation examined RCS programs' various efforts to track graduates' workforce outcomes over time. Synthesis included an inventory of methods, student and program variables, time horizons, use of control groups and data linkages. The tracking 'audit' allows the evaluation to expound on the types/levels of analysis that may currently be undertaken in each setting, as well as opportunities for standardisation, data linkages and appropriate inter-program comparisons.

3.5 Program Data Analysis

Analysis of program data involved a qualitative analysis of narrative reports and a quantitative analysis of program core requirements.

3.5.1 Qualitative analysis

Consolidated narrative activity reports for the period 2016-2018 were provided by the Department. These were used to familiarise the consultation team with each university and RHMT program site, and to highlight key issues for subsequent investigation in the face-to-face consultations.

3.5.2 Quantitative analysis

Core requirement data was provided by the Department for each university for the period 2016-2018. These data were compiled and analysed to provide an overview of overall program performance, as well as performance against the targets specified for each university including:

- Proportion of CSP-funded medical students required to undertake a minimum of one year of clinical training in a rural area
- Proportion of CSP-funded medical students required to undertake a minimum of four weeks of clinical training in a rural area
- Number and average length of multidisciplinary rural placement weeks
- Number of dental rural placements weeks required to be delivered annually
- Percentage of CSP-funded medical students required to have a rural background
- Percentage of CSP-funded multidisciplinary students required to have a rural background
- Number of Aboriginal and Torres Strait Islander medical students to be enrolled and to graduate
- Number of Aboriginal and Torres Strait Islander health students (other than medicine) to be enrolled and to graduate
- Access to mentoring support for Aboriginal and Torres Strait Islander students
- Cultural training for students prior to placements in Aboriginal and Torres Strait Islander communities

Placement data were analysed by discipline against various measures, including:

- Number of placements
- Total duration
- Average duration
- Remoteness

3.6 Cost analysis

In addition to financial reports provided to the Department, all RHMT program universities were asked to complete supplementary financial report templates based on their existing revenue and expenditure reporting requirements. Analysis characterised the costs associated with student training undertaken through the RHMT program, including attribution of the 'cost-per-student placement week' of providing rurally based clinical placements to medical, nursing, midwifery, allied health and dental students.

3.6.1 Cost effectiveness analysis

Nursing, midwifery and allied health

Program cost data were paired with the results of the Multidisciplinary Health Workforce survey to determine the cost-effectiveness of rural placements with respect to development of the rural nursing, midwifery and allied health workforce.

Medicine

In the absence of the medical workforce survey, a cost effectiveness analysis for rural placements was not feasible.

3.7 Consultations

An extensive consultation process was undertaken using a variety of strategies, including:

- Site visits and engagement with identified stakeholders through individual and group interviews
- Individual and group interviews by telephone and videoconference
- Written submissions using a short survey template
- Round tables and group meetings with peak bodies
- Participation at conferences and organisational stakeholder meetings.

Organisational stakeholders who participated in consultations are listed at Appendix 8.

3.7.1 Site visits

Face-to-face consultations were conducted by experienced senior interviewers from the evaluation team with representatives of all participating universities at main campuses, rural sites or both (see Table 3-1). Standardised interview protocols were developed to ensure that key evaluation questions were addressed and to facilitate subsequent inter-site comparison. Interview and focus group schedules are included at Appendix 9.

Informants included RCS and UDRH staff (professional and academic), local health service providers, students, placement supervisors and community representatives. The number of interviews and organisations represented during consultations varied from site to site based on the availability of interviewees and scheduling constraints. Additional interviews were conducted by telephone or videoconference where key informants were unavailable during site visits.

Prior to interviews, participants were provided with a project overview, evaluation information sheet, topics for consultation and an informed consent form.

In addition to detailed notes taken by interviewers, some interviews were audio-recorded

for subsequent analysis. Following each site visit, individual team members completed a consultation debrief template for use in a subsequent collaborative information synthesis process. A summary of sites visited for consultation is provided in Table 3-1.

University	Campus	UDRH	RCS	RTH	DTERP
University of Tasmania	Hobart	Launceston	Burnie		
University of NSW	Sydney		Wagga Wagga	Wagga Wagga	
University of Newcastle	Newcastle	Tamworth	Tamworth	Tamworth	
Wollongong University	Wollongong		Nowra	Shoalhaven	
Western Sydney University	Penrith		Bathurst/Lismore		
University of Sydney	Sydney	Broken Hill/ Lismore	Orange	Orange	Sydney/ Grafton
Charles Sturt University	Bathurst	Wagga Wagga			
Australian National University	Canberra		Cowra		
Deakin University	Geelong	(Warrnambool)	* (Warrnambool)*		
Monash University	Melbourne	Mildura	Mildura	Bendigo**	
University of Melbourne	Melbourne	Shepparton	Shepparton		Melbourne
Notre Dame University Aus.	Fremantle	Broome	Wagga Wagga	Wagga Wagga	
University of Western Australia	Perth	Geraldton	Broome/Derby/ Geraldton	Broome/ Geraldton	Perth**
University of Queensland	Brisbane	Toowoomba	Toowoomba	Toowoomba	Dalby/ Brisbane
Griffith University	Gold Coast		Toowoomba		Gold Coast
James Cook University	Townsville	Mt Isa		Townsville	
Flinders Northern Territory	Adelaide	Alice Springs	Darwin/ Katherine	Darwin/Alice Springs	
Flinders South Australia	Adelaide				
University of South Australia	Adelaide	Whyalla			
University of Adelaide	Adelaide		Whyalla	Whyalla	Adelaide
*Warrnambool staff met with ev	valuation team ii	n Geelong	**via vio	leoconference/ to	eleconference

Table 3-1 Summary of RHMT program site consultation locations

A breakdown of consultation informants is provided in Table 3-2.

Informant type	Number
University executive	72
RHMT program staff	428
Health service—Public	113
Health service—Private	21
NGO	4
ACCHO; Indigenous NGOs	50
Community; Schools; Government	71
Students; Graduates	196
Other research bodies; Universities	3
Jurisdictions	25
Total	983

Table 3-2 Consultation informants by stakeholder group

3.7.2 Written submissions

A brief written submission template was developed to allow input from a range of relevant organisations. Requests for written submissions were sent to 79 organisations. 30 submissions were received as summarised in Table 3-3.

Type of Organisation	# of submissions	
Peak Body	12	
Professional Associations	2	
Medical Colleges	10	
General Practice (GP) Training	4	
Misc.	2	
Total	30	

Table 3-3 Written submissions by stakeholder group

The written submission template used in the evaluation is presented at Appendix 10.

3.7.3 Roundtables and other meetings

Two (2) roundtable discussions were facilitated with the Rural Workforce Agencies (RWAs)
and with Aboriginal and Torres Strait Islander health and workforce peak bodies. Discussions focused on key evaluation questions and suggested improvements to the RHMT program.

Members of the consultation team also participated in a number of rural health organisational stakeholder forums and conducted interviews with external stakeholder representatives, including:

- FRAME meetings (Tamworth and Canberra)
- ARHEN meeting (Geraldton)
- National Allied Health Conference 2019 (Brisbane)
- Rural Medicine Australia Conference 2019 (Gold Coast)
- Rural Health Commissioner (face-to-face meeting)
- Jurisdictional representatives (face-to-face and telephone interviews)
- Universities Australia (teleconference meeting)
- Australian Council of Deans of Health Sciences (face-to-face meeting)
- Medical Deans Australia and New Zealand (MDANZ) (face-to-face meeting)

Detailed notes from these meetings were thematically analysed and incorporated into the information synthesis process.

3.8 Data synthesis and analysis

At the conclusion of the data collection phase, a workshop was held to synthesise findings, form evaluative judgements and draw conclusions on the implementation, effectiveness, efficiency, benefit and appropriateness of the RHMT program.

Over three (3) days, the complete evaluation team worked collaboratively to triangulate and synthesise the primary and secondary data of the evaluation. This approach afforded multiple perspectives in the formation of evaluative judgements and informed the development of KBC's final recommendations.

Evaluation rubrics were developed for:

- Placement quality
- · Building and supporting supervision capacity
- Research capacity building

Evaluation rubrics used criteria and standards for assessing varying levels of performance. They were applied in the evaluation to enhance transparency with respect to the collaborative synthesis of multiple forms of evidence (Davidson, 2014). Development of the rubrics was informed by peer-reviewed and grey literature, as well as stakeholder and evaluator perspectives collected throughout the evaluation. Evaluation rubrics are included at Appendix 11.

3.9 Reporting

A Draft Report and recommendations were provided to the Department in March 2020. The Final Report was provided to the Department in May 2020.

4. Student Placements and Supervision

Over the past two decades, the RHMT program has successfully supported the provision of rural training experiences for thousands of students across a wide range of health disciplines. RCSs and UDRHs have demonstrated the capacity of universities to provide students with high-quality clinical training in locations outside metropolitan areas. Academically, medical students who have completed long rural placements consistently perform as well as, or better than, their peers who have not. UDRHs have developed strong academic networks in rural, remote and regional communities and innovative student placements that directly support the health of rural communities.

Overall students express high levels of satisfaction with rural placements and value the breadth of clinical exposure, opportunities for 'hands on' experience and the individualised teaching they receive through the RHMT program.

The evaluation also found considerable variation between universities and, within universities, between program elements in the extent to which they are meeting program objectives and contributing to the overall program achievements.

Performance against Program requirements

Selection of rural origin students

Universities are required to report the number and proportion of rural-origin students enrolled into health disciplines as well as the number of Aboriginal and Torres Strait Islander students enrolled and graduated on an annual basis.

In the period 2016-2018:

- Over 30% of all CSP-funded medical students came from a rural background
- Between 13% and 21% of allied health students came from a rural background
- Over 25% of nursing students came from a rural background
- Rural origin targets for medical students were not met by three universities
- Rural origin targets for allied health students were not met by four universities
- Rural origin targets for nursing students were not met by one university

Student selection for rural placement

While the RHMT program has influenced rural origin student enrolments, mechanisms to identify and preference rural students, or those with an interest in future rural work, for rural placements differs between universities and between health courses.

There is no requirement under current arrangements for universities to prioritise rural-origin

students in selection for rural placements.

For medicine, universities usually develop a rural stream which may be at entry into the medical program or following short rural immersions in the pre-clinical years. Students allocated to rural streams are usually offered rural placements in the clinical years. The extent to which RCS staff are involved in the selection of students for long placements differs between universities.

UDRHs are not generally involved in selecting students for rural multidisciplinary placements. However, with the increased focus on service-learning placements and development of longer rural immersions, UDRHs are seeking increased involvement and authority in selecting students to ensure alignment of their values and clinical ethos with the organisations in which students are placed.

Meeting rural origin targets has created some level of competition between universities.

Clinical placements

The nature and length of placements provided under the RHMT program vary across universities and disciplines, depending on individual course requirements.

In 2018, **997** graduating medical students completed clinical placement of a year or more at an RCS, an increase from 893 in 2015. The number of graduating medical students completing a short rural medical placement decreased from 2,528 students (93%) in 2015 to 2,411 students (83.4%) in 2018. This decrease corresponds to the reduction of the short rural clinical placement target from 100% (pre-consolidation) to 50% (post-consolidation).

In 2018, the RCSs provided a total of 6,384 rural placements for medical students of which 1,627 (25%) were long placements and 4,757 (75%) short placements. In total the RCSs supported 95,961 placement weeks.

In 2018, a total of **13,133** placements were provided by 15 UDRHs, totalling 65,014 placement weeks with an average length of 5 weeks. 58% of UDRH placements were in nursing and midwifery, 38% were in allied health and 4% were in dentistry and oral health.

Universities are required to provide placements in RA2-5 regions. In 2018:

- Approximately one quarter (27%) of long medical placements were in RA3-5 locations, while the majority (73%) were in RA2 (inner regional) locations
- Almost one-third (31%) of allied health and nursing placements were in RA3 locations, while over half were in RA2 locations.

Approximately two thirds of long-term medical placement weeks are in the hospital setting and one third in GP and other primary care settings. Hospital-based training does not necessarily expose students to the breadth of the generalist medical workforce that will be required to meet the health needs of rural communities now and in the future.

Allied health placement settings include acute care, primary care and a range of non-traditional community-based settings. Nursing placements are predominantly in the acute care setting aligned with curricula requirements.

Quality of Placements

While RHMT program recipients are required to deliver high quality placements, 'quality' is not clearly defined or described in the RHMT program framework. The quality of a placement is closely linked to supervision capacity which is dependent on local academic and professional networks.

To enable an assessment of quality placements the evaluation team developed rubrics to assess quality placements; supervision capacity building and; research capacity building. The rubrics considered the requirements of the program (articulated in program parameters), the literature and consultations with stakeholders.

The evaluation found strong evidence that there is a high degree of variability relating to quality and considerable disparity in support for students between disciplines and sites.

Using the evaluation rubrics:

- The majority of RCS placements were rated as very good
- In relation to UDRH managed placements, allied health placements were rated from **excellent** to **poor**, and nursing placements were rated from **very good** to **poor**

Key areas where placement quality varied included:

- The extent of planned and structured engagement with Aboriginal and Torres Strait Islander health services and organisations
- Availability and delivery of locally relevant cultural safety training
- Delivery of interdisciplinary training
- Providing students with clinical experience relevant to rural health jobs

Enablers contributing to the delivery of high quality placements include:

- Focus by RHMT program sites on the delivery of "hidden curriculum" including accommodation, mentoring, cultural orientation, community engagement and pastoral care
- Investment by UDRHs and RCSs in developing strong connections with local Aboriginal and Torres Strait Islander communities and health services
- Investment in developing innovative placements, in particular service-learning models in a range of community settings through strong local leadership
- Support for supervisors including orientation and professional development

▶ Models of cross disciplinary supervision that enhance placement capacity.

Challenges for universities in delivering high quality placements include:

- ► The high cost for both universities and students of doing business as well as logistical challenges in delivering placements in remote locations
- Students receive varying financial support to undertake rural and remote placements, with support differing between RHMT program funded universities, the student's home university and between disciplines
- Current reporting metrics do not reward quality or innovation as they do not differentiate between low and high-quality placements or the financial and in-kind investment required to establish and maintain innovative placements
- The fragility of the rural health workforce in some locations creates challenges for recruiting and retaining supervisors
- Lack of capacity for and focus on interdisciplinary learning
- Service-learning placements require strategies to minimise service disruption and provide continuity of care for clients which can be challenging for UDRHs when working with multiple universities
- Establishing and maintaining student accommodation and teaching infrastructure to expand placement activity.

Lessons Learned

- Measuring placement numbers and length does not differentiate the quality of those placements, obscuring the differences in student experience as well as the cost and effort required to establish and maintain placement capacity, particularly service-learning opportunities and placements in more remote locations.
- The program has established a sound foundation for rural training and has contributed to the improved workforce outcomes in many regions. There is scope for individual universities and the program as a whole, to build on this experience and expertise to further develop placement opportunities in smaller and more remote communities. Providing students with exposure to smaller communities and in settings reflective of rural and remote models of care through well supported placements, is a mechanism to promote interest and intent for future work in locations experiencing workforce shortage.
- Universities rely on a wide variety of supervisors to maintain placement capacity and quality in environments where the stability of the workforce is often fragile. Support for supervisors is a critical element of the RHMT program and needs to be an ongoing priority for all universities, including consideration of appropriate remuneration and recognition as well as training, professional development, opportunities for research and access to RCS, UDRH and university facilities and library.

4. Student Placements and Supervision

4.1 Introduction

The RHMT program has successfully supported the provision of rural training experiences for thousands of students across a wide range of health disciplines for the past two decades. While the focus of the evaluation was on the period 2016-2018, it is important to acknowledge the foundations on which the current RHMT program has been built and the impact of the ongoing work of RCS and UDRH staff over two decades that continues to enable current successes.

Since their inception, RCSs have demonstrated the capacity of universities to provide medical students with high-quality clinical training in locations outside metropolitan areas. Students who have completed up to two years of their degree programs in rural and regional locations consistently perform well in relation to their peers across all universities participating in the RHMT program. RCSs have built strong educational programs and developed close and effective relationships with health services and local communities to support students and to create and sustain academic communities among rural clinicians.

Likewise, UDRHs have demonstrated the feasibility of providing quality rural and remote experience for students as a mechanism for introducing them to rural and remote practice and engaging their interest in rural careers. UDRHs have been a strong academic presence in many communities for many years. As the focus on student placements has increased, they are developing greater sophistication and innovation in creating and sustaining student placements that reflect the diversity of rural health workforce opportunities while at the same time directly supporting the health of rural communities.

The evaluation provided evidence of considerable variation between universities and, within universities, in the extent to which they are meeting program objectives and contributing to the overall program achievements.

This chapter provides an overview of program data against targets and reporting requirements for the 2016-2018 period and highlights findings of the evaluation in relation to the diversity and quality of placements. The chapter also identifies key enablers and challenges in providing high-quality placements.

4.2 Student Enrolment

Universities are required to report the number and proportion of rural-origin students enrolled into health disciplines as well as the number of Aboriginal and Torres Strait Islander students enrolled and graduated on an annual basis. There is no requirement under current arrangements for universities to prioritise rural-origin students in selection for rural placements.

Targets for nursing and allied health rural-origin student enrolments and placements were introduced in the 2016-2018 funding agreements, concurrent with a significant increase in funding for UDRHs. Targets for individual universities were negotiated with the Department.

4.2.1 Rural-origin medical students

Between 2016 and 2018, 14 RHMT program funded universities were required to ensure that at least 25% of CSP-funded medical students were from a rural background. Due to their particular student demographic profiles, the University of Tasmania, University of Wollongong and Western Sydney University had targets of 50%, 56% and 12.5%, respectively.

During the 2016-2018 period, across the program, over 30% of CSP-funded medical students came from a rural background (see Table 4-1). One university did not meet their target in any of the three years and two only met targets in one of those years.

Year	Commencing medical students	Rural-origin medical students	% Rural-origin medical students
2016	2877	884	30.7%
2017	2840	883	31.1%
2018	2880	939	32.6%

Table 4-1 Rural-origin medical student enrolments (2016-2018)

Source: Department of Health, RHMT program. Consolidation core requirement reports and pre-consolidation reports

Universities were also required to grow the proportion of commencing rural-origin students. Program data show that 14 of 17 universities met growth targets. Universities will not be required to report on rural-origin student growth from 2020.

4.2.2 Rural-origin nursing students

In 2018, individual university targets for rural-background nursing students ranged from 3% to 75%. At a program level, the total percentage of rural-origin nursing students has fluctuated between a minimum of 25.2% and a maximum of 27.5% (see Table 4-2) between 2016 and 2018, with only one university not meeting their target in 2018.

Commencing nursing students	Rural-origin nursing students	% Rural-origin nursing students
6823	1721	25.2%
19355	5323	27.5%
21345	5650	26.5%
	Commencing nursing students 6823 19355 21345	Commencing nursing studentsRural-origin nursing students68231721193555323213455650

Table 4-2 Rural-origin nursing students (2016-2018)

Department of Health, RHMT program. Consolidation core requirement reports

UDRHs were not required to report rural-origin nursing student enrolments prior to the 2016-2018 RHMT program consolidation.

4.2.3 Rural-origin allied health students

At a program level, the proportion of rural-origin allied health students ranged between 13.1% and 20.9% between 2016 and 2018. Since targets were established—and concurrent with the establishment of three new UDRHs—rural-origin allied health student enrolments more than doubled to 5,340 in 2018 (see Table 4-3).

In 2018, individual universities' rural-origin targets for allied health student enrolments ranged between 5% and 75%. Overall, nine (9) of 13 universities met their rural-origin allied health student targets in that year.

Year	Commencing allied health students	Rural-origin allied health students	% Rural-origin allied health students
2016	14944	1954	13.1%
2017	23670	4943	20.9%
2018	27947	5340	19.1%

Table 4-3	Rural-origin allied	health students	(2016-2018)
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Department of Health, RHMT program. Consolidation core requirement reports

The rural-origin allied health target for 2020 has been increased for two universities and will remain the same for the other 11 universities. At a program level, this will lift the rural-origin allied health target from 20.7% to 21.0%. The revised target will remain around 10% lower than population parity.

4.2.4 Enrolment and graduation of Aboriginal and Torres Strait Islander students

Medicine

Over the period 2016-2018, the RHMT program required universities to enrol a total of between two (2) and 47 Aboriginal and Torres Strait Islander students depending on the size and structure of their medical schools. Across all medical schools, this equates to a total of 219 Aboriginal and Torres Strait Islander students (or 73 Aboriginal and Torres Strait Islander students per year). This remains well below the number of graduations required to reach population parity.

In total, 10 of 18 Universities met the enrolment target, with 197 students enrolled in that period. Seven (7) of 18 Universities met their individual graduation target. In total, 118 of the overall target of 122 Aboriginal and Torres Strait Islander students graduated from medicine between 2016 and 2018, reflecting one university (University of Newcastle) exceeding their target by over 100%. Graduations in the reporting period do not reflect enrolments in the same

period due to the length of medical courses.

Multidisciplinary

A target for the enrolment of Aboriginal and Torres Strait Islander students into health courses other than medicine was introduced into the RHMT program at the start of the consolidation period (2016-2018). Overall in 2018, universities reported enrolling 1,163 Aboriginal and Torres Strait Islander students to commence a multidisciplinary course, far exceeding the program target of 670.

Targets for individual universities varied from two (2) to 200 Aboriginal and Torres Strait Islander students; 11 of 15 universities met the enrolment target.

In 2018, the program target for Aboriginal and Torres Strait Islander students graduating from multidisciplinary courses was 281. Targets set for individual universities varied from two (2) to 60. Overall, 328 students graduated and 10 of 15 universities met their individual target.

4.3 Student placements

The nature and length of placements provided under the RHMT program vary across universities and disciplines, depending on individual course requirements. This section provides an overview of the number and types of placements provided under the RHMT program.

4.3.1 Rural Clinical Schools

Placement Numbers

Universities receiving RCS funding are required to ensure that at least 25% of CSP-funded medical students undertake a minimum of one (1) year of clinical training in a non-metropolitan area (ASGS-RA 2-5).11 In addition, at least 50% of CSP-funded medical students must undertake a rural training experience of at least four (4) weeks.

In 2018, the RCSs provided a total of 6,384 rural placements for medical students of which 1,627 (25%) were long placements and 4,757 (75%) short placements. In total the RCSs supported 95,961 placement weeks.

In 2018, 997 graduating medical students completed clinical placement of a year or more at an RCS, an increase from 893 in 2015. The number of graduating medical students completing a short rural medical placement decreased from 2,528 students (93%) in 2015 to 2,411 students (83.4%) in 2018. This decrease corresponds to the reduction of the short rural clinical placement target from 100% (pre-consolidation) to 50% (post-consolidation).

Placement type	Number placements	Placement weeks	Average duration (weeks)
Short placements	4757 (75%)	22833 (24%)	4.8
Long placements ⁺	1627 (25%)	73128 (76%	44.9
Total	6384 (100%)	95961 (100%)	

Table 4-4 Placements, placement weeks and average duration, medicine (2018)

⁺ Long placements are reported as either six or twelve months. Weeks were derived by multiplying the number of placement months by four.

Department of Health, RHMT program. Consolidation core requirement reports

In 2018, the majority of long placements (72.7%) were based in an ASGS-RA 2 area and 27.3% based in an ASGS-RA 3-5 area (see Table 4-5). It should be noted that students on long placements in ASGS-RA 2 areas may spend time in a more remote settings, for example, to undertake term rotations and outreach visits.

Table 4-5	Number,	duration and	l average	duration	of long	RCS	medical	placements	(2018)
	,		0		0			1	

RA	Placements	Duration (months)	Average duration (months)
RA2	1183(72.7%)	13338 (73.0%)	11.3
RA3	379(23.3%)	4236 (23.2%)	11.2
RA4	55(3.4%)	624 (3.4%)	11.3
RA5	10(0.6%)	84 (0.5%)	8.4
Total	1627(100.0%)	18282 (100%)	11.2

Note: The number of placements recorded in RA4 & 5 should be interpreted with caution. See data limitations Section 2.7.1.

Department of Health, RHMT program. Consolidation core requirement reports

In the consolidation period, there was an increase in the proportion of short placements completed by international students compared to Australian students. In 2016, 5% of short medical placements were completed by international students, compared to 10% in 2017 and 2018.

Placement Types

All universities in receipt of funding for RCS programs provide structured placements for medical students as part of their clinical training. The nature of these placements differs depending on the size of hospital, availability of other health services, supervision capacity and the structure of individual university medical programs.

There are two (2) dominant models of long clinical placements:

- In regional hospitals, students undertake rotations through the various departments, much like they would as an intern. In some sites, rotations are fully based in the hospital, while in others, there may be rotations into community-based general practice or other primary health care facilities
- In smaller communities, students are placed within a general practice. Students generally 'follow' a GP supervisor between community and rural hospital settings. Depending on availability, students may also spend time with resident hospital staff and visiting specialists

Medical students on rural and remote placements are generally required to attend structured curricular sessions on a weekly basis. Teaching is conducted in person or via video link to universities' main campuses. These sessions enable students to gather together in a 'central' location, if only virtually, at regular intervals.

Student support

Most medical students have access to subsidised accommodation for the duration of their placements. Some universities provide free accommodation while others require students to pay a small weekly rent. Universities have acquired facilities for student accommodation using a range of mechanisms, including RHMT program funds, university infrastructure grants and philanthropic funds. In some instances, student accommodation is rented by the university. Some students are required to arrange private accommodation and, in instances, may apply for rental subsidies.

Various other financial supports are available to students depending on their university and location. For example, due to the significant distances and costs of transport, students undertaking placements through the RCSWA in the Kimberley and other remote sites in Western Australia have access to removalist services for their belongings, including cars. At most RCS sites, students have free access to utilities and internet. In some instances, subsistence allowances and support for local transport are available, including fuel, hire cars and access to university bicycles. Such financial incentives were found to be attractive to many students on long placements, who reported staying at the site for the year was less expensive than would have been the case in a metropolitan area.

Student selection and rural training placement allocation

Universities use various mechanisms for selecting students to participate in long rural placements at RCS sites. In most cases all medical students are offered the opportunity to apply for or preference RCS placement during their clinical training years. Selection criteria for an RCS placement is determined by each university. Some universities preference students from a rural background for rural placement while others do not. Likewise, RCS staff are involved in the selection process of students for RCS placement at some, but not all, universities. In some locations, RCS staff reported only being advised which students had been allocated to long placements shortly before they arrived, giving RCSs limited opportunity to provide useful preparatory information to students.

There is variation between universities with respect to how and when a rural stream is established in their medical cohorts. Selection into rural streams can commence on enrolment or during the pre-clinical training years, depending on the university and course structure. Some students are able to preference a rural stream and several universities offer selection pathways to rural streams that have alternative entry requirements.

Most universities report that their rural places are oversubscribed, although this does differ from site to site within universities, with some sites being more popular than others. Students may be able to express preferences for particular sites however universities do not generally give any guarantees about meeting student preferences.

The timing of allocation to a RCS differs depending on the course structure at each university. In many universities, students undertake an introduction to rural through a short immersion in first year and then apply for the long-term placement by the end of Year 1 or in Year 2 with some timing variation dependent on whether it is an undergraduate or graduate program. Students allocated to rural streams are guaranteed rural placements during their clinical training years.

Medical Placement Setting

At the request of the Department, 17 RCS programs provided historical data on the clinical settings of placements for medical students.

Figure 4-1 reports the total number of placement weeks for 14 of the 17 RCSs that provided data on the clinical settings of placements.

Approximately two thirds of long-term placement weeks are in the hospital setting and one third in GP and other settings. In the period 2015-2018, there was no discernible change to the number of placements or placement weeks provided to medical students in GP clinical settings (see Figure 4-1). Overall, universities reported no change to the amount of long-term placement exposure medical students receive in GP settings. However, the number of short-term GP placements may fluctuate, depending on the number of students enrolled and the availability of GP practices to supervise students. Only one university reported a decrease in the number of students completing rural GP placements (corresponding to the 2017 reduction in Target 2b from 100% to 50% of number of medical students required to undertake a four-week rural placement).

Defining a 'GP placement' is complex, particularly in outer-regional, rural and remote areas, where hospitals are primarily staffed by GPs and GP proceduralists. Students in these areas typically 'float' between a hospital and GP practice, with implications for double-counting. 'Other' refers to placements with Aboriginal Medical Services, RFDS, ambulance and specialist services, as well as placements in combined GP/hospital settings.





Department of Health, RHMT program. Clinical placement setting data request, November 2019.

Teaching and Supervision

RCSs are responsible for teaching to meet curriculum requirements. This teaching is provided by employed medical educators, local clinicians, visiting academics and through video links back to main campuses.

Supervision of medical students is generally provided by practising clinicians working in the health services in which students undertake placements. In addition to teaching and service delivery, some clinicians are also engaged in research.

Direct clinical supervision in hospital settings is generally provided by consultants, registrars and junior doctors, and GPs in smaller hospitals. Additional supervision, clinical teaching and simulation teaching is provided by nurses and other health professionals. Supervision in general practice is by GPs with support from other practice staff including practice nurses. In Aboriginal Community Controlled Health Organisations (ACCHO), medical students are supervised by GPs, with other staff including nurses and Aboriginal health workers and practitioners usually part of the supervising team in line with the holistic model of primary health care.

A variety of arrangements are in place between RCSs and medical practitioners for supervision of students. Supervision in addition to patient care, research, quality improvement and professional development is generally an acknowledged part of the role of medical practitioners working in the public hospital system. RCSs tend to have well developed relationships with their local hospitals to facilitate supervision within those settings. GPs, non-GP specialists and other hospital doctors are also engaged on a contracted sessional or fractional appointment or on an adjunct basis to provide additional teaching to students in their areas of expertise.

In rural hospitals doctors work under differing engagement arrangements (e.g. Visiting Medical Officer, salaried medical officer, salaried with right to private practice) dependent on the jurisdiction and often with regional differences. The extent to which doctors working in rural hospitals are remunerated for supervision of students was not directly investigated in this evaluation. However, consideration of these arrangements is of relevance to RCSs in ensuring that supervisors are adequately recognised and supported.

RCSs have developed, and are continuing to develop, strategies to improve supervision capacity and capability to meet the curriculum requirements of their programs. Most frequently, these include developing opportunities for face-to-face workshops and online training in supervision skills, teaching and giving feedback. RCS staff also undertake visits to general practices and hospitals to discuss supervision issues.

More than half the RCSs offer support to supervisors to undertake training in medical education at Graduate Certificate, Graduate Diploma or Masters levels. Some RCSs also offer mentoring for supervisors. These can be formal mentoring programs or informal arrangements conducted in conjunction with RCS academic staff visits to training sites.

The majority of RCSs offer adjunct or honorary academic appointments to enable medical supervisors to access university systems. Conjoint appointments are offered for hospital employed staff who provide regular supervision and teaching. The funds are paid to the health service rather than the medical officer directly.

4.3.2 UDRH placements

Placement numbers

Placement targets for UDRHs were agreed between individual universities and the Department. All UDRHs have targets to increase the average duration of placements over time.

In 2018, a total of 15 UDRHs reported providing 13,133 placements and 65,014 placement weeks with an average length of placement of 5 weeks. Over half the placements (58%, 7,642 placements) were undertaken by nursing and midwifery students and 39% by allied health students. Physiotherapy students had the highest number of allied health placements (1,015 placements). Social Work students had on average the longest placements (14.9 weeks) as shown in Table 4-6.

			Average duration
	Placements	Placement weeks	(weeks)
Nursing and Midwifery			
Midwifery	335 (2.6%)	1201 (1.8%)	3.6
Nursing	7307 (55.6%)	28052 (43.1%)	3.8
Total Nursing and Midwifery	7642 (58.2%)	29253 (45.0%)	3.8
Allied Health			
Audiology	11 (0.1%)	44 (0.1%)	4.0
Chiropractic	7 (0.1%)	14 (0.0%)	2.0
Dietetics/nutrition	272 (2.1%)	2067 (3.2%)	7.6
Exercise physiology	175 (1.3%	1122 (1.7%)	6.4
Medical laboratory science	28 (0.2%)	237 (0.4%)	8.5
Medical radiation	897 (6.8%)	4670 (7.2%)	5.2
Occupational therapy	748 (5.7%)	5464 (8.4%)	7.3
Optometry	162 (1.2%)	1393 (2.1%)	8.6
Orthoptics	4 (0.0%)	8 (0.0%)	2.0
Orthotics and prosthetics	3 (0.0%)	21 (0.0%)	7.0
Paramedicine	98 (0.7%)	361 (0.6%)	3.7
Pharmacy	449 (3.4%)	1447 (2.2%)	3.2
Physiotherapy	1015 (7.7%)	5146 (7.9%)	5.1
Podiatry	199 (1.5%)	897 (1.4%)	4.5
Psychology	39 (0.3%)	430 (0.7%)	11.0
Social work	324 (2.5%)	4830 (7.4%)	14.9
Speech pathology	542 (4.1%)	3148 (4.8%)	5.8
Other clinical health	100 (0.8%)	721 (1.1%)	7.2
Aboriginal health worker	3 (0.0%)	12 (0.0%)	4.0
Dentistry - not DTERP	327 (2.5%)	2931 (4.5%)	9.0
Oral health (dental hygiene and therapy)	88 (0.7%)	798 (1.2%)	9.1
Total Allied Health	5073 (38.6%)	32020 (49.3%)	6.3
TOTAL UDRH	13133 (100%)	65014 (100%)	5.0

 Table 4-6
 UDRH placements and placement weeks completed by Australian students by discipline (2018)

Department of Health, RHMT program. Consolidation core requirement reports

Over 55% of all placements in 2018 were in RA2 locations, with one third (32.5%) in RA3 locations and less than 13% in RA4/5 (Table 4-7).

RA	Placements	weeks	Average placement length (weeks)
RA2	7314 (55.7%)	36740 (56.5%)	5.0
RA3	4267 (32.5%)	20563 (31.6%)	4.8
RA4	1122 (8.5%)	5860 (9.0%)	5.2
RA5	430 (3.3%)	1851 (2.8%)	4.3
Total	13133 (100.0%)	65014 (100.0%)	5.0

Table 4-7UDRH placements and placement weeks completed by Australian students by Remoteness Area(2018)

Note: The number of placements recorded in RA4 & 5 should be interpreted with caution. See data limitations Section 2.7.1.

Department of Health, RHMT program. Consolidation core requirement reports

Placement types

Placement models vary considerably depending on the nature of support provided by UDRHs as well as the capacity of local health services and the availability of supervisors. Most UDRHs provide placement support to students from multiple universities and across a range of disciplines. The nature of support ranges from the provision of free or subsidised accommodation to structured service-learning placements that include interprofessional simulation learning sessions, face-to-face cultural awareness training, educational programs, application to practice and individual mentoring. Under current reporting arrangements, placement numbers and placement weeks are the units of measure. No quality measures are included in the reporting.

Allied health and nursing students undertake placements in a wide variety of settings and health services. The majority of rural placements occur in hospitals, community and primary health services and in private practices and are organised by the respective University Placement Office.

Increasingly, UDRHs also offer innovative student led and service-learning placements for allied health students involving students being placed in non-traditional placement settings including childcare, schools, aged care, community facilities, disability and rehabilitation services as well as ACCHOs. UDRH staff provide structured learning for students and are directly involved in both the establishment of the placements and in the ongoing supervision of students undertaking those placements. Examples of student-led placements include:

- Podiatry students in clinics and outreach visits
- Community based rehabilitation services
- Speech pathology in schools and aged care facilities
- Social work in schools and in non-government organisations
- Physiotherapy and exercise physiology students in chronic care and rehabilitation clinics including ACCHOs

• Speech pathology and occupational therapy students in child development clinics in ACHHOs and learning development services in primary schools.

The establishment of these placements has assisted UDRHs to expand placement capacity in their regions as well as meeting service needs in those communities.

Allied Health in Outback Schools Program

The Broken Hill University Department of Rural Health (BHUDRH) in Far West NSW has operated an allied health service-learning model in primary schools in Broken Hill since 2009. The service-learning model is a partnership between the BHUDRH, NSW Department of Education – Far West Network, and the Far West Local Health District. The service-learning program was developed to provide opportunities for students to deliver clinical care, under supervision, to school pupils with high health needs and poor access to services.

The Allied Health in the Outback Schools Program enables speech pathology, occupational therapy, and social work students to complete a service-learning placement on local primary school campuses in purpose-built health hubs. Students are allocated to a specific school and given a caseload of pupils. Students are required to apply their discipline-specific skills in the provision of screening and assessment, the development of therapy plans if indicated, and the provision of therapy to their pupils under the supervision of a BHUDRH academic or supervisor.

Allied health students participating in the program are generally third or fourth year undergraduates, or second year masters-level students. While on placement, typically 5-8 weeks, students develop a range of skills:

- Organisation and professionalism
- Time management
- Stakeholder engagement
- Teamwork

- Inter-professional practice
- Written and verbal communication
- Group presentation and education
- Working with primary school aged children
- Program evaluation
- Producing quality case notes and reports.

Important features of the service-learning placement includes:

- Continuity of care for school pupils through handover notes from each group of students to the next cohort (under guidance from the BHUDRH academic)
- Integration of the student-led service with existing allied health services for ongoing care of children referred with complex needs
- Students contributing to the shared care of more complex cases by delivering elements of a therapy plan developed and guided by hospital allied health staff

- Structured critical reflection sessions that enable students to advance their problem solving and critical thinking skills
- Co-location of the service in primary schools allowing for ongoing class-based activities to support children who have made progress but may need additional services.

An evaluation of the impact of the speech pathology services on communication outcomes for children attending the student-led clinics reported improvement in communication impairments to age-appropriate levels in about one quarter of school pupils (Kirby et al., 2018).

The establishment and maintenance of the model requires agreements across the health, tertiary and primary education sectors, and recognition of the higher cost of clinical placement per student to ensure quality and safe student contribution to service provision and valuable learning outcomes.

Whyalla Student Led Clinic

The RHMT program has enabled the University of South Australia to invest in the development of a clinical facility based on the Whyalla campus. The Wellbeing Clinic has a waiting room, reception, consult rooms, podiatry chairs, plaster room, and clinical exercise lab. It is used for service-learning for podiatry students, physio students and, exercise physiology placements are currently being planned.

Every Uni SA podiatry student has a four-week clinical placement rotation to the Wellbeing Clinic.

"We have consistency of placement experience. I love it. I have a passion for the students. We invite the hospital high risk clients to the clinic. We have better facilities, the facilities are excellent, and we are able to give the students authentic clinic experience." (Clinical Supervisor)

"The clinic is lovely. The wait time for podiatry is reduced. People want to see a specialist. We know the students are well supervised and so nobody minds." (Client)

"The clinic is the jewel in our crown. We provide the community with real services and the students with outstanding learning opportunities. It is a win-win situation." (Senior University Manager}

"We get to see such a variety of patients. The clinic is great; you learn so much." (Podiatry Student)

"Our medical students have IPL in Whyalla with podiatry and physio in a student led clinic. It is a challenge to affirm and have the students value IPL, so we have embedded that in an OSCE." (Medical Faculty)

Of particular note is the model of service-learning for one discipline has now been expanded to include two other disciplines and to incorporate interprofessional learning activities for a broad range of disciplines.

Some UDRHs provide regular structured learning, such as simulation sessions, for students

on placement in their region. However, this is dependent on the number and type of students and the lengths of their placements as well as the availability of UDRH staff to undertake this teaching.

Student support

Most UDRHs provide access to subsidised accommodation for allied health and nursing students completing placements in their regions. The amount of subsidy and the mechanisms for accessing accommodation vary considerably. Many universities provide greater subsidies to students from their own university than those from other universities. In addition, some bursaries or subsidies are available to allied health and nursing students, generally small financial grants to support travel and other related expenses. These are accessed through University Placement Offices or directly through UDRHs. Some universities allow nursing and allied health students on short term placements to use the university accommodation. Where it is available, nursing students can apply for hospital or university accommodation. In some areas they can apply for a subsidy to cover some of the cost of private accommodation.

Student Support

The James Cook University Centre for Rural and Remote Health (CRRH) in Mt Isa aims to provide students with a high-quality experience, in terms of both the clinical experience and an introduction to remote communities. Key elements of the student experience include:

- Pre-placement information sent 4-6 weeks prior
- Access to on-line cultural awareness training (prior to placement)
- Orientation (accommodation, health services, rural driving, CRRH facilities etc)
- Free accommodation
- Regionally specific cultural safety training (on site)
- Weekly catch up with the placement coordinator to identify issues, debrief and evaluate placements
- Students from different disciplines accommodated together (including medicine and dentistry)
- Fortnightly multidisciplinary simulation sessions
- Active support and encouragement to engage in local activities and events such as rodeos
- Opportunities for some students to participate in service-learning placements

Student selection and rural placement allocation

Systems are in place in most jurisdictions where health services have a process each year for

universities to apply for available placements which are then allocated centrally. Some of these processes are more flexible than others in allowing for locally negotiated arrangements and preferencing of allocation to particular universities.

UDRHs do not generally select students for placement. Home universities allocate nursing and allied health students to placements, according to their course requirements and the placements they have negotiated or been allocated by health services.

While it is not uncommon for allied health students to be asked by their university for preferences or to submit an Expression of Interest for a particular placement or location, feedback from students suggests that the majority of students have little or no say in where they are sent for placements. From the university perspective placement allocation is a complex process requiring consideration of course requirements, student preferences and placement availability.

Increasingly UDRHs have engaged directly with university placement officers to identify allied health students to participate in service-learning and non-traditional placements that are not part of centralised allocation processes. However, it is also evident that student placement officers based at central university locations are not always aware of the unique placement opportunities available through UDRHs. Some universities have addressed this by taking placement officers on a 'Rural Road Trip' to familiarise them with the locations the students will be placed in and the opportunities that exist for quality placements. Universities report that this approach has helped placement officers to better promote rural placements to students with no previous rural exposure.

No evidence was found that students from rural backgrounds are given priority or preference for rural placements in allied health and nursing courses, although this may occur in some cases.

Clinical supervision

Supervision of allied health and nursing placements is undertaken under varying arrangements. In traditional hospital and public community care placements, supervision is provided by health service employees of the same discipline. Supervision in these facilities is generally negotiated by the university through jurisdiction-based arrangements for the allocation of student placements, independent of the UDRH.

Since funding to UDRHs was increased to expand placements, they have increasingly engaged with local private health service providers, ACCHOs, Non-government organisations (NGOs), schools, pre-schools and residential aged care facilities to develop new placement opportunities in their localities. UDRHs have established various arrangements where supervision capacity was not available. Where UDRHs have established these non-traditional service-learning placements, UDRHs directly employ a practitioner from the relevant allied health discipline to support placements. Employed clinical educators can provide support to the local field supervisor who may be from a different discipline than the student on placement.

Some UDRHs employ nursing academics to support clinical supervisors; to provide coordination of student placements; and to support additional learning opportunities such as simulation and interprofessional learning sessions.

To develop new placement opportunities, UDRHs have implemented a range of strategies to develop supervision capability of employed clinical educators and external supervisors including face-to-face workshops, online training modules, webinars and workshops. Several offer interprofessional education workshops for supervisors to support interprofessional supervision models.

4.3.3 Alternative models of rural training

A number of universities (both those funded under the RHMT program and other regionally based universities) offer end-to-end training in medicine and nursing in rural and remote locations. A number of universities also offer nursing programs online. The University of New South Wales offers their full medical program in Port Macquarie and the Murray Darling Medical School will expand end-to-end medical training in a number of locations including Dubbo, Orange, Shepparton, Wagga Wagga, Bendigo and Mildura.

End to end nursing programs are offered by several universities in receipt of RHMT program funding. The Schools of Nursing at Flinders University and the University of South Australia manage the programs at Renmark and Whyalla respectively. However, James Cook University differs in that students are enrolled as internal students of the Centre for Rural and Remote Health and complete all their studies in Mt Isa and Cloncurry. The rurally based nursing programs provide students the opportunity to study while remaining in their rural communities. Students undertaking the program in Mt Isa highlighted the importance to them of being able to study at home and several noted that they would not be undertaking their degrees if they had to do so in Townsville.

A key challenge for nursing students completing studies in rural areas is the cost of undertaking required placements in metropolitan locations. Under current arrangements there is no financial or placement support for those students.

4.4 How well have program objectives been met?

4.4.1 Placement Targets

Overall, most universities met their placement targets during the consolidation period (Table 4-8). In 2018, 16 of 17 RCSs and all UDRHs and DTERP funded universities delivered their required number of placement weeks. Eight (8) UDRHs increased the average duration of placements. While placement durations are set at the university-level, UDRHs are increasingly engaging with university faculties to negotiate longer placements and/or sequential placements that meet course requirements while improving the stability and availability of service-learning opportunities.

Table 4-8Placement target achievement (2016-2018)

	2016	2017	2018
Number of RCS funded universities that met Target 2a	16 of 17	17 of 17	16 of 17
Number of RCS funded universities that met Target 2b	16 of 17	16 of 17	16 of 17
Number of UDRH funded universities that met Target 3ai	10 of 11	10 of 13	14 of 14
Number of UDRH funded universities that met Target 3aii	N/A	N/A	8 of 14
Number of DTERP funded universities that met Target 3c	6 of 6	6 of 6	6 of 6

Target 2a

Percentage of CSP-funded medical student allocation required to undertake a minimum of one year of rural clinical training

Target 2b

Percentage of CSP-funded medical student allocation required to complete a rural training experience of at least 4 consecutive weeks

Target 3ai

Number of multidisciplinary rural placement weeks required to be delivered annually for Australian students

Target 3aii

Increase in duration of placements to be achieved by 2018, expressed as an average placement length

Target 3c

Number of rural placement weeks required to be delivered to dental students annually (equivalent to 5 FTE dental students completing a full academic year)

Department of Health, RHMT program. Consolidation core requirement reports

4.4.2 Assessing Placement Quality

Allied health and nursing placements are reported by RHMT program participants in terms of placement weeks. This is a broad measure that does not reflect the nature of the placement itself, the level of involvement of the UDRH in organising or facilitating the placement, or other support provided to students. There is strong evidence of a high degree of variability relating to quality and considerable disparity in support for students between disciplines and sites.

Program reporting and consultation feedback suggest that in many cases, placements have been reported where the only involvement of the UDRH is access to accommodation or provision of a subsidy to students who are undertaking placements in the region. Further there is qualitative evidence suggesting some universities have "counted" any student who undertakes a placement in a particular locality, irrespective of whether or not the UDRH has had any contact with that student.

As described in Chapter 3, evaluation rubrics were developed to assess the quality of placements across the program. In recognition of substantial programmatic differences, individual rubrics were developed for RCS and UDRH-supported placements.

Key determinants of 'quality' incorporated into the placement evaluation rubrics include:

- Placements of extended length (at least 6-8 weeks allied health and nursing; 40 weeks medicine)
- Free or highly subsidised accommodation and utilities
- Good coordination of pre-placement applications that prioritise rural background students
- Written preplacement information to students about local amenities, and opportunities prior to the placement. Some sites have short online videos where the students can view the site, the accommodation and the key contact people.
- Face to face orientation to the clinical placement and location
- Clinical training experience specifically relevant to rural and remote job opportunities
- Clear learning outcomes of the clinical placement
- Regular access to teaching clinical educators and/or supervisors of the relevant discipline
- Access to structured inter-disciplinary education and service-learning opportunities
- Face to face cultural safety training contextualised to the location
- Placement includes planned and structured engagement with Aboriginal and Torres Strait Islander health services and/or community organisations
- Opportunities for students to meet people and undertake activities in the local community
- Opportunity to debrief with RCS/UDRH staff about clinical placement and personal issues
- Evaluation processes for improvement

The rubrics provide a mechanism to distinguish between qualitative aspects of placements rather than just reporting the number of placements and placement weeks. Full rubrics are included at Appendix 11. Overall ratings have been applied to reflect the placement experience for the majority of students. The rubric assessment of quality placements demonstrates the variability of placements being delivered under the RHMT program. Assessed quality of placements is summarised in Table 4-9.¹¹

Rating	Medicine	Allied Health	Nursing
Excellent		2	
Very Good	15	4	2
Good	2	2	5
Baseline	1	1	1
Poor		3	4
Total	18	12	12

<i>Table 4-9</i>	Assessed p	lacement	quality	by	discipline
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4.4.3 RCS placement quality

The majority of RCSs were rated as providing placements of 'Very Good' quality, with the

¹¹ Quality of dental placements is reported in Chapter 11.

others rated as either 'Good' or 'Baseline'. Evaluation criteria with greatest areas of variability between placement sites related to:

- Planned and structured engagement with Aboriginal and Torres Strait Islander health services and organisations
- Delivery of interdisciplinary training
- Experience relevant to rural job opportunities

To meet the excellent rating, universities were required to demonstrate how cultural safety is contextualised to the local area. While many universities ensure all students have some level of basic cultural awareness training, few were able to demonstrate that students have adequate introduction to the communities in which they are undertaking placements. Further, while all universities noted the Australian Medical Council (AMC) requirement for the inclusion of Aboriginal and Torres Strait Islander health in medical curricula, few could demonstrate a systematic and comprehensive approach to this issue at regional and rural sites.

Evidence from the evaluation also suggests that many students who undertake the majority of their clinical training in large regional hospitals have limited exposure to generalist roles that are most likely to be needed to address current and future workforce shortages.

Most sites indicated that interdisciplinary training occurs incidentally as students are placed in health facilities with students from other disciplines. The full curriculum and requirements to complete specific clinical exposure limits their capacity to plan and deliver formal interdisciplinary training.

4.4.4 UDRH placement quality

Allied Health

Half of the UDRHs were rated as delivering placements of 'Excellent' or 'Very Good' quality for allied health students. High-quality placements for allied health students were characterised by:

- Established and service-learning placements offering 'real-world' learning experiences for students that also filled local service gaps
- Community engagement and development activities to establish placements in remote and underserved communities
- Structured inter-disciplinary training opportunities

It should be noted that a number of individual UDRH programs deliver placements of varying quality. For example, an individual UDRH may simultaneously support high-quality allied health service-learning placements while acting as an accommodation broker for low-quality nursing placements where the UDRH has no substantive contact with students or supervisors.

There was considerable variation in the extent to which UDRH students were provided with structured cultural safety training and engagement with Aboriginal and Torres Strait Islander Health services and organisations. For most UDRH placements, structured interdisciplinary

learning is generally ad hoc.

Nursing

The quality of placements for nursing were more variable. Nearly half of the UDRHs were rated as supporting Good quality placements and two UDRHs were rated as very good while four were rated as providing poor placement support. Providing high-quality support for nursing placements is challenging due to constraints of the curriculum, in particular some universities insisting on the minimum requirement for 800 placement hours which excludes interdisciplinary education, simulation training and orientation. The development of innovative placements, such as those in primary health care, is limited by the large number of nursing students requiring placements and the curriculum that is designed for students to meet competencies more easily achieved in acute care settings. Short term placements are the norm in nursing programs in Australia and currently are across the full duration of the course limiting the scope of practice of the student until the final capstone placement.

4.5 Elements of placement quality

4.5.1 Supervision capacity building

The evaluation rubric to assess the quality and extent of supervision capacity building by UDRHs and RCSs incorporates the following elements:

- Supporting supervisors to gain educational qualifications
- Support for supervisor-led research and/or opportunities to participate in research
- Documented governance processes to ensure supervisor safety and quality
- Building organisational capacity in local health services for supervision including administration, clinical education capability and workplace assessment capacity
- Face to face supervisor training
- Supervisor mentoring processes
- Conjoint appointments for supervisors with the university
- Formal processes for dealing with issues/complaints from supervisors or students
- Supervisors provided with individualised information about students' learning objectives
- Supervisors being familiar with the curriculum and assessment requirements of the various universities
- Supervisors being supported by academics and placement coordinators
- Supervisors provided with cultural safety training
- Regular feedback mechanisms
- Networking opportunities for supervisors with the RCS and UDRH

In response to a request from the evaluation team for information about supervision support,

feedback was received from 14 RCSs (including a UDRH supporting extended medical student placements), 13 UDRHs (including newly established sites) and two (2) dental schools participating in the DTERP program. Using this self-reported data, in conjunction with findings from the consultations, two RCSs were rated 'Excellent', half (7) were rated 'Very Good' in relation to strategies in place to build supervision capacity. The remaining five (5) were rated as 'Good'.

Four (4) UDRHs were rated as 'Very Good' and six (6) UDRHs were rated as 'Good'.¹² Results are presented in Table 4-10.

Rating	RCS	UDRH
Excellent	2	
Very Good	7	4
Good	5	6
Baseline		
Poor		
Total	14	10

Table 4-10 Assessed supervision capacity building by programmatic unit

Most RCSs and UDRHs did not report a formal process for dealing with issues and complaints from supervisors or students. Consultations suggest that these are generally dealt with by the course or placement coordinator at the university level and informally by the RCS or UDRH as problems arise.

While opportunities for online cultural safety training is a requirement and/or available to supervisors, there is variation in the extent to which this is contextualised at a local level. Many health services require all staff to complete cultural safety training and this is usually contextualised for the local environment. Some UDRH Aboriginal and Torres Strait islander academics provide this as a service to support the development of cultural safety for supervisors and students.

The majority of RCSs offer adjunct appointment to supervisors. However, this was not common for UDRHs. Recognition of supervisors is explored further in Chapter 5.

Of the two dental schools that responded to the information request, supervision capacity building was rated as Good. One dental school reported working closely with its RCS and UDRH to support local dental supervisors and students, the other worked closely with the state health department to provide professional development, mentoring and cultural training to supervisors. Further discussion of the enablers and challenges to building supervision capacity is provided in Section 4.6.6 and Section 4.7.4, respectively.

¹² The three UDRHs established in the consolidation period were not included as there was insufficient data upon which to base summative evaluations.

4.5.2 Placements relevant to rural workforce need

Students are exposed to a variety of rural practice settings through the RHMT program. In rural training sites, medical students are generally exposed to a wider variety of medicine than their metropolitan-based counterparts and develop a solid understanding of the opportunities and limitations of rural hospitals and health services through this exposure.

However, it was also noted that students' rural experiences reflect the health services in which they undertake their training. In many sites, students are training in relatively large regional hospitals with minimal exposure to rural general practice or other rural generalist models of practice. This is evident in the overall program data showing the majority of training occurs in RA2 locations and in hospital settings. While providing students with training that meets their educational requirements, the predominance of regional hospital-based placements does not necessarily expose them to the types of rural work that is required now and will be required in the future. It is recognised and often quoted that *"you can't be what you can't see"* suggesting a gap in the implementation of the RHMT program in exposing students to the breadth of rural work, in particular in general practice and rural generalist careers.

It is difficult to make generalisations about the relevance of rural experiences for allied health students given the diversity of their placements. Many students highlighted that their exposure to rural practice had broadened their outlook on possible future careers and had given them a deeper understanding of the challenges faced by rural communities in accessing health services. They also understood the limitations on the number of salaried roles available in rural areas and the opportunities for innovative practice models that can be developed.

It is equally difficult to make generalisations about the relevance of rural experience for nursing students given the formality, shift work and patient care related structure of their placements. Rural health service providers were very positive about the rural health workforce outcome of rural nursing students receiving end-to-end training in rural areas and surprisingly positive about international students and that rural exposure was a good way of introducing them to opportunities for graduate programs and nursing roles in rural areas. Rural health service providers reported preferring to employ graduates who had experience of rural practice.

4.5.3 Student perspectives on placements

Medical students reported being highly satisfied with rural placements. Medical student focus groups identified the benefits of rural placements to include a wider breadth of experience, greater exposure to senior clinicians, more hands-on skill development, personalised teaching and access to student support that was not generally available in metropolitan settings.

Analysis of the FRAME student survey data showed that:

- Satisfaction was associated with good supervision, academic support and having a ruralbased clinician as a mentor
- Between 2016 and 2018, 78% students strongly agreed and 17% somewhat agreed that they would recommend the RCS experience to other medical students
- Higher ratings of academic support were strongly associated with higher ratings of placement satisfaction (OR 2.48, 95% CI 1.13-1.45).

- Perception of academic and social isolation during placement were negatively associated with placement satisfaction ratings (OR 0.78, 95%CI 0.69-0.88 and OR 0.70, 95% 0.63-0.78 respectively)
- Students median score for supervision was 65.5 out of 75, indicating that overall, students were pleased with the supervision they received during placement

Allied health and nursing student focus groups indicated they were generally satisfied with their placements which aligns with the analysis of ARHEN student survey data. Key findings from the analysis of ARHEN student survey data indicated that:

- There was no statistically significant evidence of an association between placement length and student satisfaction, nor between placement remoteness and student satisfaction
- For every unit increase in the rating of supervision (out of a possible five), students were three times more likely to rate their placement satisfaction positively (OR 3.21 95%CI 2.43-4.23)
- For every unit increase in the rating of 'I received adequate educational resources', students were two times more likely to rate their placement positively (OR 2.34 95%CI 1.73-3.17)
- Students enrolled at UDRH-funded universities were 1.75 times more likely to receive financial assistance for accommodation and 1.62 times more likely to receive cultural training compared to students enrolled at non-UDRH-funded universities.

Allied health students indicated that they valued the breadth of clinical experience and hands on work they did on rural placement (particularly those on service-learning placements), the opportunity to develop their professional experience, and development of strategies for working in less well-resourced environments.

Feedback from nursing students was more variable. While there were fewer nursing students interviewed that allied health, most indicated that they valued the breadth of experience, opportunity to do more "hands on" work, and feeling like part of a team as important elements of the rural placement. However, at some sites the students were generally unaware of the learning opportunities available through the UDRH, while at others they valued the supports offered by the UDRH. They were satisfied with the library facilities and support received at the UDRH for completing their assessments.

4.6 Enablers of quality placements

A number of factors were identified that appear to facilitate the development and provision of quality rural placements.

4.6.1 The 'hidden curriculum' – community experience

For all health disciplines, consultation participants identified a range of components of highquality placements, often described as the 'hidden curriculum' that sat alongside the discipline specific intended curriculum and development of clinical skills. These factors are incorporated in the quality placement rubric and include:

- The provision of free or subsidised accommodation
- Access to mentoring either by clinicians or local community members
- Cultural orientation specifically relevant to local communities
- Support and encouragement for students to engage in social and community activities
- Challenging students not just providing them with a tourism experience

4.6.2 Connection to main campuses

Placements can be enhanced where there are strong connections between the UDRH staff and placement staff at main campuses of universities. While it is challenging to liaise with multiple universities, strong relationships facilitate improved placement organisation for both students and UDRHs. This is particularly important for service-learning placements where some UDRHs have been able to increase continuity of service through good planning and coordination with particular universities. Some UDRHs indicated the benefits of developing strong relationships with their own university faculties to facilitate improved planning and negotiating longer placements and developing projects and experiences for the students while on placement.

4.6.3 Aboriginal and Torres Strait Islander Health

Site visits identified several high-quality placement models to develop students' understanding of and exposure to Aboriginal and Torres Strait Islander health issues. Key features included:

- Investment by the UDRH or RCS in providing supervision capacity (i.e., UDRH or RCS employed clinical educators to supervise and support students on placement in ACCHOs and other services)
- Selection of students to match placements and good preparation of students prior to commencing placements
- Recognition of the holistic model of primary health care and the role of Aboriginal and Torres Strait Islander Heath Workers and Practitioners
- Teaching models that provided services and direct benefit to Aboriginal and Torres Strait Islander patients and to the host services
- Training in clinical yarning
- Using resources such as the Indigenous Allied Health Australia (IAHA) Cultural Responsiveness Framework to enable the student to interpret this into their clinical practice.

The role of the RHMT program in promoting Aboriginal and Torres Strait Islander health is discussed at length in Chapter 7.

4.6.4 Accommodation and infrastructure

The provision of subsidised accommodation is a crucial element of the RHMT program. The cost of relocating, particularly for short placements, can be very high for individual students and having access to well maintained and affordable accommodation facilitates their participation.

However, the provision of accommodation alone is insufficient to meet standards for highquality placements. Investment in accommodation and other infrastructure such as teaching and learning facilities including library facilities that are accessible around the student work times has been an important enabler to developing quality placements. Many universities have also invested to support the development of infrastructure in their regional and rural catchment areas.

Accommodation and infrastructure support

An example of the range of supports offered to allied health, nursing and medical students is the Tamworth Education Centre (TEC). Through regional development funding the University of Newcastle have developed integrated teaching, simulation labs, library, study spaces, research facilities, staff offices and student accommodation facilities. The TEC is situated on a sevenhectare parcel of land adjacent to the hospital. University Student Amenities Funds have been added to the original grant to put in additional student amenities such as a basketball court, barbeque area and covered garden.

"We have a 50-year vision. We can expand as more funds become available. It takes an investment of about 100k per bed/student/year. This has now greatly increased our capacity to take students for rural placements." (University Administrator)

"In Tamworth we pay \$80 a week for accommodation. Everything is provided. You sign up online. Free laundry, free WIFI. The closeness of activities is good. There are no parking issues, our placement is just 100 m from where we live. If there is no university accommodation students can pay up to \$120 per night and only get \$80 a week subsidy. The TEC makes a long placement possible." (Allied Health and Medical Students).

4.6.5 Investment in community development and engagement

The establishment of innovative service-learning models in schools, childcare centres, aged care facilities and community settings generally requires considerable negotiation, planning and resources before placements can commence. Investment in this establishment work, including having input from relevant clinical educators into the design of placement models is critical for their success.

Local leadership has underpinned the development of new allied health placement models through the establishment of strong partnerships with local organisations and service providers. The development and sustainability of such partnerships are facilitated through UDRHs having stable leadership, senior staff with strong local connections, strong relationships with university leaders and decision makers and autonomy to foster innovation.

4.6.6 Building supervision capacity

The RCSs and UDRHs have been innovative in developing strategies to build supervision capacity to expand placement opportunities.

Some UDRHs 'practise what they preach' in progressing interdisciplinary supervision as a mechanism to not only build supervision capacity but also to model interdisciplinary practice. Under these models practitioners may supervise students from a different discipline in the field, supported by a discipline specific supervisor who may visit regularly and/or provide advice and supervision from another location. In these cases, it is essential that there is a clear understanding by the field supervisor and student of the student's scope of practice.

Some RCSs are now benefiting from their alumni returning to rural, remote and regional locations to work as medical practitioners and providing supervision to students in hospital settings and/or general practice with a grounded understanding of the curriculum for the respective medical program. Furthermore, this has the benefit of students seeing a rural or regional training pathway as they are being taught by earlier graduates who may be Junior Medical Officers, Registrars, GPs or Consultants.

Alumni as supervisors

RSCWA provided data on alumni currently working in Broome. In September 2019 there were 33 doctors who were graduates of RCS programs working in Broome, 29 from RCSWA, 2 from Adelaide University RCS and 2 from Flinders University. Eighteen are specialist GPs (including 2 GP obstetricians, 2 GP anaesthetists and 2 Renal GPs), two are Public Health Physicians, two are general physician, one is a paediatrician and one is an Obstetrician & Gynaecologist. The rest are interns, residents or registrars. The non-GP specialists and Renal GPs provide regional services and a number of the GPs also work in remote clinics but have a base in Broome. There are also a number of graduates in both Derby and Kununurra. Many of these RCSWA alumni now also supervise RCS students.

4.6.7 Supporting supervisor retention

Supervisors are more willing to offer placements and provide supervision where UDRHs/ RCSs are able to support the recruitment, orientation and pastoral care of students, removing this load from the supervisor. UDRHs/RCSs can also intervene in situations where there are concerns about student performance or difficulties adjusting to a placement.

The opportunity to supervise students adds variety and interest to medical and health practitioners' clinical roles thereby increasing their intention to continue to work in a rural area. Connection with a university offers opportunities for professional development and pursuing interests in research including supervision of student projects. Many universities have supported clinicians to complete their higher research degrees and many of them continue to have active roles with the department as well as all working clinically in the region.

While formalised feedback mechanisms were not universal across RHMT program sites, supervisors and/or their employing organisations valued receiving feedback on student placement experiences. Furthermore, as the development of placements is often relationship based, ongoing engagement with external supervisors in providing feedback and training opportunities strengthens their continued engagement in supervision.

4.7 Challenges in delivering quality placements

4.7.1 For students

The cost of travelling to and participating in rural placements is a significant barrier, in particular for nursing and allied health students. Students are required to participate in multiple placements across their degree programs and are generally required to pay for travel and accommodation at the same time as financing their normal accommodation. Frequently they are unable to work for the duration of their placements, further escalating the costs.

While universities frequently have processes for identifying student preferences for placement locations, allocation processes often do not necessarily reflect these preferences.

4.7.2 Cost and logistics for Remote placements

Fragility of the workforce limiting supervision capacity, the need for additional travel, the higher costs of doing business in remote locations in comparison to larger regional centres and limited access to appropriate student accommodation are financial and logistical challenges for remote placements. While there has been some consideration of remoteness in the funding formula for the RCS component of the RHMT program in the past, this was not the case for UDRHs which were all provided with the same level of funding. As a result, UDRHs working in more remote locations have significant challenges in increasing placement numbers and sustaining existing placement models.

4.7.3 Definition of 'placement'

The current mechanism for counting and reporting on placement weeks does not reflect the diversity or quality of placement experiences. Increased funding for UDRHs required an increase in the overall number of placements, however merely reporting on placement weeks obscures the very real differences between placements and the work of different UDRHs. For example, it does not reflect the considerable effort required to establish and maintain service-learning placements, particularly where these are specifically set up in underserviced communities with workforce challenges. Nor does it distinguish between a student accessing subsidised accommodation through a website and a student who has been provided with an integrated package of teaching, mentoring, accommodation, cultural safety training and placement supervision.

4.7.4 Supervision capacity building

The structure of the workforce can impede supervision capacity particularly in rural and remote locations. IMGs are more highly represented in rural and remote locations and are often also training toward their fellowship, limiting their capacity to supervise medical students. Relatively recent allied health and nursing graduates are often a large part of the health workforce in rural areas. While near to peer supervision models have been developed where recent graduates provide supervision, they require access to mentors to support both the graduate and the student.

As UDRHs support students from multiple universities and multiple disciplines significant work is required to ensure external supervisors and clinical facilitators meet the training requirements for the relevant universities and are familiar with university specific learning objectives and assessment processes.

While remuneration and recognition of supervisors supports the establishment of placements and willingness of clinicians to become supervisors, clearly the reverse applies. Payments through Medicare are available only to general practices, not to private medical specialists or to private allied health practitioners. Even where the PIP payment is available, GPs report this is insufficient, in particular where practices use parallel consulting approaches and supervising more than one student in a session.

Cultural safety training is offered by the majority of RHMT program participants to external supervisors. Online training is common. Locally contextualised training delivered in a workshop format may also be offered as part of their supervisor training strategy. However, there is no indication of whether there is coverage across all supervisors, or the extent to which ancillary staff e.g., practice staff are offered or participate in training to facilitate culturally safe placements for Aboriginal and Torres Strait Islander students.

Support for staff and supervisors

The RCSWA has a mix of arrangements for supervision of medical students, employing 80 GPs and medical specialists on fractional appointments as medical educators for teaching, supervision and placement coordination across the 14 RCS sites. Supervision is provided by RCSWA staff as well as adjunct appointments for GPs and medical specialists who have a supervision role only.

The RCSWA has recently established discipline lead roles where a teaching staff member takes the lead for the development, delivery and assessment of the curriculum (e.g. paediatrics) for the school and is the point of connection with the university providing feedback into the academic process.

Strategies to build supervision capacity for RCSWA staff include:

- New staff are appointed to an experienced medical educator under a loose mentorship arrangement
- · Annual professional development days for all staff
- Access to financial support for conferences and courses
- Tailored health and safety protocols for staff and students on placement, in particular driving and travel relevant to the remote and distributed nature of the RCS
- Annual performance review process.

Adjunct supervisors are provided with access to the university library and other resources. Some non-GP specialists and GPs, or their practices, are also paid a sessional supervision fee to compensate for loss of income and the extent of extra teaching out of usual hours they undertake. Workshops to develop supervision skills are offered to adjunct supervisors.

4.7.5 Interdisciplinary learning

The provision of structured interdisciplinary learning is difficult for both RCSs and UDRHs. It is not clearly mandated through the AMC and the Australian Nursing and Midwifery Accreditation Council (ANMAC) and is not assessable which means it is generally not given high priority by all universities and faculties. RCSs highlighted the difficulty of timetabling such sessions given the dense curriculum in their clinical training years. Even where there are groups of students on placement from different disciplines it can be difficult to plan meaningful sessions as students are often at different stages of their degrees and the mix of students can vary from week to week. While simulation laboratories are widespread and utilised in different ways, the logistics of bringing interdisciplinary groups of students together can be challenging.

4.7.6 Student selection

Rural-origin targets and data reported have limited relevance to UDRHs where they support students from multiple universities. Universities currently report on this parameter in different ways. Some report directly on the rural origin of students from the multiple universities supported through the UDRH by accessing information from home universities, while others only report on students directly enrolled with their central university. Several universities indicated that until recently they had not collected data on rural origin from enrolling students.

Targets have reportedly created competition between universities for rural students. Several informants described rural-origin students as a 'commodity', highlighting that some universities have greater capacity to incentivise students than others. Further it was noted that, while students can and should have choice about where they study, this competition is not always in the best interests of individual students.

While the intent of compulsory rural placements is to provide exposure to rural practice, care is needed to ensure that placing students that have no interest in rural practice does not disengage supervisors and/or services that host the placement. Mechanisms to identify and match students to rural placements can assist in enhancing the experience for students as well as supporting and respecting local clinicians and supervisors. For RCSs this can include rural staff being involved in the selection process and in allocating students to particular clinical settings. Generally, UDRHs are not directly involved in selecting which students come to their region for placement. However, universities could develop more sophisticated mechanisms for selecting students, for example through greater collaboration with university placement officers. This can be of particular importance where students are placed in more remote sites where they are likely to be more isolated and may need to be more resilient and independent. Some universities are working with rural health services to develop the concept of the 'health service home' where students will have the majority of their placements across the facilities of one health service.

4.7.7 Maintaining "service" for service-learning placements

It is incumbent on the UDRHs that have established service-learning placements that strategies are in place for continuity of students to fill placements to minimise service disruption and continuity of care for clients. UDRHs have sought to address this through partnerships with
several key universities or faculties.

4.7.8 Infrastructure

Increased placement activity following the increased funding to the UDRHs in the 2016-2018 period has placed pressure on teaching facilities, accommodation and maintenance requirements. UDRHs have responded differently with some using underspends to support infrastructure development including accommodation and teaching facilities, and others choosing to rent additional properties for accommodation.

The concept of a capital grants pool as a component of the program was identified as a mechanism for the agencies to be agile in taking up opportunities to co-invest with the state services to develop locally relevant education and training facilities.

5. Research, Academic and Professional networks

Through the network of RCSs and UDRHs, rural and remote research capability and capacity has been built over time with each centre having the autonomy to develop their own research strategy and direction. Since inception of the program, the RCSs and UDRHs have been instrumental in progressing research in rural and remote health, rural health workforce, rural health service delivery and rural training. Research has been funded through various sources including highly competitive National Health and Medical Research Council (NHMRC) grants, philanthropic programs, tenders, locally commissioned research and evaluation projects, and RHMT program funds. An extensive body of publications has been produced and key collaborative research efforts have informed a number of Commonwealth health workforce policy initiatives.

Building and Maintaining Academic and Professional Networks

Most RCSs have established sound local academic and professional networks, although given the distributive model, maintenance of local networks can be challenging in some sites.

RCSs engage clinical teachers and supervisors under various arrangements including direct employment by the university, conjoint appointments and adjunct appointments.

UDRHs are less involved in direct teaching of undergraduate nursing and allied health students, with the exception of service-learning placements and limited locations providing end-toend nursing training. One UDRH is directly responsible for the development and delivery of postgraduate courses. Clinical supervisors are employed by UDRHs where other local clinicians are not available for supervision of students.

Professional staff roles include coordination of student accommodation, student orientation and activities coordination, infrastructure maintenance, finance, grant writing support, IT support, library services, event marketing, media support, administrative support, and research assistance.

While some RHMT program sites have proactively recruited and nurtured the development of Aboriginal and Torres Strait Islander academics and professional staff and established a critical mass within larger academic teams, this was not consistent across RHMT program sites.

Enablers for developing academic and professional networks include:

- Establishment of a critical mass of like-minded academics as a foundation to develop capacity and capability within local medical, allied health and nursing workforces for academic pursuits including teaching and research
- Balanced roles combining teaching and supervision, research and clinical work provides interest and career development opportunities.

Challenges in the development of academic and professional networks include:

- Relatively short and fixed term employment contracts contribute to the instability of the rural academic and professional staff networks
- High reliance on adjunct appointments for teaching and supervision, particularly for RCSs
- Lack of parity of employment conditions with state health services challenges recruitment of clinical academic staff.

Lesson Learned

Regular engagement by RCSs and UDRHs with adjunct supervisors, preceptors and potential supervisors provides a mechanism to identify and develop strategies to facilitate their continuing commitment to student teaching and supervision. This can inform entitlements under adjunct appointments, supervision training, and supports continuous quality improvement for the program.

Building Research Capability and Capacity

Overall, the RCSs and UDRHs have delivered on a broad program of research, implemented strategies to build research capacity within local health and community services and for students on placements. They have developed research capability and expertise within their own teams by supporting staff to undertake higher degrees. Numerous examples of local research collaborations were identified.

An evaluation rubric was used to rate each university in relation to building research capability and capacity. In this context high quality research capacity building was characterised by active research collaboration and networks; institutional recognition or applied research; availability of high level skills and expertise; mentoring; partnerships with Aboriginal and Torres Strait Islander people and organisations; local research translation; and support for student research.

One third of the RCS were rated as **Very Good** or **Good** in implementing activities to build research capacity in their regional footprint. The remaining two thirds were rated as **Adequate** or **Poor**.

Research capacity building by UDRHs was more diverse. Two (2) UDRHs were rated as **Excellent** across the quality dimensions, with four (4) rated as **Very Good** or **Good** and the remainder **Adequate** or **Poor.** Some had poor access to their central university's research support and were not included in the major research investment opportunities that related to their region.

Enablers for building research capacity include:

- ► Highly experienced, capable and senior rural research leaders who are able to attract external funding
- Support from central university to build a culture of research in the region where there is a small local research team
- Interest and participation in research capacity building is generated where the value of research is obvious to local health services, clinicians and community.

Challenges in building research capacity include:

- Inadequate recognition of RCS and UDRH research output by the central university in the provision of funding and in-kind support
- The broad scope of work of rural academics impacts on their capacity to pursue research and is not well aligned with academic progression metrics of universities
- ► Length of the RHMT program funding agreement (typically three years) hinders the development of a research portfolio and contributes to recruitment challenges
- Limited availability of funding for rural health workforce research.

Lessons Learned

Research capacity and capability could be strengthened by:

- Local or regional consultative mechanisms to develop research questions that are locally relevant and responsive to community needs
- ▶ Mentoring and support to build research capabilities and careers of early career researchers
- Targeted university support for rural based researchers to enable them to join established larger research teams and institutes
- Harnessing the rural health research infrastructure to progress multi-site, multi-university and cross jurisdictional research, facilitated by a quarantined pool of funding within the RHMT program to progress research collaborations for rural health workforce and service delivery research
- Identifying opportunities to work with RWAs at a jurisdictional and/or national level (through ARHEN and/or FRAME) to develop workforce research questions of state and national importance
- Developing mechanisms for translation and dissemination of research at a regional, cross region, state and national level to progress innovations

Through FRAME and ARHEN develop a strategy to increase the impact factors of identified journals for publications arising from the RHMT program

Central university support to strengthen research capability within the RCS and UDRH network better positions the universities to meet the proposed threshold research requirements outlined in the Coaldrake Review, 2019.

5. Research, Academic and Professional Networks

5.1 Introduction

Across the RCSs and UDRHs, academic staff are generally employed in balanced positions where a specified proportion of an academic's time is allocated to research; learning and teaching; and service to the university, profession and community. Given the intertwined role and functions of academic staff, this chapter reports the key findings of two interconnected objectives:

- Maximising the investment of program funds in rural, regional and remote areas for the maintenance of well supported academic networks to enhance the delivery of training to students and the provision of medical services to communities
- Developing an evidence base for the efficacy of rural training strategies in delivering rural health workforce outcomes.

Fundamental to progressing these two objectives is the ongoing development and maintenance of academic and professional networks across RHMT program sites. The RHMT program funding agreement requires major training sites to be managed by senior academic and clinical staff. Parameter 4 specifies that the universities encourage academic and administrative staff to live and work rurally and that academic staff undertake clinical practice in the community. Recruitment of Aboriginal and Torres Strait Islander academics and staff is a component of Parameter 6 to facilitate and focus efforts in improving Aboriginal and Torres Strait Islander health.

Parameter 5 of the RHMT program requires universities to focus activity on progressing research in relation to rural health workforce, training and rural health service delivery, Aboriginal and Torres Strait Islander health, supporting research opportunities for students and collecting and maintaining data on workforce outcomes from rural training activity.

5.2 Context

When the UDRH and RCTS programs were established in the late 1990s and early 2000s, they were foundational to furthering rural health workforce development by establishing and supporting an academic and professional base in the regions, focusing efforts on developing the Aboriginal and Torres Strait Islander health workforce and providing locally relevant professional development for local clinicians.

While UDRHs always had a mandate to build and support local research capacity and capability this was not as explicit for the RCSs. Competition for training places drove a demand for student led research and the introduction of medical doctorate (MD) programs has prompted RCSs to increasingly focus on student led research activity in their geographic footprint. This has promoted research collaborations with local hospitals, health services and direct engagement with clinician researchers.

Key Commonwealth initiatives that contributed to building rural and remote research capacity

and capability included:

- The Primary Health Care Research Evaluation and Development (PHCRED) program to enable the development of interest of rural clinicians in research, evaluation and continuing quality improvement that was relevant to their practice and their community. This funding provided salary support for the development of early career researchers.
- The Australian Primary Health Care Research Institute (APHCRI) provided research funding and with a national focus promoted collaborations between primary health care researchers including specific streams targeting rural and remote. This provided a vehicle for collaborations between researchers in the UDRHs and RCSs at a national level, drawing on different skills and expertise, allowing for researchers to conduct multi-centre research. This funding also promoted research translation across the sector.

Multiple policies were founded on the research undertaken through these earlier rural and remote collaborations. Examples include: the Medicine in Australia: Balancing Employment and Life (MABEL) survey; development of the MM model for classification of geographical remoteness and adopted by the Australian Government in 2015 to inform GP recruitment and retention incentives; research foundation for the rural generalist pathway; rural health workforce recruitment and retention strategies; longitudinal rural placements and rural origin as a component of medical programs in Australia. Funding of the PHCRED program, of which APHCRI was a component, ceased in 2015.

5.3 Description of Academic and Professional Networks

The academic and professional networks developed through the RHMT program include clinicians directly employed by universities through RCSs and/or UDRHs, and clinicians supporting the supervision of students who may or may not have an adjunct appointment with a university.

RCSs employ clinical academics on full-time, fractional or sessional bases to undertake direct teaching of the medical curriculum and clinical supervision activities for students. These clinical academics may also supervise student research projects and may also pursue their own research interests. They are usually employed at a Level C, Senior Lecturer or Level D, Associate Professor level.

RCSs also engage clinical supervisors, usually under adjunct appointments to supervise medical students on placement. This includes private GPs and medical specialists, registrars and junior doctors in hospitals. Despite active teaching roles these academics/supervisors do not take responsibility for any units of study and their teaching performance is included as part of the overall unit teaching. These academics are not eligible for teaching awards other than those nominated by students.

In some regions, UDRHs are involved in direct teaching of undergraduate nursing and allied health students, particularly in allied health service-learning models and where nursing students complete end-to-end training in the region. The role of the clinical academics usually entails supervision of students while on placement, or support for clinical supervisors employed by health services or in private practices. In some instances, they provide direct supervision,

particularly where local clinicians are not available for supervision. These positions are usually full-time or fractional academic appointments at a Level B, Lecturer level or Level C, Senior Lecturer. UDRH academics also pursue research interests which in many cases leads to their own higher degree.

In a few cases such as the Flinders University Centre for Remote Health in Alice Springs, the UDRH has developed a suite of postgraduate courses. These are fully run through the UDRH which takes total responsibility for the quality of teaching. This program has received university and national recognition for teaching excellence.

Support for local health professionals

The Remote Health Practice (RHP) program at the Flinders University Centre for Remote Health in Alice Springs offers post graduate award courses with exit points at Graduate Certificate, Graduate Diploma and Masters. The RHP program meets the higher education needs of health professionals working in remote areas and supports the transition to remote practice for those who have an interest in joining the remote health workforce. Health professionals are challenged to advance their knowledge of remote health and develop necessary skills for working within the remote and Indigenous context to improve health outcomes of remote and Indigenous populations.

In addition, in the 2016-2019 period, approximately 1,000 health professionals participated in the short courses offered at CRH each year.

Professional staff cover a range of roles including coordination of student accommodation; student orientation; infrastructure maintenance; finance; grant writing support; IT support; library services; event marketing; media support; administrative support; and research assistance.

5.4 Meeting Program Objectives—Academic and Professional Networks

This section considers the extent to which the universities are developing and maintaining staffing of local academic and professional networks. It is recognised that developing and maintaining supervision capacity and capability is an element of maintaining academic networks (see Chapter 4).

Embedding strategies to build Aboriginal and Torres Strait Islander academic capacity and engagement with Aboriginal and Torres Strait Islander services and communities are integral to all aspects of program delivery. Therefore, the extent to which this is evident across the RCS and UDRH networks has been considered in this assessment.

Drawing on Parameter 4 and Parameter 6, evidence of developing and maintaining an academic and professional network would include demonstration of:

- Staff supported to undertake higher degrees
- All local teaching provided by rural clinicians

- Aboriginal and Torres Strait Islander staff employed in academic and/or leadership positions in rural sites
- Conjoint appointments for local clinicians providing supervision and/or teaching
- Staff mentoring available
- Majority of staff live and work locally
- Grow local workforce strategy evident.

RCSs

Given the distributed nature of many RCSs with multiple training locations, there is variation in relation to their capacity to develop and maintain academic and professional networks. Based on consultations and site visits, in the main RCSs have supported their staff to progress higher degrees or further studies and developed networks of academic supervisors and teachers. However, there continues to be a high reliance on adjunct appointments for student supervision which can impact on the stability of these networks. For the majority of RCSs, employed academic staff live locally, are actively involved in teaching, and undertake clinical work in their community. However, concern was raised in relation to some RCSs and the extent to which key staff resided in and are engaged in the regions and the lack of focus on the development of Aboriginal and Torres Strait Islander staff.

UDRHs

The majority of UDRHs have established sound academic and professional networks in their regions. Higher performing UDRHs support staff to undertake higher degree courses, and employ staff who live locally, many of whom also undertake clinical work in their communities. The majority of UDRHs actively engage local clinicians to support teaching. Several UDRHs have an explicit goal of reaching Aboriginal employment parity. Two UDRHs were identified where local Aboriginal and Torres Strait Islander staff have been supported into leadership roles. Concerns were raised relating to the extent to which key staff resided in the main site of some UDRH, and the extent to which there was a clear focus on the development of Aboriginal and Torres Strait Islander staff.

5.5 Enablers to building and maintenance of academic and professional networks

Establishment of a critical mass

Over the twenty years of operation of the UDRHs and RCSs the universities have actively recruited academics to rural, remote and regional sites for academic and research roles where this specialised expertise was not available. This has facilitated the development of a critical mass of like-minded academics as well as a foundation to develop capacity and capability within the local medical, allied health and nursing workforce for academic pursuits including teaching and research.

Similarly, a few UDRHs have been particularly proactive in recruiting and nurturing the development of Aboriginal and Torres Strait Islander academics and professional staff to establish a small critical mass within their larger academic teams. This not only offers a career pathway for individuals, it provides a solid platform for Aboriginal and Torres Strait Islander led engagement with communities, health and community services to progress locally relevant community development and research activities. However, it was identified that many UDRHs and RCSs struggle in this area.

Employment of Aboriginal and Torres Strait Islander staff

The University of Melbourne UDRH employs eight Aboriginal and Torres Strait Islander staff who are all based in Shepparton to ensure there is support for each other and so that different networks can be used to work with local communities. They work in two large, shared offices so they can regularly communicate and share aspects of their work. Each has a different role but supporting each other, caring for each other and enabling communication is very important. In these roles, one is employed as a teaching academic, one as a research assistant, three are Research Fellows (who support teaching as well as undertaking their PhD), and three are professional staff (one in community engagement and two in student support). Having critical mass has increased the cultural safety of the workplace and seeks to ensure that an Aboriginal perspective is present in most of the work of the UDRH.

Balanced role provides interest and career development opportunities

The concept of the 'balanced role' is an important enabler for developing and sustaining academic networks. The opportunity for clinicians to combine teaching, supervision and pursue research interests in conjunction with their clinical work not only contributes to the objectives of the RHMT program it also supports their retention as clinical care providers in rural, remote and regional locations. It should also be noted, however, that not all clinicians are interested in research and teaching-only positions are also a valuable approach for building and sustaining clinical academic networks.

5.6 Challenges to building and maintenance of academic and professional networks

Instability of the rural academic and professional networks

In most universities, academics and professional staff employed under the RHMT program are on fixed term contracts which can differ from centrally employed staff who are given continuing contracts, and contributes to the instability of academic and professional networks. Furthermore, it is not conducive to building cohesive metro-rural teams. Recruitment to rural positions is particularly challenging where the RHMT program agreement is coming up to renewal.

High reliance on adjunct appointments for teaching and supervision

The RCSs in particular, rely heavily on GPs and medical specialists to provide sessional teaching and supervise medical students for clinical placements and research projects. The consultations found that clinicians with adjunct appointments were very proud of their students' achievements but were disappointed that their work was not recognised, with many describing teaching or supervision as a "labour of love". In an environment of high clinical workload and competing demands, limited recognition by the relevant university impacts on continuing commitment of adjunct staff, particularly those in private practice to ongoing supervision of students.

Lack of parity of employment conditions with state health services challenges recruitment

The development, recruitment and retention of rural health academics is challenged by the lack of parity between salaries and conditions that health services can use to attract staff to rural and remote locations compared to the university sector. Several examples were identified where RCSs have sought to provide parity such as offering rural and remote loading in line with state government arrangements, or have contributed to the salary of Local Health Network (LHN) employed clinicians (who maintain state government entitlements).

5.7 Building Research Capability and Capacity

Through the network of RCSs and UDRHs rural and remote research capacity has been built over time. Each centre has had the autonomy to develop their own research strategy. The research direction has been heavily dependent on the capability, experience and research seniority of the leader.

The RHMT program sites have various research staffing arrangements. Most universities, but not all, have dedicated research staff located with their UDRH or one or more of their RCS sites. Examples of these staffing profiles include: a solo position (0.5 - 1 FTE) located at a particular site to support student projects and build research capacity; a small team dispersed across several sites (1.2 - 6 FTE) where the majority of their work is supported by small, local grant funding, or a significant team of seven or more with a range of academic capability. These larger teams are generally supported by multi-year external grant funding and include PhD candidates on scholarships and postdoctoral research fellows supported by an experienced research leader who has the capacity to attract grants. Other arrangements include UDRHs or RCSs (co)funding research positions in local health services to help build research capacity.

Funding to support research activities by the UDRHs and RCSs comes from various sources. While the RHMT program supports the appointment of a small FTE of dedicated research staff, external research funding comes from a wide range of sources to support research activities. Some research funding is investigator driven and highly competitive and prestigious for the universities such as NHMRC and Australian Research Council (ARC) schemes. Other funding is accessed through recognition of excellence such as philanthropic fund and tenders through competitive funding processes. NHMRC and ARC grants have been successfully attained by a number of RHMT programs. Other research funding sources include LHNs and state departments of health, PHNs, NGOs, RWAs, ACCHOs, local governments, and seed funding

grants from parent universities.

Rural research program

The University of Sydney, University Centre for Rural Health, Lismore, has a strong research program supported through NHMRC and ARC grants. The research program focusses strongly on the health care needs of rural populations centred around three priority areas:

- Health systems and service research including health workforce and models of care
- Population health and equity

· Medical and allied health education and workforce development

The centre builds research leadership and supports the development of research capacity in the Northern Rivers region of NSW. 22 active research projects are concentrated on workforce and educational quality improvement and 15 on Aboriginal and Torres Strait Islander health. The centre currently supports 18 PhD students and support all students with their research projects in the MD and other disciplines. Research support is also provided for evaluation of the UCRH education program and clinical supervisors have opportunities to be involved in supervision of community research projects or honours projects with support from academic research staff.

Research staff support students and academic staff, including adjunct supervisors, in developing research ideas and projects, advice and assistance with higher degree enrolment, ethics applications research tool development, data gathering, data analysis and reporting. Training in research skills (methodology, research skills, writing for publications) is frequently provided by research staff through formal workshops and seminars. Assistance in research translation and working with students, academic staff and supervisors to support abstract writing and presentation at conferences has also been provided in many locations.

Supervision of local health professionals enrolled in higher degree programs is offered at some sites where relevant expertise exists, while others draw on supervisors from the central university. Most PhD candidates have a minimum of three supervisors and the suitably qualified RCS and UDRH academics are on a range of relevant panels related to their expertise. Several UDRHs have supported Aboriginal and Torres Strait Islander staff to undertake PhDs and other higher education qualifications.

Research networks have been established between RCSs/UDRHs and local health services to support research capacity building, identify opportunities for shared research, undertake collaborative projects and showcase local research.

Research Network

The University of Wollongong's Illawarra and Southern Practice Research Network (ISPRN) aims to promote research, education and healthcare delivery in regional, rural and remote Australia and supports local health practitioners to undertake applied research in their

clinical fields. ISPRN provides clinicians with high-quality research supervision, support and mentoring; access to the University of Wollongong's library and other academic resources; research methods and administrative skills training; and an annual Research Development Conference. Since its inception in 2011, ISPRN researchers have been awarded over \$2*M* in research funding and undertaken over 30 research projects covering health science education, interdisciplinary care, service needs and chronic disease management, among others. The network now includes 50 practices in the Illawarra and Shoalhaven region.

In a recent example, collaborators sponsored by ISPRN investigated the wellbeing and career intentions of Phase 1 and Phase 3 medical students at the University of Wollongong. Results highlighted the importance of work-life balance when considering a specialty. In general, students reported high levels of wellbeing, challenging previous findings of poor psychological health in medical students.

Research funds from the RHMT program are used to support staff and student attendance at relevant rural, remote and Aboriginal and Torres Strait Islander health conferences, locally, nationally and internationally. As a network the RCSs and UDRHs have supported a range of rural and remote conferences. ARHEN and FRAME network meetings are scheduled to incorporate conferences such as the *Are You Remotely Interested* conference in Mount Isa, a biennial research dissemination conference that has continued for 20 years. Others include the biennial National Rural Health Alliance (NRHA), Services for Australian Rural and Remote Allied Health (SARRAH) and Congress of Aboriginal and Torres Strait Islander Nurses and Midwives (CATSINaM) conferences.

5.8 Meeting Program Objectives

5.8.1 Research Capability and Capacity

The extent to which the RHMT program is continuing to build and maintain research capability and capacity in the regions was assessed. High-quality research capacity building was characterised by:

- Opportunities for research collaboration (local, ARHEN/FRAME, NHMRC)
- Institutional/University recognition of applied research
- Research networks established (university or regional level)
- High-level research skills and expertise available (ethics, statistical support, IP/legal, methodological, grant-writing)
- Mentoring for researchers
- Partnerships with Aboriginal and Torres Strait Islander services and organisations to inform and undertake local research activities
- Active development of research capacity and capability of local Aboriginal and Torres Strait Islander staff or community members
- Clear publication metrics for RHMT program-supported research including production of

peer reviewed publications and indication of where they can be accessed (i.e., on the website)

- Demonstrable institutional support for clinical practice-based research networks (e.g., funds provided, research skills training)
- Demonstration of research translation locally
- Support for mandatory student projects

Ratings are summarised in Table 5-1.

Rating	RCS	UDRH
Excellent		2
Very Good	3	2
Good	4	2
Baseline	6	3
Poor	5	2
Total	18	11

Table 5-1 Assessed research capability by programmatic unit

Over a third of RCSs were rated as 'Very Good' or 'Good' in their activities to build research capacity in their regional footprint. Embedding engagement with Aboriginal and Torres Strait Islander community health services and organisations and active development of Aboriginal and Torres Strait Islander researchers were the dimensions that differentiated higher performing RCSs in relation to research capacity building. About one third of RCSs performed at a baseline level and a quarter performed poorly. Those RCSs rated poorly had predominantly focused research activity on supporting student research projects only.

Research capacity building by UDRHs was more diverse. Two (2) UDRHs exceled across the quality dimensions, with four (4) rated as 'Very Good' or 'Good'. Some had poor access to their university's research support and mentoring and were not included in the major research investment opportunities that related to their region.

5.8.2 Progressing rural health and workforce research agenda

In 2013, UDRHs published 220 peer-review research articles, 40% of which pertained to rural or remote health (Humphreys et al., 2018). In the 2016-2018 agreement, the Department narrowed the scope of research undertaken under the auspices of the RHMT program to issues concerning rural training, workforce development and health service delivery, and Aboriginal and Torres Strait Islander health.

RHMT program activity reports provided to the Department detail each universities' publications in the consolidation period. While some universities' sponsored research activity extends beyond the training, workforce and service intent of the RHMT program this may be research funded through other sources. The majority of RHMT program researchers indicated that the requirement to narrow the research agenda in the 2016-2018 period has had little impact as most of their research activity aligned with the intended RHMT program research priorities. In centres where there was scope creep, the changed funding requirements allowed for a better alignment of their research strategic plan.

The literature review undertaken to inform the development of the evaluation plan and assessment of workforce outcomes (see Chapter 13) has largely drawn on publications by RCS and UDRH researchers demonstrating a broad body of evidence resulting from the RHMT program and its precursors. A recent scoping review of peer reviewed publications by UDRH staff and students over the last 10 years demonstrates the contribution made to rural and remote health workforce education, distribution and service delivery. A total of 415 papers were included in the scoping review conducted by several UDRH Directors (see Table 5-2).

Field of research	Focus of publications
Education, specifically Medical, Nursing and Health Pedagogy and Higher Education	 48 articles reported on educational activities the RCSs and UDRHs have undertaken with students featuring simulation activities and Objective Structured Clinical Examinations (OSCEs)
	• Rural context provided the novel component to the research in some instances.
	• Research examined the effectiveness of a preparation program for rural health services to support interprofessional learning; the perspectives of rural community members as actors in the delivery of OSCEs and the role of community members in the selection of long placement medical students
	• 79 papers reporting on students undertaking rural placements, of which 18 related to facilitators of good student placement experiences. 17 focused on rural background and rural practice intention
Public health and health services	• 34 articles focused on health service interventions of which one third related to Aboriginal and Torres Strait Islander health. Also papers on mental health, aged care, health and community services and primary health care
	 Papers provided low level evidence in the hierarchy of evidence for interventions and majority were qualitative studies or small scale local or regional initiatives
	 Health Workforce Models - 83 papers describing innovative or novel health service models or evaluations of advanced scope of practice in rural and remote health care delivery. These studies were mainly qualitative studies
	• Health Workforce education. 50 articles evaluating a range of education and professional development projects delivered to currently practising rural and remote health professionals from a range of clinical practice settings including Aboriginal Community Controlled Health Services and mental health services
Demography or Public Health and Health Services	• Health workforce distribution - 11 papers examining supply and distribution.
	• Health workforce recruitment and retention in rural Australia - 108 papers, of which 13 were reviews of the literature and 50% examined medical workforce recruitment and retention. Fifteen papers used the MABEL dataset. Recruitment and retention of mental health service staff and remote area nurses made up 11% and 10% of the papers respectively

Table 5-2 Scoping review of UDRH publications

5.8.3 Graduate tracking to inform rural workforce outcomes

Parameter 5 includes the tracking of participants' workforce outcomes. Tracking medical graduates was a requirement of the RCS program prior to the consolidation period to determine where the medical student works upon graduation (over time) and the area of specialty they work in. Some medical schools, such as Western Sydney University have only recently developed tracking databases, whereas others have been tracking graduates since as early as 2002.

Graduate tracking for the UDRHs was identified as a new requirement in the 2016-2018 agreement. While some UDRHs are investigating how this can be done including follow up surveys of students supported for placements, and investigating national Ahpra data linkage projects, others indicate that it is beyond their capacity to do this.

Chapter 13 provides commentary on graduate tracking processes and workforce outcomes.

5.8.4 Further impact of research activities

Informants from local health services (e.g., hospitals, ACCHOs, private) community-based NGOs and schools identified a range of benefits related to research, including:

- Engagement with local health services and clinicians to identify opportunities for research projects for students. This meets students' curriculum requirements and facilitates the development of local interest and training in research and evaluation techniques. As universities have increasingly moved to MD programs, rural sites have increased their involvement in identifying and supporting student research projects. The quality of student led research is evidenced by the generation of peer reviewed publications.
- Providing evidence of impact of specific local projects, research translation and contributing to improvements in the delivery of programs and services
- Extending the retention of health professionals in a rural or remote area until the completion of projects they were participating in or leading, providing career paths for clinicians into academia
- Enabling diversity of the clinician's professional role beyond direct clinical care. There were countless examples of rural clinicians who said they would not have remained in their region as long without the teaching and research opportunities. Collegial and professional support was experienced across all disciplines.

5.8.5 Enablers for building research capacity and capability

Support from the central university

Central university support to build a culture of research in the regions is pivotal where there is a small research team on the ground. This support includes:

- Access to Central Research Office support for research skills training and resources e.g., webinars and other online modules, research retreats, university sponsored conferences and seminars
- Access to higher degree supervisors where local expertise/research interests are not available
- Access to specific expertise (e.g., biostatisticians)
- Financial support/seed grants
- Mentoring
- Engagement with the universities' major research initiatives and institutes where relevant.

Research value-add obvious to local health services, clinicians and community

The willingness of local health services and clinicians to engage in research is promoted where they can see its value and benefit applied to their service or community. Local seminars, conferences and student research projects often were an initial point of engagement with local services and clinicians. Engagement with community to identify projects that are relevant to that community promotes participation in research capacity building activities.

Research leads able to access external funding to build research capability and capacity

Access to external funding sources and particularly having a research leader academic Level E with an established grant and publication track record on the team to attract high value and high prestige research grants promotes the development of research capability of the team. Contractual arrangements for senior research staff, academic Level D and E that enables them to supervise higher degree students and apply for larger multi-year grants strengthens the sustainability of research efforts and value adds to RHMT program funding.

Research as a recruitment strategy

The opportunity for research and subsequently publications, is a factor medical students and junior doctors consider when choosing their early career work locations. Strong rural research networks can facilitate the attraction of junior doctors to work in rural and regional areas where they can be supported to develop their research interests, enabling their competitiveness with metropolitan counterparts.

5.8.6 Challenges to building research capacity and capability

Inadequate recognition of RCS and UDRH research output by the central university

Across the RCS and UDRH network there is concern about the relative importance central universities place on the research undertaken by academics in rural, remote and regional sites where it often has a more applied or evaluation focus. It was generally described that universities are seeking to increase their global rankings and that rural health research undertaken by academic units under the RHMT program is not currently represented in the Australian New Zealand Standards Research Codes (ANZSRC) and as such does not contribute to these rankings. However, this shows a poor understanding of university processes. Research activity to meet the RHMT program objectives does not fit neatly into any one discipline classification and often is categorised in Education or Public Health and Health Services making it less visible to central faculties. Such structural impediments mean that rural health research struggles to be recognised, despite the amount of work done and investment made in this area (Centre for Rural Health, 2019). However, the recent release of the recommendations from the Review of the ANZRC now increases the ranking of rural research which may mitigate current structural impediments.

Scope of work of rural academics not well aligned to academic progression networks

The metrics used by universities to progress and promote academics is not reflective of the scope of work of rural academics. In addition to publications for rural health not fitting the current ANZSRC research codes (which are used to as a performance metric and hence limits career progression), rural academics often have a high clinical education role because of limited supervision capacity in the region (e.g., supporting service-learning models) impacting on their time to pursue research. Furthermore, the negotiation and development of student placements in underserved communities often requires initial input by the clinical academic before it can be managed by professional staff on an ongoing basis. Rural academics also teach short courses which may be a component of non-award courses and/or professional development. Teaching of non-award courses is not universally recognised by the central universities, however, supporting the professional development of local health professionals is a requirement of the RHMT program.

Short-term contracts challenge the development of a research portfolio

The RHMT program agreement is three years. The relative short-term nature of contracts hinders the development of a research portfolio and can be a deterrent to attracting academics to rural and regional areas who seek to build their research career. While research funding is generally time-limited "soft money" and not specific to rural, the limited availability of (alternative) research positions in rural and regional areas compared with metropolitan settings impacts on willingness to re-locate to the regions.

The short agreement period is not reflective of time required to develop research projects in the rural and remote environment that hinge upon building local relationships and particularly those involving Aboriginal and Torres Strait Islander communities; enabling co-design of research proposals; and implementing projects which may extend beyond the three year timeframe.

Availability of funding for rural health workforce research

While the RHMT program supports employment of research staff, the agreement does not indicate the quantum of funding that can be spent on research or provide a pool of funding for rural health workforce research.

5.9 Future directions

Opportunities to strengthen research capacity and capability were identified and include:

- Ensuring the RHMT program units have local or regional consultative mechanisms in place to generate and develop research questions collaboratively with key stakeholders and organisations so that they are locally relevant and responsive to community needs and priorities
- Working with RWAs at a jurisdictional and/or national level (through ARHEN and/or FRAME) to develop research questions of state and national importance that can be best addressed through collaborations

- Developing mechanisms for translation and dissemination of research and information at a regional, cross region, state and national level—such as a clearinghouse function for innovations e.g., Clinical Yarning, service-learning models.
- Mentoring and support to build research capabilities and careers of early career researchers, recognising that completing a PhD is only the start of an academic research career with further skills development required at each level of an academic career
- Targeted university support for rural based early career researchers and, mentoring and teambuilding for mid-level and senior researchers to enable them to join established teams such as South Australia Health and Medical Research Institute, the Hunter Medical Research Institute, the Telethon Kids Institute, the newly formed Central Australian Academic Health Sciences Centre, and the Western Alliance Academic Health Sciences Centre among others to address the national and global research questions related to rural and regional health and health workforce. It is important that engagement of rural researchers with larger research institutes is meaningful in relation to capacity building and value add to evidence base for the rural health agenda
- Building on the rural health research infrastructure in the RCS and UDRH networks to progress multi-site, multi-university and cross jurisdictional research to address nationally relevant questions. This would be facilitated by identification of a quarantined pool of funding within the RHMT program to progress research collaborations for rural health workforce and service delivery research
- Universities support multi-university RCS and UDRH collaborations to progress research proposals to the Medical Research Future Fund
- The RHMT program funded universities, RCSs and UDRHs develop a joint strategy to increase the impact factor of identified journals for publications arising from the RHMT program. This has previously been achieved for Public Health and Tropical Medicine and can inform a strategy for rural health

Central university support to strengthen research capability within the RCS and UDRH network better positions the universities to meet the proposed threshold research requirements outlined in the Coaldrake Review, 2019.

To maintain academic networks:

• RCSs and UDRHs engage with adjunct supervisors, preceptors and potential supervisors to identify strategies to facilitate their continuing commitment to supervision and teaching of students on placement. This can inform entitlements under adjunct appointments, supervision training and support requirements and, continuing quality improvement processes.

6. Local Capacity Building and Community Engagement

UDRHs and RCSs work with multiple stakeholders in state and territory health services, NGOs, with private GPs and medical specialists, ACCHOs, aged care facilities, schools, local government and community stakeholders for the establishment and delivery of student training activities, progressing local research opportunities and developing local research capacity.

Students on placements are encouraged to participate in a wide variety of activities that benefit local communities including volunteering, mentoring and tutoring programs. Through these activities students develop an understanding and appreciation of the community and rural life.

In the 2016-2018 period, UDRHs expanded opportunities for clinical placements through significant community engagement and community development strategies.

Some UDRHs and RCSs have maintained Community Advisory Boards as a mechanism for informing communities about their activities and, in some cases, facilitating community feedback or participation in RHMT program activities.

The evaluation found that communities place a high value on having a university presence in their town or region and recognise the social and economic benefits they bring. Health services and NGOs also value RCSs and UDRHs particularly for workforce development, building research capacity and supporting innovation in service development and delivery.

Enablers of local capacity building and community engagement include:

- Mechanisms for consultation and collaboration with communities and key stakeholders (i.e. health and community services, supervisors, local government)
- University commitment to investment in rural communities through local purchasing and employment.

Challenges in building local community capacity and engagement include:

- Maintaining a strong rural focus and ensuring that expenditure of RHMT program funds in rural and remote regions is maximised needs ongoing commitment by central universities
- ► Key strategic and budgetary decisions are predominantly made at the university level and increased centralisation of core functions impacts on investment in rural communities
- Developing student placements in underserved communities requires extensive engagement by the UDRH or RCS to develop the community and local service capacity to support student placements with resource implications to augment supervision, student support and accommodation.

Lessons Learned

▶ The time, expense and resources required to engage community organisations and

service providers to establish and maintain placements in underserved communities is not adequately reflected in current reporting requirements focussed on placement numbers.

Commitment to rural communities and social accountability are important concepts that should underpin the RHMT program. Strong community or regionally based consultative approaches are needed to ensure the work of the UDRHs and RCSs is, and continues to be, grounded in local priorities including workforce needs, professional development of existing health professionals, local service development and research.

6. Local Capacity Building and Community Engagement

6.1 Introduction

Under the RHMT program universities are required to engage with key partners and local communities to support student training. Engagement encompasses direct partnerships with health services and supervisors as well as broader collaboration to support high-quality rural experiences for students, building research capacity and supporting clinical service delivery.

Across the program, the RCSs have worked with multiple stakeholders in the state and territory health services, NGOs, private GPs and medical specialists, ACCHOs, local government and community stakeholders to progress training and research. Similarly, the UDRHs have developed networks with these agencies, albeit general practice and medical specialists to a lesser extent to develop and deliver placements, build research capacity and progress local research and evaluation activities. Many UDRHs have expanded this network to include residential aged care facilities, primary schools, community based/mental health focused NGOs and in some cases private allied health practices to deliver innovative service-learning placements.

6.2 Student Activities

Students on rural placement are involved in a range of activities focussed on local capacity building. Many of these activities facilitate the students' personal development as well as fostering their interest in and commitment to rural careers.

Students on longer placements are often involved in regular programs and projects to support local high school students such as tutoring, after school programs, school careers days and school breakfast programs. These activities expose local school children to health careers and university options they may not have previously been aware of or considered. Engagement with people who are closer in age can be helpful for high school aged students in developing aspiration to undertake further study.

Students reported a wide range of other activities they undertake while on rural placements including:

- Teddy bear hospitals where students attend childcare centres or schools and provide 'healthcare' to toys and to engage with local families
- Volunteering with local services and clubs
- Volunteering for rural fire or other emergency services
- Mentoring of local young people including refugees
- Coaching and participating in sporting teams

6.3 Community development and engagement activities

Some UDRHs and RCSs have maintained Community Advisory Boards, which were a

requirement under previous funding agreements. These boards can be a mechanism for UDRHs and RCSs to inform their communities about current activity, with some having planning and review functions. Conversely, a number of universities have allowed their boards to lapse. Feedback from these universities suggests they could be a tokenistic mechanism for meaningful community engagement. Other opportunities are in place in some sites for communities to participate in RHMT program activities, for example through student selection interviews for RCS placements and the delivery of cultural training.

Local community representatives interviewed for the evaluation highlighted the value of having a university based in their town or region. People expressed considerable pride in their association with UDRHs and RCSs and identified both economic and social benefits to their communities. Students and staff are welcomed in communities through social activities and mentoring by local residents. Further the universities, through the RHMT program, have invested in the development of local infrastructure which is often made available for use by local organisations, for example, teaching spaces, board rooms and simulation laboratories.

Significant community engagement under the RHMT program has involved establishing and expanding opportunities for clinical placement, in particular for UDRHs. Consequently, many universities have established networks of services and organisations both within and outside the health sector. The placements developed in these organisations are the result of significant time and commitment from both sides, requiring universities to build trust and confidence and to provide ongoing support to maintain the viability of services.

WACRH Community development to develop service-learning

The Western Australian Centre for Rural Health (WACRH) has used a community development approach to develop service-learning placement opportunities and provide a range of benefits to residents of Spalding, a socially disadvantaged neighbourhood in Geraldton with a population of 2,000 of which 25% are Aboriginal.

The More than Talk (MTT) research project underpinned the community development approach. The MTT project included efforts to improve Aboriginal engagement and outcomes in education, achievement and school completion. The project, developed in partnership with Aboriginal leaders and WACRH researchers, explored the lived experience of residents in a disadvantaged neighbourhood in Geraldton through a socio-ecological lens, focusing on the impact of environment on child wellbeing and educational attainment. Through this research new initiatives have been established through collaborations with the City of Greater Geraldton (CGG), the Geraldton Sporting Aboriginal Corporation (GSAC) and the Bluff Street Primary School.

Mitchell Street Community Centre (MSCC). In 2017 WACRH leased the building in Spalding from the CGG with a mission to support the local community by facilitating services that improve physical, social and emotional well-being. The GSAC is the primary partner with WACRH at the community centre and uses part of the building to operate their very extensive youth and employment programs using sport for wellness.

Over a three year period activities at the MSCC have grown from 1-2 days per week to an extensive program with 14 other government, not for profit or voluntary community organisations offering services to the local community seven days a week. The local Elders group and a diverse user representative group advises on developments that helps recognise community needs and guides centre development. The original school holiday programs established by WACRH in 2017 continue to be offered free to local families and attracts up to 90 children per day. In addition, there is a before and after school program and youth leadership program offered in conjunction with GSAC.

Allied health students from across the professions engage with activities at MSCC either via placements with the organisations providing outreach services in the centre or in direct service placements coordinated by WACRH. Examples include regular pop-up chiropractic clinics, social work students helping to coordinate a Girls Empowerment group, occupational therapy students running leadership training for groups of young people, and dietetics students developing nutrition programs with school children. The jointly funded WACRH-GSAC bus assists with activities at MSCC and in outreach activities to the school and before/after school programs. Students on placement take turns going on the bus run to pick up children for school in the morning and help at breakfast club to build relationships with the children and to help focus on skill development.

Bluff Point Primary School. The children of Spalding mostly attended one primary school, Bluff Point Primary School (BPPS). This is a small school (approx. 250 enrolments) with over 75% Aboriginal children and an annual transition rate of 56% (i.e. 56% of the children who start school at the beginning of the year will no longer be at the school at the end of the year). The school population has high numbers of children with neuro-diverse presentations along with complex social backgrounds including out of home care, trauma and history of family and domestic violence.

WACRH and GSAC entered into a partnership with BPSS to provide additional services within the school to extend the work already being done with children during school holiday programs. Social work and occupational therapy students now provide year-long whole of class support, collaborating with teachers on educational, self-regulation and emotional wellbeing programs. Families and primary caregivers are involved in all programs. Working inter-professionally the students also provide support and training to young Aboriginal and Torres Strait Islander people completing leadership training through GSAC in the school.

Two WACRH academics sit on the school board and provide support to the principal and staff. The principal and the teachers see WACRH students as an important part of the school community.

Feedback from students

"placement provided me with the autonomy that is needed in real work environments with the support needed while still learning. enough work to develop planning and organization skills but not too much that I was unable to get things completed."

"I have completed my first field work placement at Ngala Midwest. I have enjoyed and learnt a lot during my placement. I worked across Ngala programs which included working with children/ babies at play groups and supporting youths in schools/community. All these programs have

enhanced my communication and interpersonal skills and parenting skills. I have strengthened my knowledge in community development and had the opportunity of applying social work theories to practice."

Community outcomes

Through this community development work, a number of benefits are being realised including:

- Hundreds of children and young people engaged in school holiday programs with health messages
- Promising early outcomes in school attendance, family engagement and community safety.
- Intensive support for children selected as at risk by the BPPS has transformed some students' attendance, academic performance and behaviour. (For example, the School Principal is now being queried about why zero student expulsions were reported to the Department!)
- Aboriginal staff development, leadership, education and employment opportunities are emerging
- Establishment of a community garden at MSCC through collaboration between local Elders, TAFE, local philanthropic businesses, WACRH, GSAC and CGG to provide access to all members of the Mitchell Street community centre and the residents of Spalding.

While the commitment to authentic partnerships between the agencies has underpinned the achievements so far, there is also recognition of the importance of individuals who are 'boundary spanners' across agencies and contribute to shared planning and two-way communication as key elements of success.

Staff from RCSs and UDRHs are frequently involved in community development activities ranging from social events to academic support for local clinicians and participation in local governance groups e.g. school boards, PHN clinical councils, regional development organisations.

Many universities hold or participate in local and regional careers expos where high school students are provided with information about health related courses and career pathways. Staff often develop relationships with school careers counsellors to support these activities, including working with students to find alternative pathways to university and further study. In rural sites, students on longer placement are more likely to participate (predominantly medical students).

Other areas of community engagement include:

- Academic staff supporting community organisations in grant application processes
- · Supporting and developing local research projects
- Provision of training and development activities for local health professionals and others
- Volunteer roles particularly in remote communities (e.g. ambulance first responders, running the outdoor cinema)

6.4 Benefits of RHMT program to local communities

6.4.1 Benefits to health services and non-governmental organisations

Workforce supply line

At a health service level, informants identified a range of benefits flowing through engagement with the RCSs and UDRHs to support student placements. Of particular relevance to this evaluation were the positive reports of placements being a supply line for allied health positions and graduate nursing positions with students transitioning into employment where jobs are available. For example, Alice Springs Hospital reported UDRH supported nursing placements have provided a feeder to the 45 new graduate nurse positions that have been established in recent years such that the hospital no longer relies on a large agency workforce.

Workforce development

- Opportunity for clinicians to teach locally and opportunities for part-time appointments with the UDRH/RCS
- Access to library resources
- Development and delivery of short courses and professional development meeting local need e.g. development of a Virtual Health Module to prepare students for rural placements including use of telehealth equipment and digital health records with wider application for agency and locum staff; Interprofessional learning training for health professionals
- Availability and access to technology, simulation and teaching facilities
- Access to cultural training customised to local context. Some of the UDRHs provide cultural training to local health services, NGOs, schools and legal services in addition to students

Cultural safety training

The Flinders University Centre for Remote Health provides several cross-cultural safety training courses for students, local health and community services and government agencies:

- Framing Indigenous Health (5 days) for all students enrolled in the Remote Health Practice program, as part of the Transition to Remote Area Nursing (TRAN) short course or as a standalone course.
- Aboriginal Cultural Awareness Program (ACAP) for all new Central Australian Health Services staff (one day)
- The Introduction to Central Australian Aboriginal Cultures and Context (one day) for all students on placements. This course is also utilised by NGOs and other Government agencies as part of their orientation for new staff. Between 2016 -2019, an average of 400 people participated in the training program each year and were employed in more than 40 public, private and NGO services.

- Cross cultural education to a remote mining workforce including a "train the trainer" component to support and teach local community members to run this training
- Key topic areas in all training are: Aboriginal History, Social Determinants of Health and specific local Aboriginal Culture

Increasing placement capacity

- Ability to take more students because of orientation and logistical support provided by UDRH/RCS
- Supported supervision with UDRH/RCS personnel assistance in managing student performance and personal issues

Recruitment and retention of staff

- Development of a pipeline of staff to a region
- Retention of health professionals through the establishment of communities of practice
- Long student placements offering the opportunity for 'long interviews' prior to job offer

Research capacity building

• Development of research communities that can provide support for locally identified research projects and opportunities for publication

Supporting innovation

- Seeing value of different 'types' of allied health professions and creating new jobs within their organisation following the placement of students e.g., a new social work position established in a community-based NGO in Broken Hill
- Translating research into practice and quality improvement processes e.g. development of new service models, youth wellbeing strategy, improved cold chain management

6.4.2 Benefits to communities

Many service-learning placements have been developed in response to identified local service gaps which may be a result of unavailability of health professionals, limited capacity, affordability, criteria precluding treatment in existing public services, or provided in settings that are more accessible for clients and/or their families. The placements provide particular and direct health benefits to communities by improving service access.

Community members identified tangible and intangible benefits of the RHMT program including:

• Building social capital within towns and communities

- Seeing doctors and other health professionals staying in or returning to the town in which they trained
- Student and staff engagement in and support for local sport, cultural activities, volunteering and fund raising
- Local RCS and UDRH staff taking on a range of roles in both their professional and personal capacity
- University presence and access to academics adds a level of rigour to conversations
- Economic benefits arising from direct and indirect job opportunities, staff living locally, student expenditure while on placement, supporting local businesses through local procurement.

6.5 Rural Commitment

The evaluation has elicited evidence that for some universities, there has been waning of commitment to maintaining the rural integrity of the program. Key strategic and budgetary decisions are predominantly made at the university level, generally in metropolitan locations far removed from rural training sites. This can impact investment in rural locations and the consultations identified some examples of universities centralising staff and core functions such as purchasing and human resources, as well as funding being redirected from some rural teaching sites and research centres. This centralisation is of concern both in terms of the accountability for RHMT program funds and in the wider loss of financial benefit for rural communities.

A previous requirement to report on where staff were living has been removed from the funding agreement. Anecdotal reports suggest that there has been an increase in funding of staff in metropolitan areas on the basis that they travel to rural areas for some teaching. This has both an immediate impact in terms of loss of capacity in rural communities as well as a broader impact of further eroding the critical mass of workforce required to maintain viable health services in smaller communities.

There is no mandated requirement for rural health in program curricula, and there is variation between universities and health courses in the extent that this occurs. While the RHMT program enables a selected cohort of students to contextualise their learning in a rural environment, the inclusion of topics on rural health in course curricula would provide a foundation of knowledge for all students, recognising that rural and remote people are identified as a vulnerable population group as are Aboriginal and Torres Strait Islander populations and refugees among others.

Universities can demonstrate their commitment to rural and remote communities in a number of ways such as:

- Identifying and reporting on investment of university funds in rural communities
- Involvement of rurally based academics in university and faculty governance processes
- Purchasing locally wherever possible

- Employment of local staff and engaging local contractors
- Engagement with community through advisory boards or other consultative mechanisms
- Inclusion of rural health subjects or topics in course curricula
- Delivering full or extended components of university degrees in regional campuses

6.6 Challenges

Developing student placements in underserved communities requires extensive engagement by the UDRH or RCS to develop the community and local service capacity to support student placements. Consultations identified the importance of ensuring the RHMT program is and continues to be responsive to the region in which the RCSs and UDRHs are situated. In earlier agreements RCSs and UDRHs were required to have Community Advisory Boards. There were views from a number of UDRHs, RCS participants and stakeholders that stronger community/ regional based advisory structures are needed to ensure the work of the UDRHs and RCSs are grounded in local priorities including workforce needs, professional development of existing health professionals, local service development and research. These structures were seen as mechanism to provide local direction, provide transparency in decision making and act as a safeguard against decisions taken in the interest of the university as opposed to the region it is funded to support.

While service-learning placements provide direct service and therapeutic interventions in communities, these are more resource intensive than traditional placements in established health services. These placements provide benefit and value to communities and while of higher cost, demonstrate the contribution by the universities to the communities in which they operate.

Social accountability and reciprocal benefit are important concepts to be further progressed throughout all aspects of the RHMT program.

7. Aboriginal and Torres Strait Islander Health

Parameter 6 of the RHMT program funding agreement specifically relates to Aboriginal and Torres Strait Islander health. It is a broad parameter which encompasses:

- Inclusion of Aboriginal and Torres Strait health in curricula
- Specific training and education courses about Aboriginal and Torres Strait Islander health
- Training and courses for Aboriginal and Torres Strait Islander people
- Enrolment and graduation of Aboriginal and Torres Strait Islander students
- Recruitment and development of Aboriginal and Torres Strait Islander academics and staff
- Contextualisation of Aboriginal and Torres Strait Islander health to rural settings

Universities funded under the RHMT program have specific targets for enrolment and graduation of Aboriginal and Torres Strait Islander students. Just over half the universities met their Aboriginal and Torres Strait Islander student enrolment target for medicine and three quarters met the target for enrolment in other health disciplines in the period 2016-18.

The uptake of mentoring by Aboriginal and Torres Strait Islander students across the RHMT program decreased from 73% in 2016 to 60% in 2018.

Medical faculties are required by the AMC to embed Aboriginal and Torres Strait Islander health issues into their curricula in order to gain and maintain accreditation. Likewise, all nursing courses are required by the Australian Nursing and Midwifery Accreditation Council (ANMAC) to incorporate Aboriginal and Torres Strait Islander health into their curricula. Requirements for curriculum content for allied health differ between disciplines. There is considerable variation between universities in how well Aboriginal and Torres Strait Islander health is scaffolded across their medical courses. Few examples were identified of rurally based training and education courses focussing specifically on Aboriginal and Torres Strait Islander health.

Of universities that reported data for the number of students undertaking "cultural training" prior to placement in an Aboriginal and Torres Strait Islander community, 100% of medical students and the vast majority of nursing, allied health and dental students were reported to have undertaken such training. However, there is considerable variation between universities and individual rural sites in the nature and depth of cultural safety training offered to students on rural placement.

Aboriginal and Torres Strait Islander people are employed in a range of roles in RHMT program sites including academic, professional and administrative positions. A number of sites have well established workforce development strategies in place for Aboriginal and Torres Strait Islander staff, but this was not consistent across the program. Universities also engage Aboriginal and Torres Strait Islander people on a casual or ad hoc basis to deliver training or, cultural mentoring to Aboriginal and Torres Strait Islander students. Some universities' human resource systems do not have the flexibility to remunerate people for these activities with consideration of their cultural knowledge and expertise.

Parameter 6

The consultations highlighted considerable confusion and concern about the RHMT program activities and requirements related to Aboriginal and Torres Strait Islander health as specified in Parameter 6 and the program core requirements. A fundamental issue is the perception that this parameter appears to conflate Aboriginal and Torres Strait Islander health with rural health. At the same time several of the targets and program requirements relating to Aboriginal and Torres Strait Islander students are not specifically related to rural health workforce outcomes.

The current core requirements (4a-4e) that link to parameter 6 are unclear as they group a complex set of activities and expectations under a single element. Since the development of the 2016-18 RHMT program framework, universities have committed to the *Universities Australia Indigenous Strategy, 2017-2020. The Strategy* provides the opportunity for the RHMT program to dovetail future requirements with university-wide commitments. Universities should be able to demonstrate how they are contextualising their activities under the *Universities Australia Indigenous Strategy* to meet the objectives of the RHMT program.

Challenges

- Targets have created competition between universities and faculties to enrol Aboriginal and Torres Strait Islander students from the limited numbers available each year.
- Enrolment of students, including Aboriginal and Torres Strait Islander students, into health courses is the responsibility of central university faculties, rather than RHMT program sites.
- ► The terms "cultural training" and "cultural safety training" are not clearly defined in the funding agreement and there is considerable variation in how these requirements are interpreted and implemented across universities and individual faculties.
- Cultural safety training is generally targeted at non-Indigenous students while cultural safety for Aboriginal and Torres Strait Islander people studying or working in RHMT program sites is often overlooked. Cultural safety of both the RHMT program sites and the placement environments is very variable, posing risks and challenges for Aboriginal and Torres Strait Islander students and staff.

Lessons Learned

- Strong relationships with local Aboriginal and Torres Strait Islander people, communities and organisations is crucial to the facilitation of high quality placements and the delivery of cultural safety training.
- Universities have committed to increasing enrolment and graduation of Aboriginal and Torres Strait Islander students through Universities Australia Indigenous Strategy 2017-2020. This university wide approach is likely to have considerably greater impact than specific targets set for universities as part of the RHMT program. Future funding agreements could

link activity under the RHMT program to the broader Universities Australia Indigenous Strategy.

- There is no logical link between the requirement for increased enrolment of Aboriginal and Torres Strait Islander students and improved rural health workforce outcomes, where there are no targets for Aboriginal and Torres Strait Islander students to undertake rural placements under the RHMT program.
- Aboriginal and Torres Strait Islander health should be embedded across the RHMT program requirements. This should include how Aboriginal and Torres Strait Islander health is embedded in the curricula of all health disciplines as well as how this is contextualised at rural sites. Enrolment, graduation and support for Aboriginal and Torres Strait Islander students is a university responsibility and should be complemented with strategies to support students and ensure cultural safety of placement sites in rural and remote locations.
- ► All universities should be encouraged to employ Aboriginal and Torres Strait Islander people through the RHMT program in academic and professional roles, support their career development, and demonstrate how their workplaces are culturally safe and responsive.
- Universities could learn from employment policies used by established and high functioning ACCHOs that successfully operate in a commercial setting in order to ensure that their human resource employment and remuneration policies have the flexibility to appropriately and respectfully recognise the cultural knowledge and expertise of community members that contribute to teaching and mentoring on a casual or ad hoc basis.
7. Aboriginal and Torres Strait Islander Health

7.1 Introduction

Parameter 6 of the current RHMT program funding agreement specifically relates to Aboriginal and Torres Strait Islander health. It focusses on the inclusion of Aboriginal and Torres Strait Islander health in curricula and specific training and education courses as well as recruitment and graduation of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitment of Aboriginal and Torres Strait Islander students and the recruitm

Universities are required to report on the number of students undertaking cultural awareness training prior to clinical placement in Aboriginal and Torres Strait Islander community settings. Placements in this context are not restricted to rural locations.

7.2 Enrolment and graduation of Aboriginal and Torres Strait Islander students

Aboriginal and Torres Strait Islander people constitute 3.3% of the Australian population, and 0.7% of the health workforce for Medicine, Nursing, Allied Health and Dentistry (ABS, 2018a; AIHW, 2019b). In order to reach population parity, there is an estimated need for 15,761 Aboriginal and Torres Strait Islander health professionals in the workforce (i.e., 7,627 Nurses, 4,375 Allied Health Professionals, 515 Dentists and 3,244 Medical Practitioners).

Under the Universities Australia Indigenous Strategy, 2017-2020 (see Section 1.3), universities have committed to maintain growth in the enrolment of Aboriginal and Torres Strait Islander people at 50-100 percent above non-Indigenous growth. A report from the first year of the Strategy showed that overall Aboriginal and Torres Strait Islander enrolments grew by 8.3 percent which was almost four times the growth in overall student numbers (2.1%) (Universities Australia, 2018). It should be noted in the context of the RHMT program that the Universities Australia Indigenous Strategy takes a university wide rather than faculty or discipline specific approach. Overall growth in enrolment at a university level may or may not include growth in health disciplines.

RHMT program funded universities reported a range of enrolment strategies to encourage Aboriginal and Torres Strait Islander students to study for health degrees. These include:

- Engagement with high school students through expos, careers days, residential preuniversity programs and mentoring
- Exemptions or special consideration for enrolment requirements
- Additional Australian Tertiary Admissions Rank (ATAR) points or lower ATAR entry requirements
- Scholarships and bursaries
- Fee and HECS-HELP exemptions
- Support for students to reapply if not accepted

Universities have differing degrees of success in enrolling Aboriginal and Torres Strait Islander students. It was highlighted by many evaluation participants that some universities are able to offer students more incentives, such as large scholarships, than others and this has created unintended competition for the limited 'pool' of potential students. There appears to have been more effort by most universities in enrolling Aboriginal and Torres Strait Islander students into medicine rather than into other health degrees.

Similarly, universities have used a variety of strategies for supporting Aboriginal and Torres Strait Islander students to complete their studies. Most universities have an Aboriginal and Torres Strait Islander student support centre or program where students can access assistance such as mentoring, tutoring and pastoral care. As an example, the Indigenous Education and Research Centre at James Cook University has developed a comprehensive monitoring program to support Aboriginal and Torres Strait Islander students throughout their university careers. It focusses on addressing three key factors identified as having a significant impact on retention: financial, personal and academic. The support team actively engage with students (not only if they are struggling) and consistently monitor these factors for each student, allowing them to address issues as they arise. Early evidence has shown a significant increase in completion rates across the university.

7.3 Mentoring

Universities were also required to report on the percentage of Aboriginal and Torres Strait Islander students receiving mentoring. It is an explicit requirement that Aboriginal and Torres Strait Islander students should be provided with access to mentoring, but it is not a mandatory requirement for those students to accept such mentoring. From RHMT program reporting data, it is not possible to know what constitutes mentoring, how robust the provided mentoring is and how individual universities define mentoring. Further, students may receive mentoring through university programs other than the RHMT program which may or may not have been reflected in reported figures.

RHMT program data show that during the consolidation period the uptake of mentoring across all universities decreased from 73% in 2016 to 60.2% in 2018 (see Table 7-1).

	2016	2017	2018
Number mentored	1019	2263	1526
Number enrolled	1395	3001	2533
% of total	73.0%	75.4%	60.2%

 Table 7-1
 Mentoring access by Aboriginal and Torres Strait Islander students (2016-2018)

Department of Health, RHMT program. Consolidation core requirement reports

7.4 Education and Training

Medical faculties are required by the AMC to embed Aboriginal and Torres Strait Islander health issues into their curricula in order to gain and maintain accreditation. All faculties interviewed for this evaluation indicated that they meet, or are in the process of meeting, this accreditation requirement. It was beyond the scope of the evaluation, however, to make an independent assessment of the extent to which this is occurring. Further, it is beyond the current monitoring capacity within the Department to do so on an ongoing basis. It is noted that MDANZ reported university medical faculties have recently focussed on improving performance across all medical schools in this area.

There is considerable variation between universities in how Aboriginal and Torres Strait Islander health is included in curricula. Students from a number of universities highlighted that Aboriginal and Torres Strait Islander health is not scaffolded well in their respective courses and that the content included has limited practical application. Learning about the social determinants of health is generally part of the curriculum along with specific units that incorporate understanding of Aboriginal and Torres Strait Islander health, however, in many cases, knowledge and skills in these areas are not assessed. Students and staff alike noted that students are likely to focus considerably less on course content that is not assessable.

Aboriginal and Torres Strait Islander health in curriculum

Aboriginal and Torres Strait Islander health is embedded across the medical curriculum at James Cook University. In first year all medical students study a two part Introduction to Integrated Medical Studies course. The course includes modules on Ecology of Health that include topics on: primary health care; changing patterns of disease; Closing the Gap in Aboriginal and Torres Strait Islander Health; Healthy Mother and Child; Youth Health; Medication Use; and Society and Determinants of Chronic Disease. Further specific topics throughout the medical course focus on Aboriginal and Torres Strait Islander health and there is a strong emphasis throughout on Aboriginal and Torres Strait Islander health and well-being. A database has been developed that maps all Aboriginal and Torres Strait Islander health content across the curriculum. Students are specifically assessed on Aboriginal and Torres Strait Islander health content across the curriculum. Students are specifically assessed on Aboriginal and Torres Strait Islander health content across the curriculum. Students

An Aboriginal and Torres Strait Islander Health Strategic Committee has been established to ensure relevant and appropriate Aboriginal and Torres Strait Islander health curriculum is maintained and improved across the College of Medicine and Dentistry.

As for medicine, all nursing and midwifery courses are required by the ANMAC to incorporate Aboriginal and Torres Strait Islander health into their curricula. Requirements for curriculum content for allied health vary between disciplines. Assessing the extent to which these requirements are appropriate and being met is a challenging proposition for both the RHMT program and the evaluation, particularly given the sheer number of nursing and allied health schools and courses currently being delivered across Australia.

As highlighted elsewhere in this report, allied health course requirements are set by individual discipline based professional bodies who define the standards. Some of these bodies require

inclusion of Aboriginal and Torres Strait Islander health content in university courses.

The Aboriginal and Torres Strait Islander Health Curriculum Framework supports higher education providers to implement Aboriginal and Torres Strait Islander health curricula across health professional training programs (Department of Health, 2014). It aims to support students to develop cultural capabilities during their undergraduate training in order to prepare them to provide culturally safe health services to Aboriginal and Torres Strait Islander peoples.

Some universities have specific courses focussing on Aboriginal and Torres Strait Islander health as part of their curriculum. The evaluation identified few specific rurally based training and education courses about Aboriginal and Torres Strait Islander health beyond cultural safety and cultural awareness training programs. However, a number of universities are developing or implementing programs specifically to improve the clinical skills of students working with Aboriginal and Torres Strait Islander people (see Section 10.4, 'Katherine Remote Heath Experience').

Clinical Yarning

WACRH has developed an overarching framework to assist practitioners to reorient their communication with Aboriginal and Torres Strait Islander patients using 'clinical yarning'. The approach brings together Aboriginal and Torres Islander peoples' communication preferences and biomedical understanding of health and disease. The framework identifies three key elements of clinical yarning; social, diagnostic and management. The approach has the potential to improve outcomes for patients and practitioners. Using this framework and in collaboration with WACRH, the University of Sydney has developed a Clinical Yarning model comprising five modules (approx. 10 hours to complete), each with a distinct emphasis on theory, practical application and reflective integration within practitioners' approaches to clinical practice:

- 1. Building the case for clinical yarning and hearing both clinician and community perspectives
- 2. Learning about First Nations philosophies (such as Dadirri, 8 Aboriginal Ways of Learning etc) and learning about our own cultural perspectives
- **3**. Learning about clinical yarning (social, diagnostic and management yarning) and seeing examples in practice
- 4. Learning about critical reflection and customising reflective questions for own clinical yarning practice
- 5. Reciprocity (theory and examples in practice)

The modules have readings, videos and the occasional quiz and is accompanied by a workbook/ portfolio which students can download to continue to use if they wish. There is no assessment of competency as it was determined (by Aboriginal Advisory Groups on the project based in Dubbo, Sydney and Lismore) that competence is both context specific and dynamic. It would also be difficult for an assessor to assess for the same reason.

Some RHMT program sites have also developed specific programs to support local Aboriginal and Torres Strait Islander people to enrol in and complete health related courses.

Support for Aboriginal and Torres Strait Islander students

The University of Melbourne Department of Rural Health at Shepparton has taken an active role in supporting Aboriginal and Torres Strait Islander people living in rural Victoria to undertake university education in health related courses, including supporting PhD candidates. A number of Aboriginal and Torres Strait Islander students have been supported to complete the Masters of Public Health. This support included individual tutoring and working with University of Melbourne to develop alternative methods of course delivery including via video, enabling the students to remain living, working and studying on country. The UDRH also teaches a Specialist Certificate without an undergraduate degree and supports a number of Aboriginal and Torres Strait Islander people undertaking nursing studies through La Trobe University and the local TAFE with academic tutoring and pastoral care. These courses create a pathway through University of Melbourne from Specialist Certificate to Graduate Certificate, Masters of Public Health and PhD.

7.5 Cultural Safety and/or Awareness

It is a core requirement of the RHMT program that every health student must undertake "cultural training" prior to their placement in an Aboriginal and Torres Strait Islander community. The agreement suggests this should be interpreted to encompass any setting where health students may be interacting with Aboriginal and Torres Strait Islander people. It is unknown how universities interpret this requirement, where the cultural safety training occurred (i.e., at the home university or the rural site) and the extent to which that training is contextualised to the relevant local community. Further if should be noted that students may interact with Aboriginal and Torres Strait Islander people in any community or setting, not just when they undertake a placement in and Aboriginal and Torres Strait Islander service.

Of the 16 medical schools that reported data for this target, all report meeting the target. Preconsolidation data shows that in 2015, 11 of 17 Universities reported on cultural training. Of the universities that reported, 100% of students completed cultural safety training prior to placements in Aboriginal and Torres Strait Islander communities.

Similarly, the RHMT program mandates that every multidisciplinary student must undertake cultural safety training prior to their placement in an Aboriginal and Torres Strait Islander community. In 2018, the target for cultural safety training was met by 12 of 14 universities offering nursing placements, 13 of 14 universities offering allied health placements and all universities offering dental placements.

Prior to 2016, universities reported the number of students that received cultural training whilst on placement, but not the number of placements in Aboriginal and Torres Strait Islander communities. Table 7-2 shows that prior to consolidation, less than half of domestic students received cultural safety training during their rural placement.

Discipline	Domestic students who received cultural training	Domestic students completing at least 2-weeks of placement	% of domestic students that received cultural training on placement	
Allied Health	607	1543	39%	
Dentistry	108	236	46%	
Medicine	360	865	42%	
Nursing	665	2764	24%	
Other discipline	0	30	0%	
Total	1740	5438	32%	

 Table 7-2
 UDRH provision of Indigenous cultural training to domestic students (2015)

Department of Health, RHMT program. Consolidation core requirement reports

Cultural safety training varies from brief on-line modules to face-to-face cultural immersion programs of up to three days duration. It was beyond the scope of the evaluation to assess the effectiveness of individual cultural safety approaches. However, it was clear from the consultations that universities and individual RCS/UDRH sites have varying levels of commitment to, and investment in, providing cultural safety training to students that reflects the local context of Aboriginal and Torres Strait Islander communities. Cultural safety appears to be perceived as more important in communities with high Aboriginal and Torres Strait Islander populations and where students are undertaking a placement in an ACCHO.

Cross cultural workshops

The Broken Hill University Department of Rural Health has delivered cross-cultural workshops for students and health staff in Far West New South Wales since 2003. The workshops include learning about Aboriginal history and culture from a local perspective and respecting cultural difference to enhance personal and professional capabilities. As a cue to action, Aboriginal academic staff who lead the UDRH's cross-cultural programs recently modified the workshop to include the preparation of action plans by participants that would promote discussion about, and adoption of more culturally appropriate practices in the workplace. The team also advises and supports other Aboriginal Organisations and communities within the UDRH's footprint and beyond to develop and deliver locally relevant cross-cultural workshops.

At some sites, every student is provided with cultural awareness or cultural safety training at the commencement of or early in their placement. This training aims to provide local context to any previous cultural awareness training students have undertaken through their home university. Longer immersion programs would generally be offered to students on longer placements, predominantly medical students. Where universities have Aboriginal and Torres Strait Islander people on staff, they are often responsible for the delivery of cultural safety training. In some cases, UDRH/RCS staff also provide such training on behalf of or in conjunction with other local Aboriginal and Torres Strait Islander organisations. Some students receive cultural safety training

through their placement organisations and in some cases UDRHs/RCSs bring local Aboriginal and Torres Strait Islander people in to deliver cultural safety training. Strong relationships with local Aboriginal and Torres Strait Islander communities are important enablers for the delivery of locally relevant cultural safety training. Engaging with local Aboriginal and Torres Strait Islander organisations to deliver all or part of the cultural safety training speaks to both the validity and efficacy of training and would infer an accurate reflection of local need and context.

While the provision of cultural safety training is mandated in many settings and is included in the parameters for the RHMT program, there are few identified mechanisms in place to assess this among supervisors and staff or among students completing placements in rural and regional settings. Cultural safety can ultimately only be assessed by the communities in which students and the RHMT program are embedded, reinforcing the importance of local engagement, partnership and reciprocity. Therefore, the effectiveness of current cultural safety programs cannot be confidently assessed in the scope of this evaluation. The cultural responsiveness framework of Indigenous Allied Health Australia (IAHA), however, provides a mechanism for students, supervisors, health professionals and other staff to interpret their clinical practice and approach when engaging and working with Aboriginal and Torres Strait Islander people (Indigenous Allied Health Australia, 2015).

Cultural Awareness Training

James Cook University Centre for Rural and Remote Health in Mt Isa offers a cultural awareness workshop for students who will come into direct contact with patients of Aboriginal or Torres Strait Islander heritage, during a placement. All students undertaking a rural and remote placement with CRRH must complete cultural awareness training before commencing first placement.

The one-day course aims to help students:

- Extend their knowledge about Aboriginal and Torres Strait Islander history and culture
- Explore how attitudes and values can influence perceptions, assumptions and behaviours in a clinical setting
- Develop ways to become more culturally aware
- Learn how to build better relationships Aboriginal and Torres Strait Islander clients and community
- Develop appropriate skills to interact with Aboriginal and Torres Strait Islander peoples while on placement and in a clinical setting

Students have the opportunity to attend regular reflection sessions extending their cultural competence and self-awareness. The training is facilitated by the Head of Indigenous Health

Cultural safety training is generally targeted at non-Indigenous students. Cultural safety for Aboriginal and Torres Strait Islander people studying or working in RHMT program sites is an important, but often overlooked, issue that was raised at the roundtable and during

consultations. Available evidence suggests that cultural safety of both the RHMT program sites and the placement environments is quite variable, posing risks and challenges for Aboriginal and Torres Strait Islander students and staff alike. Given the intent of the program to increase the number of Aboriginal and Torres Strait Islander students and staff, this is an area requiring greater focus and scrutiny.

7.6 Employment of Aboriginal and Torres Strait Islander staff

Parameter 6 of the current agreement identifies one of the strategies to increase the number of graduating Aboriginal and Torres Strait Islander health students is for universities to recruit Aboriginal and Torres Strait Islander academics and professional staff. Universities are not required to report on this activity specifically, but program reports and consultations show Aboriginal and Torres Strait Islander people are employed across a variety of RHMT program sites in a range of roles including administrative, research/academic and management. It is not possible using current reports to quantify staffing number, or number by role. However, consultations did identify that some Aboriginal and Torres Strait Islander staff feel isolated and unsupported, particularly where they may be the only Aboriginal and Torres Strait Islander employee or where insufficient attention has been paid to the cultural safety of the organisation and workplace.

In addition, many Aboriginal and Torres Strait Islander people are employed on a casual or ad hoc basis to deliver training. Many universities have trouble remunerating these people within current human resource systems that can be highly bureaucratic.

Consultations with ACCHOs and mainstream NGOs, identified a number of strategies that have contributed to the development and retention of their Aboriginal and Torres Strait Islander workforce. These included:

- Employment of Aboriginal and Torres Strait Islander staff across professional groups facilitating the development of a core team within the larger workforce
- Integrating cultural education into all aspects of the organisation's practice so that Aboriginal and Torres Strait Islander staff and non-Indigenous staff are comfortable in the settings in which they work
- Celebrating significant cultural events and community festivals
- Providing reasonable flexibility to Aboriginal and Torres Strait Islander staff as with other staff to maintain connection to community and networks. A critical aspect of developing and maintaining community engagement is enabling Aboriginal and Torres Strait Islander staff to have the flexibility to remain embedded in and connected with their community

Recognition of cultural knowledge and expertise in relation to remuneration was identified as an issue across several universities. Benchmarking university employment policies against established and high functioning ACCHOs that successfully operate in a commercial setting could provide direction to universities to better support the recruitment, retention and development of their Aboriginal workforce.

7.7 Parameter 6

There is confusion and concern about the RHMT program activities and requirements related to Aboriginal and Torres Strait Islander health as specified in Parameter 6 and the program core requirements. A fundamental issue is the perception that this parameter appears to conflate Aboriginal and Torres Strait Islander health with rural health. At the same time several of the targets and program requirements relating to Aboriginal and Torres Strait Islander students are not specifically related to rural health workforce outcomes.

The current core requirements (4a-4e) that link to parameter 6 are unclear as they group a complex set of activities and expectations under a single element:

- Embedding of curricula and course delivery that ensures all students in health disciplines have an understanding of and exposure to Aboriginal and Torres Strait Islander health and the skills to deliver culturally safe health services including the development and implementation of training and education courses about Aboriginal and Torres Strait Islander health
- Development and implementation of training and education courses for Aboriginal and Torres Strait Islander people
- Increased numbers of graduating Aboriginal and Torres Strait Islander students from University level health courses through targeted enrolment and mentoring and support programs
- Recruitment of Aboriginal and Torres Strait Islander staff under the RHMT program
- Development and implementation of specific education, training and support programs for the Aboriginal and Torres Strait Islander health workforce in local communities where RHMT program funded programs operate

While the intent is to ensure that Aboriginal and Torres Strait Islander health is given priority, this approach has the effect of perpetuating the separation of these elements of the program from other 'mainstream' elements. Feedback from Aboriginal and Torres Strait Islander people through the evaluation stressed the need for all elements of the current parameter to be better integrated across the RHMT program requirements and that of individual institutions.

Since the development of the 2016-18 RHMT program framework, universities have committed to the Universities Australia Indigenous Strategy. This strategy includes a number of initiatives that seek to:

- Increase the numbers of Aboriginal and Torres Strait Islander people participating in higher education as students, as graduates and as academic and research staff;
- Increase the engagement of non-Indigenous people with Indigenous knowledge, culture and educational approaches; and
- Improve the university environment for Aboriginal and Torres Strait Islander people.

The Universities Australia Indigenous Strategy provides the opportunity for the RHMT program to dovetail future requirements with university-wide commitments. Universities should be able to demonstrate how they are contextualising their activities under the Universities Australia Indigenous Strategy to meet the intent of Parameter 6 of the RHMT program. For example, enrolment of Aboriginal and Torres Strait Islander students into health courses is the responsibility of central university faculties rather than the rural departments funded under the RHMT program.

7.8 Challenges

The RHMT program does not provide a clear logical framework for the relationship between the enrolment of Aboriginal and Torres Strait Islander students into mainstream health courses and improved rural health workforce outcomes. Currently targets are set for the enrolment of Aboriginal and Torres Strait islander students at a university level but there are no targets for Aboriginal and Torres Strait Islander students to undertake rural placements under the RHMT program.

Evaluation informants suggest that RHMT program funding has assisted many universities to develop and expand programs to support Aboriginal and Torres Strait Islander students. However, concern was also raised that, in some cases, the program has been the primary source of funding activity in this area, with minimal or no other input or commitment from universities and individual faculties. In some universities it appears that RHMT program funds have been used to fund the whole of Aboriginal and Torres Strait Islander faculty activity.

As with rural-origin students, concern was raised that the targets have created competition between universities and faculties to enrol Aboriginal and Torres Strait Islander students from the limited numbers available each year. Universities with greater resources are able to offer scholarships and other incentives to attract students. Many informants suggested that while this may assist universities to meet their targets it is not always in the best interest of individual students or the overall aims of the RHMT program and the needs of Aboriginal and Torres Strait Islander communities.

Participants in the roundtable discussion highlighted concerns around the quality and variability of placements available to students. While universities report on placements in Aboriginal and Torres Strait Islander communities, there is no definition of what constitutes such a placement. Further the requirement suggests that these placements are different from other placements, rather than promoting the reality that students may see Aboriginal and Torres Strait Islander people in any placement.

Feedback also highlighted the importance of ensuring students are adequately prepared for placements and the need for contextualisation of cultural safety training to local communities and the difficulties for ACCHOs and other organisations in managing placements with students who are ill prepared and/or not suited to the environment in which they are placed. As highlighted elsewhere in this report the selection of students for individual placements is generally done at a central university level which can create difficulties for supervisors and services where students' skills and expectations do not match those of the organisation in which they are placed.

7.9 Future directions

Meaningful engagement with Aboriginal and Torres Strait Islander people, communities and organisations is crucial to the objectives of the RHMT program. Many RHMT program sites have developed strong relationships with local organisations particularly around facilitation of placements and the delivery of cultural safety training. Program objectives need to reflect the importance of these relationships and the time and commitment required to build and maintain them.

There was strong feedback that future program objectives need to clarify expectations in relation to:

- Training of Aboriginal and Torres Strait Islander people in health disciplines
- Direct employment of Aboriginal and Torres Strait Islander people through the RHMT program
- Research and other programs aimed at improving Aboriginal and Torres Strait Islander health
- Cultural safety training for students undertaking rural placements
- Embedding of Aboriginal and Torres Strait Islander health into course curricula

Objectives also need to clearly distinguish between university and faculty-wide responsibilities and those specifically related to rural activity funded under the RHMT program.

The roundtable with the Indigenous peak bodies identified a number of key themes for consideration in the analysis and recommendations of the evaluation. These include:

- Aboriginal and Torres Strait Islander understandings of 'reciprocity' with local communities
- Tracking of Aboriginal and Torres Strait Islander health students
- Clearly articulated responsibilities of universities in relation to cultural safety, meaningful community engagement, employment and research
- Consideration of Aboriginal and Torres Strait Islander people and health across all parameters
- Mechanisms to reflect the role of Indigenous peak bodies as key stakeholders in the RHMT program.

8. Regional Training Hubs



RTHs were introduced as a component of the IRTP for medicine to facilitate the transition of medical students into rural practice and support the development of rural medical training capacity informed by regional medical workforce needs. The Department funded the RTHs through the RHMT program in 2017, leveraging the existing infrastructure in the RCSs and UDRHs and providing funding to recruit dedicated staff to provide these functions.

As a new element of the RHMT program, the evaluation was limited to considering the RTHs' progress in implementation.

RTHs have developed a range of strategies to promote the development of integrated rural medical training. While activities differ, they broadly relate to:

- Developing training capacity through supporting accreditation and/or development of new prevocational and vocational training posts; mapping training pathways and training program requirements and; establishing new training programs and pathways
- Establishing linkages and partnerships with key medical training stakeholders including the specialist medical colleges, the LHNs and state/territory health agencies to promote the development of pathways and contribute to regional medical workforce planning
- Supporting medical students and junior doctors into regional training through various career planning activities some of which relate to individualised vocational planning while others provide information on local training opportunities to assist career planning and decision making.

RTHs have worked to engage a broad stakeholder base at local, regional, state and national levels.

Enablers to progressing RTH initiatives

- Strong partnerships have emerged in some locations where there are shared employment arrangements with the relevant jurisdiction, LHNs and/or regional hospitals for clinical leads and/or medical education support staff.
- Useful collaborations between RTHs (and between universities) at a cross-regional and jurisdiction level deliver efficiencies for mapping training program requirements and availability of posts. Mapping pathways across-regions provides necessary information to medical students and junior doctors where personal or profession needs require a more flexible pathway.

Challenges to progressing RTH initiatives

Many players operate in the prevocational and vocational training space i.e. medical colleges, prevocational medical councils, LHNs and regional hospitals. The role and rationale for the RTHs was not clear to many of these stakeholders impacting on their engagement with the RTH.

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- Variable expertise of RTH staff in specialist medical training and accreditation requirements hindered engagement for some RTHs.
- RTH participation in regional medical workforce planning and development of regional plans and additional training opportunities is challenged where LHNs do not have resources to meet medical workforce gaps.

Lessons Learned

- RTHs are well positioned to support medical students and junior doctors in individualised career planning and vocational guidance
- Progressing an integrated rural medical training pipeline could be facilitated through regional collaborations where there is joint planning, shared workforce priorities and coinvestment.

8. Regional Training Hubs

8.1 Introduction

RTHs were established in 2017 as a new component of the RHMT program. Leveraging existing capacity in the RCSs and UDRHs, the Department provided additional funds to universities to establish RTHs. There are currently 26 RTHs across Australia, including nine (9) in NSW, six (6) in Queensland, four (4) in Victoria, three (3) in Western Australia, two (2) in South Australia, one (1) in Tasmania and one (1) in the Northern Territory. All universities, with the exception of Western Sydney University, have been funded for at least one RTH. Current funding extends to the end of December 2020, in line with the universities' RHMT program agreements.

The concept for the IRTP emerged from the review of the Commonwealth's Health Workforce Programs in 2013 (Mason, 2013). RTHs are a component of the IRTP together with the Rural Junior Doctor Training Innovation Fund (RJDTIF), established to support the delivery of general practice rotations for junior doctors undertaking their internship and prevocational training in rural areas; and an additional 100 places under the Specialist Training Program (STP) specifically for rural areas. STP posts are identified as STP-IRTP where funding follows the trainee rather than being specific to a health service or hospital. The STP-IRTP posts add to the 1,057 STP posts that the Department currently funds which are managed by the medical specialist colleges.

The objectives of the RTHs are to:

- Improve the coordination of the stages of medical training to enable students intending to practise rurally to complete as much of their medical training as possible within regional and rural areas
- Identify students with an interest in practising rurally and facilitate access to networked rural training opportunities at an early stage in their careers
- Develop regional training capacity by supporting current supervisors of clinical training, assisting health services in obtaining accreditation for new training positions, and supporting local medical practitioners to become clinical supervisors
- Strengthen existing, and develop new connections with key stakeholders to improve the continuity of training for medical students/trainees within their region
- Identify regional medical workforce needs and use this information to prioritise activity

8.2 Focus of the evaluation

As the RTHs are in the establishment and early implementation phase, the evaluation has focused on the extent to which the RTHs have been able to position themselves to promote the development of integrated rural medical training pathways with consideration of:

- Activities to facilitate development of new medical training capacity
- Linkages and partnerships with medical colleges, LHNs, health services and supervisors

- Focus of new training posts and pathways i.e., generalist or specialist
- Strategies to identify and support medical students onto a regional training pathway
- · Challenges and enablers to developing rural training pathways

The evaluation has drawn on information gathered from consultations with RTH staff, LHN and hospital medical executives, jurisdiction medical workforce and training personnel, RWAs, rural peak bodies and written submissions including medical colleges and GP RTOs.

8.3 Overview of approaches and activities

Drawing on the universities' 2016-2018 RHMT program reports, site visit consultations and attendance by the evaluators at the FRAME meetings in May and November 2019, Table 8-1 provides an overview of the activities undertaken. This table should be read in the context of the information provided in the 2016-2018 reports and/or identified during consultations. It is not an exhaustive description of all activities by all RTHs. Rather, it outlines the main areas of activity and demonstrates the different approaches by RTHs. Where universities have more than one RTH activities can differ dependent on the local and regional workforce needs and; the clinical capability of the regional hospitals and hence junior doctor and specialist training capacity.

In reviewing the reports and consultation findings it is apparent that the RTHs have worked to engage with a broad stakeholder base at a local, regional, state and national level. It is evident that some strong partnerships have emerged, particularly at a regional level for a proportion of the RTHs. There is also evidence of useful collaborations between RTHs (and between universities) at a regional and jurisdiction level.

	Indicative proportion of RTHs undertaking this approach	Commentary and examples of approaches			
Developing new training capacity					
Supporting Accreditation of Training Posts	Half the RTHs indicated supporting local health services with accreditation processes	Administrative support was most frequently described, with clinical expertise provided by some RTHs			
Mapping accredited training posts	It was a core requirement of the RHMT program agreement that RTHs reported on training posts available in their region	• Monash University, University of Melbourne, Deakin University—Western Victorian RTH, University of New South Wales—Border RTH and University of Notre Dame Australia—Riverina RTH collaborated to develop the medical training pathway App Dr Pathway for Victoria and border towns			
Mapping training program requirements	Half the RTHs mapped the training requirements for one or more specialist pathways	 James Cook University and University of Queensland RTHs jointly developed individual training maps for eight specialties in regional Queensland University of Sydney—Northern New South Wales RTH mapped requirements for 10 specialties and two GP pathways in Northern New South Wales identifying local delivery capacity and constraints 			
Supervision training and professional development	More than half reported providing training to supervisors	Workshops and CPD events were the predominant model of delivery			
Increasing intern and prevocational training posts	More than half reported facilitating the development of new intern and junior doctor training posts	 University of Adelaide RTH, in collaboration with South Australia Health, established two accredited internship positions at Whyalla Hospital A number of RTHs worked with regional hospitals and general practices to develop RJDIF posts Several worked with regional hospitals, GP RTOs and the jurisdiction's Rural Generalist training program to develop Advanced Skills Training Posts The University of New South Wales Border RTH engaged with the Prevocational Medical Council of Victoria to negotiate intern placement options for medical graduates that had undertaken their RCS placements in Albury-Wodonga and border towns 			

Table 8-1	RTH strategies to	promote integrated	rural	medical	training
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	Indicative proportion of RTHs	Commentary and examples of approaches
	undertaking this approach	
	Develo	oping new training capacity
	Nearly two thirds of the RTHs have progressed or supported LHNs/ hospitals apply for STP and/or STP-IRTPs	• A wide range of specialty posts were applied for in accordance with local priorities and training capability
Increasing STP and IRTP posts		• James Cook University RTH undertook a reconciliation of STP-IRTP and STPs across Northern Queensland to identify 'lost' positions not filled by hospitals that were unaware of position allocations. This resulted in additional training positions (with funding) available.
		 More than 10 new accredited (12 months) training positions in Northern New South Wales RTH
	Just under a quarter of the RTHs have developed new specialist or GP training programs	 Northern New South Wales RTH established full physician training in the north coast network with support from the primary metropolitan network partner, Royal North Shore Hospital
Establishing now		 University of New South Wales Border RTH established regional anaesthetic training pathway
training programs		• Flinders University Northern Territory RTH is piloting a program for Advanced Skills in Remote Aboriginal Health with a strong focus on rural generalist training for very remote areas
		• University of New South Wales Murrumbidgee RTH has established an Integrated GP training program with four GP Registrar hospital rotations, training posts and advanced skills training (Rural Generalist)
Enabling exams on-site	Several RTHs have supported on-site exams	 RACP physician's exam (Northern New South Wales RTH, Mid North Coast RTH) University of Sydney Western New South Wales RTH hosted GAMSAT exam

	Indicative proportion of RTHs undertaking this approach	Commentary and examples of approaches
	Linkages and partne	erships to promote pathway development
	Just under one third of the RTHs have joint employment arrangements with the LHN or state health	Various arrangements are in place including:
Shared employment arrangements between RTH and LHNS		Clinical leads (substantive position in the regional hospital/LHN) have fractional appointment with RTH
		• Medical Education Support Officers jointly funded by RTH and LHN, embedded in the hospital/medical education unit
		RTH funds positions in state health to manage accreditation process for junior doctor positions
Workforce planning in conjunction with LHNs, jurisdictions and/or other regional agencies	About one third of the RTHs	• In 2019, Northern New South Wales RTH and North Coast Local Health District (LHD) delivered an integrated (public, private, primary and acute) Medical Workforce Plan for Richmond and Clarence Valley. This identifies opportunities, capacity and need across all levels of the training pipeline.
	participating in medical workforce planning with LHNs or state level agencies	• University of Western Australia partnered with Rural Health West (the Rural Workforce Agency), Western Australia Primary Healthcare Alliance (the PHN), Western Australia Country Health Service, and Western Australia General Practice Education and Training to develop a state-wide medical workforce plan.
		• Several of the RTHs have input into regional medical workforce planning.

	Indicative proportion of RTHs undertaking this approach	Commentary and examples of approaches				
	Strategies to support medical students and junior doctors into regional training					
		Career planning activities varied including:				
		 Information sessions on training opportunities (e.g., Rural Preferential Pathways for Interns, Aboriginal Workforce Pathways) 				
		Information and advice on curriculum vitae preparation				
Career planning		• Development of a contact list of mentors and clinical champions				
	About half the RTHs reported working with medical students and/or junior doctors to support career planning	• Interviews with final-year medical students to identify areas of interest and link with relevant clinical mentors or Directors of Training				
		• Using RDN GP workforce vacancy data to encourage students and Junior Doctors to consider GP pathways in the regions				
		• <i>The Dr Pathway Ap</i> is a tool directed to medical students and junior doctors to assist in career planning decision making				
		• The podcast series, <i>Destination Medicine</i> is a collaboration between four rural New South Wales Regional Training Hubs: Far West, Riverina, Western and Northern NSW. It is intended to assist medical students, junior doctors and others interested in a career as a rural doctor make informed decisions and navigate a rural medical pathway with greater confidence.				
Orientation and induction	Just under one quarter indicated providing an orientation and/or induction program for interns and/or junior doctors					
Mentoring and supporting students and junior doctors	About a third offer wellbeing or mentoring programs for interns and junior doctors	Key strategies included mentoring programs, wellbeing workshops and retreats				

	Indicative proportion of RTHs undertaking this approach	Commentary and examples of approaches
	Strategies to support medica	l students and junior doctors into regional training
Scholarships and financial support – students or junior doctors	Three RTHs indicated offering scholarships or grants for medical students or junior doctors to attend conferences, undertake courses (some of which may be compulsory for specific training pathways)	

8.4 Challenges to implementation of the RTH initiative

Key issues raised by stakeholders that have challenged the implementation of the RTH initiative include:

Negotiation and rationale for the initiative

- Limited engagement by the Commonwealth with the jurisdictions in the development of the RTH initiative. RTHs are adding to an already busy and complex space inhabited by prevocational medical councils, medical specialist colleges, GP colleges and GP RTOs (in relation to accreditation of Rural Generalist Advanced Skills Training posts) and the respective Hospital Executive and Heads of Departments
- Querying the rationale of funding the universities for the RTHs where the perception of the LHNs and hospitals leads is that their main efforts were in trying to gain accreditation for specialist training posts which is seen as the domain of the jurisdictions or the specialist colleges

Engagement at a regional and local level

- Some RTHs applying for STP-IRTP posts had little engagement with hospital executives and consideration of the ongoing funding/financing of positions, training supports, regulatory requirements to maintain rosters and credentialing of posts and specialist service delivery, and the longer-term plan for regional medical specialist services
- Requesting information on training posts and new posts for reporting purposes where the LHNs felt the hubs had no obvious input into these (note that this mapping was a requirement of the RHMT program agreement)
- Variable expertise of RTH staff in relation to understanding medical specialist training and processes for accreditation of training posts. Some RTHs have co-funded positions within Medical Education Units or recruited staff with understanding of accreditation processes which was seen to be a key facilitator for engagement, while others have recruited staff with very limited understanding of the complexity of specialist training and requirements for accreditation
- The development of regional medical workforce plans (and heath workforce plans more broadly). Whilst these should underpin and inform training needs and pathways, it may be challenging for the RTHs to progress these when or where it exposes workforce shortfalls and gaps that LHNs (and others) may not be able to resource

Potential duplication

- The requirement to undertake medical workforce needs assessment was seen to be duplicative of the Health Workforce Needs Analysis undertaken by RWAs and the needs assessments undertaken by PHNs
- Location of the RTHs with some overlap in their geographic footprints. For example, there are three RTHs operating in the Murrumbidgee LHD, this includes the Riverina RTH

(University of Notre Dame Australia), Murrumbidgee RTH (University of New South Wales) and South Eastern New South Wales RTH (Australian National University). There are four RTHs in Victoria that overlap in the Bendigo, Ballarat and Border areas

There are also location-specific challenges for RTHs. For example, the very limited availability of PGY 1-3 positions in rural and regional WA inhibits the development of regional pathways. In Broken Hill, the RTH (part of the UDRH) in conjunction with the Far West New South Wales LHD and Royal Flying Doctor Service has focused efforts on developing a training pathway for Rural Generalists because of the limited availability of resident specialists to develop training posts.

Resourcing prevocational and vocational training posts

- Several RTHs identified the challenge of influencing rural medical specialist training capacity where they have limited resources, as well as developing collaborations between rural and/or metropolitan LHNs to progress training pathways, as is often required for STP-IRTP posts, where health services are focused on their own locality.
- At a Commonwealth level, the Department funds specialist training posts in addition to the AGPT program, but very limited funding for prevocational posts other than the RJDTIF. Intern and PGY 2-3 positions were identified as foundational to supporting the transition of medical students who have participated in extended rural training.

Whilst some of these issues may relate to initial teething problems of a program it is clear that the role and functions of RTHs need to be clearly described. As the states have the majority of positions and are responsible for service delivery, particularly in the PGY 1 to PGY 5-6 years, effective collaborations at a state and regional level are essential for the RTHs to have impact.

8.5 Enablers to implementation of the RTH initiative

Many RCS and RTH staff see the RTH as a potential game-changer as they are well positioned to provide vocational planning and decision support for students and trainees and, support junior doctors in their selection into rural training streams for medical specialist colleges.

Co-investment

Opportunities for the RTHs to be embedded with LHNs and/or medical education units or state health, and jointly fund positions including clinical leads and coordinators, have facilitated the collaborative partnerships and outputs particularly where these personnel have expertise in the clinical and administrative aspects of accreditation. This co-investment, both financial and in-kind focuses on outcomes relevant to both parties.

Collaborative innovations delivering shared wins

Leveraging on or building new partnerships between the RCS and/or UDRH and LHN have enabled RTHs to develop innovative approaches to developing new training pathways and

employment models particularly for Rural Generalist pathways as evidenced in Griffith and Broken Hill. Furthermore, strengthening the GP workforce enables the RCS/UDRH to develop additional supervision capacity for medical student placements.

The preparedness of LHNs and their boards, to expose their medical workforce challenges in both acute and primary care, and commit resources to developing a regional medical workforce plan in conjunction with the RTH provides a sound foundation for developing a training pathway informed by local need and capacity.

Collaborations between universities to map specialty training posts at a jurisdiction or subjurisdiction level is a more efficient use of resources (for the RTHs, LHNs and specialist colleges) and describes a rurally and regionally based training pathway that provides flexibility for medical students and junior doctors where they may need to cross over regional boundaries for training for personal or professional reasons.

8.6 Future directions

The key functions required to support an integrated rural medical training pathway can be broadly broken down into three areas:

- Individual (student/trainee)—Intervention at key points along the pathway to support decision making and career planning. These include the decision to apply for university and enter a medical program; identification and application for a rural pathway/RCS in Year 1 or 2; support to ensure selection into the RCS; intervention or career counselling during final year of medicine to apply for and select a rural internship; during internship and PGY 2 intervention/advice to select GP pathway or specialist training (in rural/regional locations)
- Regional—Working with public and private hospitals, health services and private practices to determine capacity and capability for advanced skills and/or specialist training posts with consideration of longer term hospital/regional service plan, funding the post, additional financing requirements for continuity of (specialist) service delivery, supervision, maintenance of viable rosters, credentialing, and undertaking administrative processes for accreditation
- National—Working at the medical specialist college/system level to identify and negotiate specialist training components that can be undertaken in rural and regional locations

Themes arising from consultations and written submissions suggest that:

- The university/RTH has an important role in providing undergraduates/medical students information of specialist non-GP and GP training pathways and has a role in assisting student selection, with ongoing support to trainees with accommodation, relocation and orientation at training sites. The university/hubs may also have a role in supporting and organising local Continuing Professional Development and infrastructure to support rural and regional training. However, accreditation of training sites is the role of the college in consultation with the hospital/health service
- The role of the RTH needs to be clarified and strengthened particularly in relation to

collating information to understand community and workforce need, advise on local training capacity and models of accreditation for regional training, and develop Specialist Training Program (STP) proposals that are more consistent and locally connected

• RTHs could benefit from co-location and joint employment of staff with the LHN to bridge the gap between the university/RTH and hospital training processes

8.6.1 Regional training collaborations

Consideration could be given to developing regional training collaborations to oversee the development and implementation of integrated rural medical training pathways. Key partners in the collaboration could include the University RCS, RTH, LHN executive, RWA, GP RTO, with other members such as specific medical specialist colleges and PHNs identified relevant to regional priorities. The high reliance on primary care for rural workforce would indicates GP pathways are also included. The value of such a collaboration is that it brings together:

- The key education providers across the medical training continuum (medical school, prevocational and vocational training) i.e., University RCS, LHN, GP RTO, medical specialist colleges
- The agencies responsible for local and regional health and workforce needs assessments and workforce planning (LHN, RWA, PHN)
- The agencies that hold or fund the prevocational training positions, including private hospitals where relevant

The RTH could provide functional support to the collaboration as well as a direct role in vocational planning and career guidance to medical students and junior doctors.

In some jurisdictions this training collaboration may be best focused at a state-level (e.g., Western Australia, Northern Territory and Tasmania).

Through the collaboration strategies could be developed to:

- Engage with the jurisdiction to align state level workforce policies and initiatives
- Share data
- Develop shared key performance indicators (KPIs) to which partners commit to work toward

The Ten Building Blocks for Integrated Care model (Nicholson et al., 2014) provides a useful framework that could be adapted to progress an integrated rural medical training strategy (see Appendix 12).

8.7 Allied health and Nursing

Currently there is no mechanism to support the transition of allied health and nursing students who have participated in rural training onto a rural career pathway. Stakeholders at local and national levels indicated a role for UDRHs to support transition to rural work. Suggested roles for UDRHs included:

- Career guidance and vocational planning
- Assisting local health services such as ACCHOs, private allied health and NGOs to develop supervision capacity for early career practitioners and/or provide supervision for early career practitioners where not available in local services
- Work with state or territory governments to identify workforce priorities and plan student placements and early career support to develop training and career pathways for allied health and nursing.

A recent study demonstrating that initial rural practice is the most significant predictive factor associated with long term rural practice for allied health and nurses who had participated in rural student placements indicates the potential benefit of facilitating transition to rural work for these professional groups for longer term rural workforce outcomes (Playford, Moran and Thompson, 2020).

9. Rural Health Clubs

Each RHMT program funded university is required to provide a minimum of \$12,000 annually to the operation of a RHC. The RHC is expected to undertake at least two (2) high school visits and one (1) Indigenous engagement activity each calendar year. Rural health club activities must be aligned with the parameters of the RHMT program.

Consolidation reports show that across all universities, there were 10,104 RHC members in 2018. One third of members were of rural origin and 2% identify as Aboriginal and Torres Strait Islander.

More than half RHC members are medical students (53.9%), followed by nursing (19.3%), allied health (15.2%) and dentistry/pharmacy (3.7%). The discipline was not stated for 7.9% of members.

Overall, the RHCs play a valuable role, particularly for those students who are actively engaged in RHC leadership and activities. Most RHCs could improve recruitment of allied health and nursing students like many university clubs and societies.

RHCs are a useful point of communication between university faculties and students and, in many cases, there is potential to improve in this area. For example, RHCs could be used to develop a better understanding of the barriers faced by allied health and nursing students in undertaking rural placements and identifying mechanisms to improve student experience.

9. Rural Health Clubs

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More than half the members are medical students (53.9%), followed by nursing (19.3%), allied health (15.2%) and dentistry/pharmacy (3.7%). The discipline was not stated for 7.9% of members. Australian National University, Griffith University, University of Melbourne and University of New South Wales report at least 80% of RHC members to be medical students. Only Newcastle University had a higher membership of allied health students than medical students (267 and 170, respectively).

RHCs organise a range of activities at both main campuses and at rural training sites. The most common of these include:

- Rural trips to promote participation in rural training opportunities. At many universities medical students have the opportunity to travel to the RCS locations to see the health services, accommodation and meet existing RCS students. While visits are organised by RHCs, support is also provided by RCS staff
- Teddy bear hospitals where children bring along a teddy, students examine and deliver treatment to the sick teddies. At the same time they are able to give health messages to the young children. The purpose is to reduce children's fear of hospital and medical services and is an opportunity for students to improve their communication skills
- High school visits to inspire and educate high school students to pursue health careers

RHCs also organise skills sessions, guest speakers for education activities and functions, and can offer financial support for students to attend conferences and social events. They are also a conduit for information to students about scholarships, bursaries and other opportunities. One RHC was successful in applying to its university's student amenities funding scheme to support the installation of barbeque and sports facilities at the rural campus accommodation.

Benefits of RHC involvement highlighted by students included:

- Learning about rural opportunities
- Social engagement with like-minded peers
- Opportunities to practise clinical skills in rural areas
- Networking with students from other universities supported by health workforce agencies
- Opportunities to meet students from other disciplines
- Source of information about scholarships and other relevant issues.

Feedback from students interviewed for the evaluation suggests that many RHCs are more

active on main campuses than at rural sites, although some sites have active student groups organising social and volunteering programs at rural sites. Students recognised the role RHCs play in promoting rural training and rural careers, particularly in the early years of students' degrees where they may not be aware of the available opportunities. Concern was raised that at some universities promotion of rural training falls heavily on the RHCs where rural does not appear to be a priority for some faculties.

As evidenced by the reported membership data, the majority of RHCs are strongly dominated by medical students. This was reflected in consultation findings with many allied health and nursing students indicating they had not joined the RHC and were either not aware of their RHC or had only had a vague idea of their role. Additionally, some clubs have lost their focus on rural and remote health and have moved to a more global health and international focus. This has resulted in some disengagement by students.

Historically, RWAs have worked with the RHCs to undertake visits to communities and rural schools as a strategy for rural school students to consider health careers. The RWAs have provided support to the RHCs through executive training, supporting rural events and financial support for bursaries and conference attendance. However, an ongoing issue has been maintaining the momentum of engagement with the RHCs because of the turnover of committee every 12 months.

Peak professional associations such as CRANAplus reported having a positive and ongoing engagement with the RHCs and disseminated conference information, bursaries and opportunities for student engagement in their association.

Overall, the RHCs play a valuable role, particularly for those students who are actively engaged in RHC leadership and activities. Most RHCs could improve recruitment of allied health and nursing students like many university clubs and societies. RHCs are also a useful point of communication between university faculties and students and, in many cases, there is potential to improve in this area. For example, RHCs could be a useful mechanism for better understanding the barriers faced by allied health and nursing students in undertaking rural placements and identify mechanisms to improve student experience. 10. Northern Territory Medical Program The NTMP delivered by Flinders University differs from the other medical programs funded under the RHMT program. It was specifically established to address medical workforce shortages in the Northern Territory and increase the number of Aboriginal and Torres Strait Islander doctors trained and working in the Northern Territory. The NTMP is co-funded by the Northern Territory Government and the Australian Government through the RHMT program (not via the Education portfolio). Priority is given to Aboriginal and Torres Strait Islander Territorians and non-Indigenous Territorians. RHMT program funding requires Flinders University to admit 24 students into the NTMP each year.

Entry to the NTMP is through the Charles Darwin University Bachelor of Clinical Science undergraduate pathway or through a Flinders University graduate entry pathway. Additional support, previously identified as the Indigenous Transition Pathways to Medicine Program (ITP), is provided via the Flinders RHMT program agreement to prepare Aboriginal and Torres Strait Islander people to gain entry into the NTMP through their ongoing education.

The Northern Territory Government requires graduating doctors to complete a two year return of service obligation, through the Northern Territory Bonded Medical Scheme (NTMBS), which will increase to four years for students graduating in 2020 and onwards.

Key Findings

Over the 2016-2018 period, the NTMP has filled the 24 training places each year, as it has done since inception in 2011.

The NTMP has a target of enrolling eight Aboriginal and Torres Strait Islander students each year. While this enrolment target has not yet been achieved, the NTMP enrolled 19 Aboriginal and Torres Strait Islander students between 2012 and 2018, with eight graduates at the end of 2018. To date, there have not been any Aboriginal and Torres Strait Islander students enter the program through the Charles Darwin University undergraduate pathway.

The 2016-2018 RHMT Program Report indicates the NTMP is having success in 'growing their own' workforce where 63% of graduates completing their return of service obligation continued to work in the Northern Territory.

Enablers to developing Northern Territory medical workforce capacity and capability

Common interests and shared goals among key stakeholders has supported integrated medical education and training to grow a medical workforce fit for purpose for the Northern Territory. Stakeholders included the Northern Territory Government, Top End Health Service (TEHS), Central Australian Health Service, Aboriginal Medical Services Alliance Northern Territory and the ACCHO sector, Northern Territory General Practice Education and Flinders University Northern Territory.

Challenges

- Progressing Aboriginal and Torres Strait Islander entry into, and continuation in the NTMP is challenged by extended vacancies in the Aboriginal Education and Training Support team including the Elders on Campus program.
- Maintenance of a pool of Aboriginal and Torres Strait people to undertake mentoring and teaching roles for Aboriginal and Torres Strait Islander students and non-Indigenous students.
- Limited specialist vocational training opportunities in the Northern Territory is a barrier to longer-term retention of NTMP graduates.

Lessons learned

Aboriginal and Torres Strait Islander participation in the NTMP could be enhanced through development of a bridging program for secondary school students into the Charles Darwin University pathway; extension of the Elders on Campus program to remote RCS sites (Nhulunbuy, Katherine and Tennant Creek); ongoing tutoring program for medical students and; facilitation of peer support strategies.

Students value the practical strategies offered through the NTMP to develop contextual understanding of Aboriginal and Torres Strait Islander health and engage effectively and respectfully with Aboriginal and Torres Strait Islander people.

Promoting understanding and knowledge to improve the health status of Aboriginal and Torres Strait Islander people could be strengthened by development of Rural, Remote and Aboriginal and Torres Strait Islander assessable subjects delivered to students across the program (Northern Territory and SA) in preclinical and clinical years, noting that students from the SA campus also undertake extended placements in the Northern Territory.

The East Arnhem case study demonstrates the workforce benefit where multiple Commonwealth rural workforce and training initiatives are drawn together (i.e., the Rural Junior Doctor Innovation Fund, infrastructure investment, RHMT program, GP Regional Training) and align with jurisdiction medical workforce policies i.e., the Northern Territory Government medical workforce priorities to Grow Your Own and focus on Rural Generalism. In the space of twelve years the medical workforce capacity in the East Arnhem region has grown from 15 to over 40 doctors, with the average length of stay of senior doctors extended i.e. 18 months to 60 months.

10. Northern Territory Medical Program

10.1 Overview of the Northern Territory Medical Program

The NTMP commenced in 2011 to address medical workforce shortage and retention issues in the Northern Territory and to increase the number of Aboriginal and Torres Strait Islander doctors training and working in the Northern Territory. The NTMP builds on the Flinders University Northern Territory Clinical School, initiated in 1998, where students undertook clinical training (Year 3 and 4) in Darwin after pre-clinical training in Adelaide. In 2006, the Flinders University RCS program was established in Katherine and Alice Springs, and Nhulunbuy in 2007.

Through the NTMP, Flinders University now offers Northern Territory students a fully accredited four-year post-graduate medical training program delivered entirely within the Northern Territory. The NTMP has 24 training places per annum with a target of eight (8) commencing Aboriginal and Torres Strait Islander students each year. To support the intent of the NTMP to develop a medical program to meet the needs of the Northern Territory, there are four categories of applicants: Priority 1—Northern Territory Indigenous applicants; Priority 2—Northern Territory non-Indigenous applicants (having resided in the Northern Territory for a minimum of six (6) years,); Priority 3—Indigenous applicants from other states; Priority 4—all others.

The NTMP is co-funded by the Australian Government (via the RHMT program) and the Northern Territory Government. Places on the NTMP students are not CSP-funded and, as such, do not incur HECS-HELP debt. Upon graduation, NTMP students are bonded to practise in the Northern Territory for a period of two (2) years, through the Northern Territory Bonded Medical Placements Scheme (NTMBS). In 2020, the bonded period increased to four (4) years.

Pre-clinical Years 1 and 2 are taught at the Charles Darwin University campus in Darwin with videoconference link to Flinders University at Bedford Park. All practical sessions are undertaken locally in Darwin and delivered by locally based lecturers. The NTMP relies on clinicians working in Royal Darwin Hospital and Alice Springs Hospital for much of its clinical teaching and team-based learning.

Year 3 is considered the RCS year and provides extended placements for 24 NTMP students and eight (8) students from Flinders University South Australia program. Placement options include:

- Alice Springs for 12 months—integrated hospital and community placements including general practice and Central Australia Aboriginal Congress (four (4) students)
- Alice Springs—Six-month community term including rotation through Tennant Creek and 6 months at Darwin hospital (2 students per semester)
- Katherine—Six-month community term (general practice and Wurli Wurlijang Health Service) and hospital, and six (6) months at Darwin Hospital (four (4) students per semester)
- Nhulunbuy—Six (6) months combined hospital and community (general practice, Miwatj Health Aboriginal Corporation and Laynahpuy Homelands Health) and six (6) months in Darwin (two (2) students per semester)
- All year in Darwin (general practice, hospital, Danila Dilba Aboriginal Health Service)

In Year 2, students nominate their preferences for RCS placements in the following year, and nominate again in Year 3 to indicate their Year 4 intentions. Year 4 students have the option of the "Remote Package"—three (3) months in Nhulunbuy and three (3) months in Alice Springs (four (4) students per semester)—or a full year in Darwin Hospital.

Internship choices are made in Year 4. As the NTMP has a return of service obligation, it is important that students are aware of the opportunities that result from these decisions and particularly selecting placements to prepare them for remote practice.

The NTMP also supports short placements for Flinders University South Australia students, as well as short and long electives for medical students from other universities.

10.2 Pathways into the NTMP

10.2.1 Entry pathways and student selection

Entry into the NTMP is via Charles Darwin University's undergraduate pathway through the Bachelor of Clinical Sciences program (12 places), or graduate-entry pathway (12 places). Additional RHMT program resourcing is provided to Flinders University for activities previously identified as the Indigenous Transition Pathways to Medicine Program (ITP), offering a mechanism to support the entry of Aboriginal and Torres Strait Islander students into the NTMP graduate program.

Charles Darwin University's undergraduate pathway commenced in 2013. Entry into the undergraduate pathway is based on High School Certificate results. All pathway students sit the Undergraduate Medicine and Health Science Admission Test (UMAT). An interview is not included in the selection process. Graduate-entry applicants sit the Graduate Medical School Admissions Test (GAMSAT) and are interviewed as part of the selection.

A component of RHMT program funds is allocated to the Poche Centre to provide education and training support to Aboriginal and Torres Strait Islander students. This includes:

- A bursary of \$20,000 per annum for all Aboriginal and Torres Strait Islander students in the NTMP. There are eight bursaries allocated each year for students entering through the graduate pathway and two per annum through the Charles Darwin University undergraduate pathway
- A small quantum of funds for students facing financial hardship
- Elders on Campus program (HEO6—0.6 FTE in Darwin and 0.6 FTE in Alice Springs) to provide mentoring and support to students
- Community Engagement Officer (HEO5—in Darwin) to conduct promotional activities for prospective students particularly targeting Aboriginal and Torres Strait Islander communities, schools and students

10.2.2 Challenges to supporting Aboriginal and Torres Strait Islander student entry

There have been ongoing vacancies in the Poche team including the lecturer position in

Aboriginal Health based in Darwin and in the Elders on Campus program at Darwin and Alice Springs campuses. This has reduced the capacity of the Engagement Officer to undertake community visits, school visits and career expos to promote the NTMP, entry pathways and support programs. Rather, the Engagement Officer has focused on supporting Aboriginal and Torres Strait Islander medical students on campus at Charles Darwin University.

Notionally, there are seven (7) places for Aboriginal and Torres Strait Islander students in Charles Darwin University's undergraduate program and two (2) scholarships. To date, no Aboriginal and Torres Strait Islander students have entered through the undergraduate pathway. While a small number (<10) of school leavers have applied through the Indigenous Transition Pathway, none have been accepted. The development and introduction of a bridging course to support Aboriginal and Torres Strait Islander secondary school students into the program was identified as a strategy to support this transition.

10.2.3 Meeting student enrolment targets

Over the 2016-2018 period, the NTMP filled all 24 training places each year, as it has done since inception. While the Aboriginal and Torres Strait Islander student enrolment target was met in the first cohort in 2011, it has not been achieved since (see Table 10-1). It should also be noted that this cohort featured the eventual withdrawal of all participating Aboriginal and Torres Strait Islander students. Following a review of the program in 2014, a more rigorous application requirement was introduced.

Table 10-1 N	TMP Aboriginal and	Torres Strait Islander	student commenceme	nt and graduation	(2016	-2018)
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	2016	2017	2018	Total	Annual Target
Commencing	2	2	4	8	8
Graduating	4	1	0	5	8

10.2.4 Balancing meeting student enrolments and workforce fit

The Charles Darwin University Bachelor of Clinical Science program has a total of 12 places. Therefore, if students pass examinations, they progress into the NTMP. While NTMP staff undertake applicant interviews and participate in the selection of students applying for the graduate entry pathway, there is no interview process for Charles Darwin University students.

Stakeholders indicated the selection of students with commitment to, and aptitude for the Northern Territory context could be strengthened. The introduction of an interview for students applying through the Charles Darwin University pathway was suggested. Across the RHMT program the selection of students with a genuine interest in rural and remote and Aboriginal and Torres Strait islander health is challenging and runs the risk of gaming. The development of a multi-faceted selection process could be considered that includes a (hand written) expression of interest where the applicant demonstrates their understanding of and commitment to Northern Territory service, rural and remote health service delivery and Aboriginal and Torres Strait
Islander health, with a follow up interview for short-listed candidates. This type of approach has been progressed by James Cook University. In addition, ensuring training is available to interviewers to strengthen the assessment of students' aptitude for working in the Northern Territory context was identified as another approach to developing a fit-for-purpose medical workforce.

Currently, there is the risk of a vacant training place in the NTMP if the full complement of 12 students from the Charles Darwin University pathway do not transition. There would be benefit to both Charles Darwin University and Flinders University to develop additional capacity in the Bachelor of Clinical Sciences program to increase the viability of the course (offering pathways to other allied health or nursing programs) as well as increasing the robustness of selection of students into the NTMP.

10.2.5 Mentoring, support and teaching

The Elders on Campus program is challenged by ongoing vacancies in Darwin and Alice Springs. Stakeholders indicated the need for a pool of Aboriginal and Torres Strait Islander people to draw on to provide mentoring and support to students, teach into Aboriginal and Torres Strait Islander health topics, and act as standardised patients for student teaching and assessment. Maintaining a pool of Aboriginal and Torres Strait Islander people to undertake mentoring and teaching can be challenging.

10.3 Supporting course progression and completion

10.3.1 Supports specific to Aboriginal and Torres Strait Islander students

While the evaluators were provided with student enrolment and progression data since the commencement of the program in 2011, the small number of Aboriginal and Torres Strait Islander student enrolments limits specific comment about student retention. Excluding the 2011 cohort, between 2012 and 2018, 19 Aboriginal and Torres Strait Islander students have enrolled in the program with eight (8) graduating by the end of 2018. In relation to non-Indigenous students, approximately 80% complete the course within four (4) years, with the remainder usually completing within a further two (2) years. Across cohorts, 1-2 students typically withdraw.

Clinical and academic staff recognise the need to develop additional strategies to better support Aboriginal and Torres Strait Islander students to complete the NTMP. As identified above, Flinders Northern Territory has difficulty maintaining a stable Aboriginal and Torres Strait Islander Education and Support team, impacting across the student training continuum.

Flinders University is seeking to review the medical curriculum to scaffold Aboriginal and Torres Strait Islander and community engagement across the program. Consideration is being given to whether other knowledge and competency assessment mechanisms should be developed that may be better suited for Aboriginal and Torres Strait Islander students in addition to, or in place of, multiple-choice questions.

In the immediate term, stakeholders identified strategies to better support Aboriginal and Torres

Strait Islander medical students to complete the program. These include:

- Expanding the Elders on Campus program to provide cultural mentoring and support to students while on placement in Nhulunbuy, Katherine and Tennant Creek, recognising that it is currently Darwin and Alice Springs centric (when positions are filled)
- Introducing a tutoring program that commences at orientation and continues across the program, including assistance in developing study skills and systems for study
- Establishing opportunities for Aboriginal and Torres Strait Islander students to regularly meet and develop a peer network (across years)
- Placing students in pairs wherever feasible (while ensuring they are well supported academically and culturally)

A re-structure of the Flinders University medical faculty commenced in 2018 with significant changes, including a change in leadership and integrating the South Australia rural medical program and the NTMP to establish a Central Corridor medical program. This transition was ongoing at the time of the evaluation. Addressing some of the issues identified in the evaluation may be in development or underway.

10.3.2 Supports to all NTMP students

Flinders University has a total of 54 properties across Darwin, Alice Springs, Katherine, Nhulunbuy and Tennant Creek to provide accommodation to medical, nursing, allied health and dental students on placement from Flinders University as well as other universities. Northern Territory General Practice Education (NTGPE) has accommodation in more remote communities for GP Registrars (i.e., Tiwi Islands, Port Keats, Jabiru, Maningrida) and can be used for short term student placements when available.

The university provides accommodation and Year 3 students pay a fee of \$50/week. Students receive up to \$1500 to assist with travel to remote placement locations. For Year 4 students completing the Remote Package in Nhulunbuy and Alice Springs, accommodation and travel is fully funded to support 'additional' remote placement opportunities.

10.4 Promoting Aboriginal and Torres Strait Islander health

The intent of the NTMP is to graduate doctors with a grounded understanding of the delivery of medical care in the Northern Territory environment and well-developed knowledge of rural and remote health and Aboriginal and Torres Strait Islander health. The evaluators investigated the extent to which Aboriginal and Torres Strait Islander health is incorporated into the curriculum.

The NTMP delivers the Flinders University medical curriculum inclusive of the Aboriginal and Torres Strait Islander health component. The curriculum is developed by Poche Adelaide and contextualised for local delivery. In the first semester of Year 1 this includes the Katherine Remote Health Experience and an Aboriginal and Torres Strait Islander health topic. A Clinical Encounter Assessment at Royal Darwin Hospital is a component of the Aboriginal and Torres Strait Islander health topic supporting early engagement with Aboriginal and Torres Strait Islander people from across the Northern Territory. In preparation for students' clinical years, team-based learning in Year 2 includes Aboriginal standardised patients (although there can be limited availability). Aboriginal and Torres Strait Islander health OSCE are included in exams focusing on teamwork, advocacy and communication.

Across stakeholder groups the Katherine Remote Health Experience was frequently identified as a highly valued and high-quality learning experience for students.

Katherine Remote Heath Experience

The Katherine Remote Health experience (RHE) is a three day inter-professional, experiential learning activity where all participants learn about remote and Aboriginal and Torres Strait Islander issues in context. It is a collaborative event between Flinders University and Charles Darwin University, and representatives from Wurli-Wurlinjang, Sunrise Aboriginal Health Services, Katherine District Hospital, St John's Ambulance and the Banatjarl Strongbala Wumins Grup. The Remote Health Experience models the inter-professional training and practice that people will encounter in their course placements and remote practice. It is designed to focus attention on the inter-professional relationships and decision making in resource poor environments for health service delivery.

Objectives:

- 1. Developing an understanding of remote health
- 2. Improving inter-professional communication and respect for other professions and
- 3. Improving understanding and confidence in working with Aboriginal clients

80 students attend, including all first-year medical students of the NTMP, Aboriginal and Torres Strait Islander Health Practitioner students from Batchelor College, nursing students from Flinders University and Charles Darwin University, pharmacy students from Charles Darwin University, and a variety of allied health students from IAHA and from other universities.

Day-one includes a traditional welcome ceremony, overview of what is remote health and, the roles of different professions in remote areas. There is a cultural fire with Aboriginal story telling in the evening.

On **Day-two**, students are broken into interprofessional groups and attend skill stations. In 2019, skill stations included:

- 1. Medical consultation Telephone Call
- 2. Cannulation
- 3. Foot examination
- 4. Triage by St John's Ambulance
- 5. Management of an anaphylaxis emergency
- 6. Promotion and trachoma screening

Day three includes a tour of Katherine hospital and bush medicine with the Banatjarl Strongbala Wumins Grup.

Each year individual sessions are evaluated and have consistently been rated as highly valued by students.

Student Comments

This experience is so unique to NT and I am glad to have had the pleasure to participate. It has been very valuable for me to take away things from both medical and remote service provision. I have learnt a lot and definitely gained appreciation of remote health work. As this experience was directed to medical + students, it has prompted me to brainstorm more about how I can contribute to remote health as an OT.

Thank you ever so much. I'll never forget this experience. Has provided me a basic introduction to being a remote area nurse. Definitely want to go down this path in my nursing career.

By far my favourite part of the weekend was the Aboriginal cultural learning and listening to the Jawoyn ladies.

It was beautifully explained how the roles of the different health workers overlap yet work together to provide a service which is best for the community.

Focus group with medical students indicated the practical value of this immersion:

- Understanding the role of the Aboriginal Health Worker and *"set them up for the Danila Dilba (ACCHO) placement"*
- Developing an understanding of challenges facing Aboriginal patients in hospital and away from their community and family enabling a conversation 'opener' when having difficulty engaging with a patient in hospital

The importance of scaffolding Aboriginal and Torres Strait Islander health into the curriculum was identified by students. NTMP students in the pre-clinical stage felt that Aboriginal and Torres Strait Islander health was not being built on over the course of the program and could be strengthened through 'application/practical learning' e.g., simulations using interpreters, use of standardised patients and inclusion of Aboriginal and Torres Strait Islander health issues into team-based learning. The planned review of the medical curriculum should address issues raised by students.

In the clinical years community placements in the ACCHOs in Nhulunbuy (Miwatj and Laynhapuy), Darwin (Danila Dilba Health Service) and Alice Springs (Central Australia Aboriginal Congress) incorporate Aboriginal and Torres Strait Islander health into the GP block and provide context to learning in the pre-clinical years. There is also ongoing exposure to Aboriginal and Torres Strait Islander health issues and engagement with patients and families in the regional hospitals. Students indicated that placements in more remote sites provided students with a better understanding of the community environments and resources available

when they were treating people from the regions at Royal Darwin Hospital.

Early and ongoing exposure to Aboriginal and Torres Strait Islander health and engagement with Aboriginal patients through the NTMP was identified as a point of difference for students from other universities, including Flinders University South Australia. A focus group with medical students from several universities who were undertaking elective clinical placements in Alice Springs indicated that within their programs Aboriginal and Torres Strait Islander health was not scaffolded into the course and there was limited practical application. The universities used different approaches including several hours of tutorials in Year 2; scattered lectures in Year 1 and Year 2 and a cultural day; assignment-based research subject. Students (from across universities) are looking for practical strategies to develop contextual understanding of Aboriginal and Torres Strait Islander health and ability to engage effectively and respectfully with Indigenous people.

Scaffolding rural, remote and Aboriginal and Torres Strait Islander health as assessable subjects in preclinical and clinical years with barrier assessments was identified by several Flinders University Northern Territory staff members as a mechanism to strengthen the medical curriculum to match the intent of the NTMP. This would be of value across the Flinders University medical program as it moves to the development of the Central Corridor structure.

10.5 Student Placements

Under the RHMT program agreement, Flinders University Northern Territory supports the delivery of placements for medical students undertaking the NTMP, students from Flinders University South Australia and, is required to support a minimum number of students from other universities for six week placements.

Flinders University Northern Territory medical placement data submitted to Department of Health demonstrates a variety of short and long term placements in remote Northern Territory hospitals and GP clinics. Note that the reported data include NTMP students as well as students from other universities and that students may have completed more than one placement during the year. Placements occurring at locations with hospitals serviced by rural generalist such as Nhulunbuy and Katherine may also have been double counted under hospital and general practice. Table 10-2 summarises medical placements provided by Flinders Northern Territory, by clinical setting and region (2018).

Placement setting		Hospi	ital		Ge	neral	prac	ctice	Placements	International	Tiwi Is	Wadeye	Yuendumu	Wurli AMS	Sunrise AMS	Elcho Is	
						Short	term	placen	nents								
Region	Darwin	Alice Springs	Katherine	Nhulunbuy	Darwin	Alice Springs	Katherine	Nhulunbuy	Darwin	Alice Springs	Darwin	Darwin	Alice Springs	Katherine	Katherine	Nhulunbuy	Total
Placements	210	116	7	13			3	13	10	3	1	1	10	2	1	1	391
Placement weeks	1211	632	56	76			13	70	42	23	4	4	60	8	4	6	2209
					Long-	term	place	ments	(6 mc	onths)						
Placements	42		6	4	21	3	6	4						6			92
Placement weeks	840		40	40	420	60	40	40						40			1520
Long-term placements (12 months)																	
Placements	7	4															11
Placement weeks	280	160															440

 Table 10-2
 Flinders University Northern Territory medical placements, by clinical setting and region (2018)

Target A2 requires Flinders University Northern Territory to support at least 20 domestic medical students per calendar year (not drawn from the NTMP) to undertake a minimum of six (6) consecutive months of clinical training rurally. The placements must occur throughout the Northern Territory, rather than in Darwin. Flinders University Northern Territory met this target consecutively over the consolidation period, increasing the number of students undertaking six-month rural placements from 20 in 2016 to 36 in 2018 (see Table 10-3).

Table 10-3 Domestic graduates completing six-months of rural placement in the Northern Territory (2016-
2018)

	2016	2017	2018	Target
Students	20	24	36	20

Target A3 requires Flinders University Northern Territory to provide six weeks of structured residential rural placement to at least 100 medical students in an RA2-5 area. The program exceeded Target A3 in 2016, 2017 and 2018. NTMP students constituted the majority of residential rural placements.

	2016	2017	2018	Target
NTMP students	215	144	106	
Other university students	4	85	98	
Total	219	229	204	100

Table 10-4Residential rural placements of at least 6 weeks duration (2016-2018)

The NTMP also supports elective placements of 4-5 weeks duration for students from the University of Melbourne, University of Sydney and Griffith University. Short-duration elective placements were not detailed in the Core Requirement report as they do not meet the Department's minimum requirement of 6 weeks.

10.5.1 Quality of training experience

The evaluation of the training experiences for other universities participating in the RHMT program has predominantly focused on the RCS experience. However, for the NTMP the whole program has been considered.

Students and recent graduates were generally very positive about their learning experiences. In particular, students and junior doctors identified the value of being a small group resulting in opportunities to integrate into clinical teams and being given responsibilities; feeling respected by consultants and the team; adequate patient exposure; well planned and opportunistic learning experiences e.g., impromptu organisation of OSCEs in response to a student learning request on placement; inclusion of Aboriginal and Torres Strait Islander health OSCEs. Early and frequent exposure to working with Aboriginal patients such as the clinical encounter assessment in Year 1, and placement with Danila Dilba Aboriginal Health Service in pre-clinical years, increased their confidence in engaging with patients. Students reported applying some of their learnings from the Katherine Remote Health Experience Weekend in the conversation with patients in the hospital.

In relation to the clinical years, the evaluators applied the quality placement rubric which considers:

- · Access to free or highly subsidised accommodation
- Written advice to students about local amenities and opportunities
- Clinical training experience specifically relevant to rural job opportunities
- Regular access to medical educators
- Students have access to organised inter-disciplinary learning opportunities
- Face to face orientation to clinical placement and location
- Face to face cultural competence training relevant to the location
- Placement includes planned and structured engagement with Aboriginal and Torres Strait Islander health services and/or community organisations

- Detailed pre-placement information provided
- Students have opportunity to debrief with RCS staff about clinical placement and personal issues

Drawing on consultations across stakeholder groups, the quality of placement as it relates to the student experience is rated as Very Good. In particular, the planned and structured placements with the ACCHOs strengthens knowledge of primary health care and offers interdisciplinary training opportunities in the real-world setting.

10.5.2 Supervision and Teaching

NTMP students are supervised by medical specialists, registrars and junior doctors across the five hospitals in the Northern Territory. The NTMP has conjoint appointments for Clinical Deans at both Royal Darwin and Alice Springs Hospital. Much of the clinical teaching and delivery of team-based learning in Years 1 and 2 is by medical specialists in Royal Darwin and Alice Springs Hospitals. GPs and Northern Territory District Medical Officers (DMOs) supervise medical student placements in general practices, ACCHOs, and remote clinics often in conjunction with Nurses/ Remote Area Nurses.

Enablers to develop supervision and teaching capacity

The NTMP is built on partnerships between Flinders University Northern Territory, the Northern Territory Government, Top End Health and Central Australia Health Service, including the five hospitals, the Aboriginal Community Controlled Health Sector, Palmerston GP Superclinic, private general practices and Northern Territory General Practice Education. As the intent of the program is to provide a medical workforce equipped for the Northern Territory with a return-of-service obligation, each partner can directly benefit from the collaboration facilitating their contribution to good teaching and supervision. The development and implementation of integrated medical education and training strategies in East Arnhem is an example of what can be achieved through effective and sustained partnerships. (See Case East Arnhem Study below)

NTGPE in partnership with the NTMP conducts clinical supervision training for GPs to become accredited supervisors of GP registrars through a structured one day program and series of workshops planned over a two year period. This supervision training extends to medical student placements.

NTMP alumni are increasingly becoming evident in Northern Territory hospitals, teaching into the program and 'recent' enough to connect with students and demonstrate available career paths.

Flinders University Northern Territory professional staff organise student placement rosters and seek to minimise the administrative burden on general practices and ACCHOs facilitating the placement of students.

Investing in a regional education and training strategy to build a sustainable rural generalist workforce in East Arnhem

Over the last ten years, the medical workforce servicing the East Arnhem Region has changed as a result of a coordinated and collaborative regional workforce approach with strong emphasis on medical education and training.

In 2008, the medical workforce in Nhulunbuy included 10 doctors working in the Gove District Hospital (GDH) providing acute care, inpatient, emergency, anaesthetics and obstetric services, as well as managing the District Medical Officer service to NT government primary health clinics and the aero retrieval service for East Arnhem. This staffing mix included one GP fellow, 2-3 GP Registrars and career medical officers. GDH medical staff usually stayed 12-18 months. There were 3 GPs working with Miwatj Aboriginal Health Corporation, one GP working in the private practice and 1 doctor working for Laynhapuy Homelands Health usually on a part time basis.

Under this model, the region had a total of 15 doctors providing hospital care, primary health care and aeromedical retrievals.

The East Arnhem Region now has over 40 doctors including 25 doctors working as, or training to become Rural Generalists through GDH. The average length of stay of senior doctors at GDH has improved significantly from 18 months to over 60 months during the same period

Through sustained investment in education and training by Northern Territory DOH, NTGPE and Flinders University Northern Territory across the public, private and ACCHO sectors, the medical workforce is supporting Rural Generalist training, prevocational and medical student education and training.

Key Partners

The key partners in the collaboration include:

- Northern Territory Department of Health
- GDH
- East Arnhem Primary Health Care branch of Top End Health Service
- Miwatj Health Aboriginal Corporation
- Laynhapuy Homelands Health
- Endeavour Medical Service until 2017 and Arnhem Family Medical Practice from 2017
- Flinders University NT
- NTGPE
- Remote Vocational Training Scheme
- Medical Education Unit, Northern Territory Department of Health
- Northern Territory RTH.

Key Features of the Model

The regional partnership underpins the development of the medical workforce. This includes:

- Developing flexible regional supervision arrangements drawn from GPs and Rural Generalist working in the hospital, private practice, NT Government Primary Health Clinics and ACCHOs
- Taking a staged approach to increase the GP registrar, prevocational and medical student capacity as supervision capacity has increased
- Support from the Medical Education Unit to enable GDH Director of Medical Services and Royal Darwin Hospital to participate in selection of RMOs/ junior doctors for rotation to GDH prioritising those that had previously undertaken student placements in East Arnhem
- Working with NTGPE to offer GP training places to doctors that have worked as interns and/or prevocational doctors in the region enabling a streamlined general practice/ rural generalist pathway
- Offering part-time appointment with the GDH to doctors coming to the region combining their work with Miwatj, Laynhapuy and private General Practice enabling access to housing and benefits of the Northern Territory Department of Health EBA, expanding the pool for after-hours work and promoting integration of services and a regional workforce strategy.

This integrated training strategy supports the delivery of integrated health services where doctors work across community based and hospital settings, and patients benefit from improved continuity of care and better discharge. Furthermore, students and junior doctors have the opportunity for training across settings and follow patients as they move between community and acute care.

The emphasis of the rotations is to provide students and junior doctors access to a diverse and complex caseload; develop an understanding of the interaction of social issues and clinical presentation in considerations for management of care; have exposure to emergency, allied health and general practice; experience navigating the health system and applying evidence and best practice care in the remote health context.

The placements specifically seek to prepare 4th Year medical students for internship, and for 3rd Year students enhance history taking, diagnosis and management planning as well as offering support for exam preparation.

Expanding opportunities to exposing junior doctors to Rural Generalism contributes to an increase in vocational training (up to 15 registrars are trained every year) and, offers a regional Rural Generalist succession planning strategy.

Evaluation

The model has not been formally evaluated. However, the model was described by a range of informants as an exemplar recognising the importance of a sustained and collaborative approach underpinned by strong local leadership.

Sustainability - what's needed?

Important factors for the sustainability of the regional training model includes:

- Continuing and strong commitment between GDH and other local Health Services, Northern Territory Department of Health, NTGPE and Flinders University to support the regional training and workforce strategy
- Recognition of the clinical supervisors through conjoint appointments with the university and ongoing training to support vertical training GPs, GP registrars, junior doctors and interns all have a supervisory role. This includes developing skills in 'back seat' training i.e., where GP supervisors take a 'consultant training approach', and near to peer supervision.
- The GDH seen as an employer of choice, and East Arnhem as a preferred training ground for Rural Generalism.
- Ongoing financial support where GPs are appropriately remunerated through Medicare and PIP for supervision (in private practice and ACCHOs); reimbursement of salaries for Indigenous GP training posts; composite employment arrangements to gain the benefits of Northern Territory Medical Officer EBA and Northern Territory Public Service conditions for ACCHOs and Private Practice employees.
- Strategies to ensure continuity of private general practice in Nhulunbuy
- Increased job satisfaction and strong emphasis on flexible employment models to avoid professional burnout achieved by promoting composite employment.
- Embedding the model into the operational frameworks of NT Department of Health and TEHS, Flinders University and NTGPE to mitigate the risk of the training and employment model falling over when current leadership changes (at the East Arnhem, Top End/ Royal Darwin, or Territory level).

Challenges and Opportunities to build supervision capacity

Turnover of medical practitioners and attraction of doctors to the Northern Territory is an ongoing challenge to sustaining teaching supervision. Stakeholders identified a range of strategies to sustain supervision capacity and engagement. At a university level these include:

- Salary packages for Flinders University Northern Territory academics for parity with the health service including a retention allowance
- Hospital teaching and supervision positions jointly funded between Flinders University and Northern Territory Government i.e., conjoint recognition
- Increased recognition of specialists, GPs and Northern Territory academics by Flinders University linked into professional development and research support

At a Commonwealth level, changes to the Practice Incentive Program could better support innovative supervision recognising group student supervision and multidisciplinary supervision models employed in the ACCHO sector and Palmerston GP Superclinic.

Under the RHMT program agreement Flinders University Northern Territory is required to support short and long placements of students from other universities. Exposing students from

a broad number of universities to the Northern Territory has merit in generating future work interest. However caution is required in taking students on short term placements where supervision capacity may be stretched.

10.6 Workforce Outcomes

Up until 2019, NTMP graduates were required to complete a two year Return of Service obligation. This obligation increases to four years for students graduating in 2020 and onwards. The Return of Service obligation was viewed by students and recent graduates as advantageous in the current job market as they were guaranteed an internship and prevocational training posts and had knowledge of the potential locations of these positions. Students who will be impacted by the extension of the Return of Service obligation felt that four years largely covered their prevocational training period and would fit with vocational training decisions.

The 2016-2018 RHMT Program Report indicates the NTMP is having success in 'growing their own' workforce with 63% of graduates completing their return of service obligation continued to work in the Northern Territory. At October 2019:

- A total of 13 NTMP graduates had enrolled in GP training with the NTGPE indicative of a medium-term commitment to working in the NT
- The Palmerston GP Superclinic indicated that one NTMP graduate will be returning in 2020 as a GP registrar and three are planned for 2021
- There were eight Aboriginal and Torres Strait Islander graduates (since 2011) with the majority working in the Northern Territory.

Factors facilitating the Northern Territory workforce outcomes included:

- Development of junior doctor training and career pathways drawing together Commonwealth and Northern Territory government health workforce policies and investment. The East Arnhem case study demonstrates how the region has utilised multiple Commonwealth rural workforce initiatives, including the RHMT program, RJDTIF, and infrastructure investment, and aligned the Northern Territory Government medical workforce priorities to Grow Your Own and focus on Rural Generalism. In Katherine, NTGPE has partnered with Katherine Hospital to establish RJDTIF intern positions
- Increasing the number of GP Registrar training opportunities and hence early career jobs for NTMP gradates. For example, Central Australia Aboriginal Congress has increased the number of GP registrars it is training from three (3) to 11
- New GP Fellows are keen to teach. This increases medical student placement capacity and job satisfaction for the new Fellow
- Better selection mechanisms for Aboriginal and Torres Strait Islander students into the NTMP and assistance to address educational gaps prior to entry
- The RTH is building a community of practice through collaborations to support local training pathways tailored to remote and Aboriginal and Torres Strait Islander health
- Common interests and shared goals between TEHS, CAHS, RTH, NTMP, Northern

Territory General Practice Education to support medical workforce development and job opportunities

• Commitment of NTMP academic, clinical and professional staff to rural and remote health and supports offered through the Aboriginal and Torres Strait Islander Education Unit.

However, a lack of vocational medical specialist training opportunities in the Northern Territory presents a barrier to the long-term professional development and retention of NTMP graduates. Currently the only vocational training programs that can be fully completed in the Northern Territory are general practice; general physician training; specialty areas of alcohol and other Drugs, and public health; and psychiatry. Training requirements for the Fellowship of the Royal Australian College of Medical Administrators can be met while the position with the health service meets accreditation standards. As a result, graduates can be lost to other jurisdictions as they progress their specialist vocational training in other areas.

The GP Rural Incentive Retention Payment, a key Commonwealth rural workforce initiative has limited application in the Northern Territory. GPs working as DMOs in Northern Territory Government Primary Health Clinics are ineligible as they are salaried doctors. However, given the primary health care focus of their work and challenges in recruiting and retaining doctors in the Northern Territory, consideration could be given to reviewing this policy in the remote service context.

Consultations indicated that there was the potential to further increase GP training opportunities in the Northern Territory by progressing supervision models relevant to rural and remote locations such as the Remote Vocational Training Scheme.

10.7 Consolidation

In the Northern Territory, there has been a progressive consolidation process.

- RCSs were established in Katherine and Alice Springs in 2006, with Nhulunbuy commencing in 2007 under the Flinders University Northern Territory RCS.
- The NTMP was introduced in 2011, as a separate activity to the Flinders University Northern Territory RCS. It was originally funded through a National Partnership Agreement on Health Services with the Northern Territory Government with a Commonwealth funding contribution
- The 2014-15 Budget Measure, Northern Territory Medical Program continuation altered funding arrangements to progressively consolidate funding for the NTMP, the ITP and the Northern Territory RCS into a single funding agreement with Flinders University by the 2016-18 consolidation agreement.
- Funding for the Centre for Remote Health was included in the 2016-18 consolidation agreement.

Concerns were raised that the progressive 'consolidation' of the medical program over time, coupled with the inclusion of the Centre for Remote Health risks losing the focus on medical training in remote areas due to the higher costs of delivery.

Over time, the requirement for community boards has been removed from the RHMT program agreements. Stakeholders involved in supervision and teaching in the RCS sites indicated the importance of maintaining a formal community engagement mechanism to ensure community input into program design, delivery and quality improvement.

10.8 Recommendations: NTMP

Recommendations identified in Chapter 15 are relevant to the NTMP, with those outlined below targeted to strengthening specific aspects of the NTMP.

Strengthening pathways for Aboriginal and Torres Strait Islander Territorians into the NTMP

Flinders University has developed a Reconciliation Action Plan and is a signatory to the *Universities Australia Indigenous Strategy (2017-2020)*, providing a vehicle for the university and faculty to focus effort to progress and monitor activities relevant to implementation of the ITP and support Aboriginal and Torres Strait Islander student enrolments and graduation.

NTMP Recommendation 1:

Through the RHMT program, the NTMP establishes a bridging program for Aboriginal and Torres Strait Islander secondary school students into the Charles Darwin University Bachelor of Clinical Science program. To promote the NTMP to secondary school students, the Aboriginal Education Support Team utilise opportunities such as engagement with the IAHA health academy.

NTMP Recommendation 2:

Through the RHMT program the NTMP provide further support to Aboriginal and Torres Strait Islander students to complete the NTMP including:

- Expanding the Elders on Campus program for cultural mentoring and support currently offered in Darwin and Alice Springs, to Nhulunbuy, Katherine and Tennant Creek
- Introduce a tutoring program that commences at orientation and continues across the program, including assistance in developing study skills and systems for study
- Establish opportunities for Aboriginal and Torres Strait Islander students to regular meet and develop a peer network (across years)
- Place and support Aboriginal and Torres Strait Islander students in pairs wherever feasible.

Selection of undergraduate students into the NTMP

NTMP Recommendation 3:

To ensure NTMP graduates are 'fit for the Northern Territory context', the NTMP in collaboration with Charles Darwin University, could introduce a multi-faceted selection process that includes an expression of interest where the applicant demonstrates their understanding of and commitment to Northern Territory service, rural and remote health service delivery and Aboriginal and Torres Strait Islander health, with a follow up interview for short-listed candidates.

Promoting understanding and knowledge to improve the health status of Aboriginal and Torres Strait Islander people

Early and ongoing exposure to Aboriginal and Torres Strait Islander health and engagement with Aboriginal patients was identified as a point of difference for non-Indigenous students of the NTMP compared with students of other universities. Promoting understanding and knowledge to improve the health status of Aboriginal and Torres Strait Islander people could be strengthened by development of Rural, Remote and Aboriginal and Torres Strait Islander health assessable subjects delivered to students across the Flinders University medical program in preclinical and clinical years. The NTMP hosts students from the South Australia campus for short and long placements.

NTMP Recommendation 4:

The RHMT program encourage the NTMP, in conjunction with Flinders University SA campus, to develop Rural, Remote and Aboriginal and Torres Strait Islander health assessable subjects delivered to students across the medical program in preclinical and clinical years.

11. Dental Expanded Rural Placement Program

Six metropolitan universities are funded under the DTERP program. The DTERP program was included in the overarching RHMT consolidated program in 2016.

The DTERP was found to be largely operating in isolation from other components of the RHMT program at a university level. In most cases funding is administered through the medical faculty and allocated to dental faculties for implementation.

Rural Origin Dental students

Four of seven universities met their targets for rural-origin dental students in 2018.¹³ Programwide, however, the total proportion of rural-origin dental students exceeded the 2018 RHMT program target (13.8% vs 13.4%, respectively), likely reflecting the high proportion of ruralorigin students at James Cook University (65% in 2018).

Dental clinical placements

DTERP placements must be for a minimum of one month to a maximum of twelve months in a rural area. Placements can occur in public and private settings, such as the Royal Flying Doctor Service, Aboriginal Community Controlled Health Clinics and Residential Aged Care Facilities.

Placements for dental and oral health students are also supported by UDRHs.

DTERP supported dentistry students completed 332 rural placements and had an average placement length of 7.1 weeks. Dentistry students who were not DTERP supported but instead supported by a UDRH completed a higher number of rural dental placements (394 placements) and had a slightly longer placement length (8.0 weeks).

Placement location

Eighty percent of DTERP supported placements were in RA2 locations, followed by RA3 (11.2%) and RA4 (8.2%) locations.

Placement quality

The evaluation found that two thirds of the universities funded under the RHMT program for the delivery of extended rural dental placements were determined to be delivering placements of Very Good or Good quality. All programs were delivering dental services and contributing to meeting local service gaps.

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¹³ James Cook University does not receive DTERP funding but has had a RHMT program target for rural-origin dental students since 2016. Charles Sturt University does not receive DTERP funding and is not required to report rural-origin dental student enrolments.

Challenges for the delivery of the DTERP

Barriers to expansion of rural and remote dental placements include:

- ► The high cost of establishing clinics/chairs
- Availability of local supervisors and cost of supervision where this needs to be provided on an outreach basis
- Access to student accommodation
- ▶ High replacement cost of resources required for dentistry

Lesson learned

While student-led clinics provide significant benefit to service capacity, the majority of this is realised in inner regional areas (RA2). The capacity of the program to enhance services in smaller communities is limited by funding and availability of dental services (i.e. supervisors and dental chairs) in those areas.

11. Dental Training Expanded Rural Placements

11.1 Introduction

There is a maldistribution of dentists and allied oral health professional in Australia with 79% and 72% employed in major cities respectively (Health Workforce Australia, 2013). Most universities offer rural dental placements. Several regional universities were established to encourage students to stay in regional and rural areas upon graduating. Six metropolitan universities are funded under the DTERP, which was included in the overarching RHMT consolidated program in 2016.

The DTERP was found to be largely operating in isolation from other components of the RHMT program at a university level. In most cases funding (approximately \$400,000 per year) is administered through medical faculty and allocated to dental faculties for implementation.

11.2 Rural-origin dental students

In total, four (4) of seven (7) universities met their targets for rural-origin dental students in 2018.¹⁴ Program-wide, however, the total proportion of rural-origin dental students exceeded the 2018 RHMT program target (13.8% vs 13.4%, respectively), likely reflecting the high proportion of rural-origin students at James Cook University (65% in 2018).

	Commencing dental	Rural-origin dental	% Rural-origin
Year	students	students	dental students
2016	432	61	14.1%
2017	329	58	17.6%
2018	464	64	13.8%

Table 11-1	Rural-origin	dental students	(2016-2018)
	0		(/

Department of Health, RHMT program. Consolidation core requirement reports

11.3 Dental placements

DTERP placements must be for a minimum of one month to a maximum of twelve months in a rural area. Placements can occur in public and private settings, such as the Royal Flying Doctor Service, Aboriginal Community Controlled Health Clinics and Residential Aged Care Facilities.

Placements for dental and oral health students are also supported by UDRHs.

¹⁴ James Cook University does not receive DTERP funding, but has had a RHMT program target for rural-origin dental students since 2016. Charles Sturt University does not receive DTERP funding and is not required to report rural-origin dental student enrolments.

11.3.1 Placement numbers

DTERP supported dentistry students completed 332 rural placements and had an average placement length of 7.1 weeks. Dentistry students who were not DTERP supported but instead supported by a UDRH completed 394 rural placements with ad a slightly longer placement length (8.0 weeks).

Table 11-2 Number of DTERP placements and placement weeks completed by Australian students, 2018

	Number placements	Placement weeks	Average placement length (weeks)
Dentistry - DTERP	332	2354	7.1
Dentistry - not DTERP	394	3144	8.0
Oral health (dental hygiene and dental therapy)	88	798	9.1

A considerably higher proportion of DTERP placements were completed by International students in 2018 (27.5%) compared to 2016 (5%) and 2017 (8%).

Target 3c mandates that DTERP funded Universities need to deliver an agreed number of placement weeks annually. All DTERP funded Universities met Target 3c consecutively over the consolidation period.

11.3.2 Placement location

Eighty percent of DTERP supported placements were in RA2 locations, followed by RA3 (11.2%) and RA4 (8.2%) locations.

	Number placements	Placement weeks	Average placement length (weeks)
RA2	251 (75.6%)	1898 (80.6%)	7.6
RA3	40 (12.0%)	263 (11.2%)	6.6
RA4	41 (12.3%)	193 (8.2%)	4.7
RA5	0	0	-
Total	332 (100.0%)	2354 (100%)	7.1

Table 11-3Number of DTERP placements and placement weeks completed by Australian students, by
Remoteness Area (RA), 2018

11.3.3 Placement quality

The evaluation found that two thirds of the universities funded under the RHMT program for the delivery of extended rural placements were determined to be delivering placements of Very Good or Good quality. All programs were delivering dental services and contributing to meeting local service gaps. It should be noted, however, that the evaluation team did not have the opportunity to speak directly to dental students from every funded dental school.

There was limited evidence of interdisciplinary education and various arrangements for supervision. In some sites, supervision was provided by local clinicians, while in others, universities were largely reliant on non-resident dentists working on a drive-in/drive-out basis. There was limited evidence of engagement with other components of the RHMT program (i.e., UDRHs and RCSs at the local level). Placements rated of higher quality were supervised by local clinicians and/or delivering services in conjunction with Aboriginal community-controlled health services. Examples of high-quality DTERP programs are elaborated below.

Partnerships to deliver dental placements

The University of Queensland School of Dentistry has partnered with Goondir Health Service to provide dental care to Dalby (5 chairs) and St George (4 chairs). Over 80% of clients identify as Aboriginal and Torres Strait Islander and 90% are Goondir clients. Through this partnership to support student-led services, the waiting list for dental services has been reduced from four (4) years to less than a few months except for dentures. This is a very strong relationship between University of Queensland and Goondir that seems to be working well and offers a good model for others to replicate i.e., the Goondir service provides free of charge the infrastructure of five (5) patient rooms and facilities for the dental service. Both the Dalby and St George clinics offer student services 40 weeks per year. In 2019, there were 24 students placed in Dalby and 16 students in St George. Placements length was between 5-11 weeks. The University of Queensland School of Dentistry employs a supervising dentist and clinical coordinator at each location. The supervising dentists live in Brisbane and commute weekly. Dental accommodation is prohibitively expensive and has been subsidised by a donation from Colgate-Palmolive.

Dental placement model

All final-year University of Melbourne Dental School Doctor of Dental Surgery and Bachelor of Oral Health students have mandatory rural placements to Goulburn Valley and La Trobe Community Health Services of at least 4-6 weeks, with some undertaking placements of up to 12 weeks. Students on placements are provided with pastoral care, orientation, lectures, local clinical practice, clinical assessments and feedback sessions. Students in Goulburn Valley also rotate to smaller locations including Cobram, Rumbalara and Echucha. Some students also complete rotations with the Royal Flying Doctors Service (RFDS), providing screening and oral health education to rural communities.

The University of Melbourne Dental School also has a partnership with Miwatj Aboriginal Health Corporation in East Arnhem with students undertaking remote placements each year.

All students must complete a collaborative research project and submit a 2000-word written assessment task. Academic staff have been appointed in both regions to support the delivery of the program.

11.4 Challenges and barriers

As previously identified, approximately 80% of DTERP placements are occurring in RA2 areas. While there are some exceptions (e.g., extended dental placements in Goondir Aboriginal Health Service at St George and Dalby under the University of Queensland program; Miwatj Aboriginal Health in Northern Territory; extended dental placements in Broken Hill, University of Sydney with supervision by dentists employed by the RFDS), dental students generally have limited exposure to more rural and remote locations, and residents do not have access to general dental services that can be provided by final year dental students.

Barriers to expansion of rural and remote placements include the high cost of setting up chairs/ clinics, availability of local supervisors, the cost of supervision where this needs to be provided on an outreach basis, the high replacement cost of resources required for dentistry and student accommodation.

11.5 Benefits of rural placement

The benefit of rural and remote placements in developing a rural dental workforce is evident through the James Cook University program. Advice from Queensland Health indicated that the establishment of the James Cook University dental program has facilitated provision of a workforce for rural and remote communities in Queensland, producing dentists with a focus on general practice dentistry. They report approximately 75% of graduate dentists to rural Queensland come from the James Cook University program. It should be noted that the university's dentistry program is not funded under RHMT program.

12. Impact of Consolidation and Performance Management

The focus of this evaluation is the period 2016-2018, corresponding with the timeframe of consolidation of funding agreements for the RCTS, UDRH and DTERP into a single agreement between the Department and the respective universities.

The impact of consolidation was included as a key area of investigation for the evaluation particularly in relation to:

- Opportunities for interdisciplinary training
- Flexibility and innovation in delivery models
- Resource management, including staffing and funding
- Reporting and monitoring

The evaluation found limited examples of formalised, regular interdisciplinary training. Where it does occur interprofessional learning is an established pedagogy and is embedded in relevant curricula at the relevant university.

During the period of consolidation, there has been a considerable increase in the number of UDRH-supported placements, as well as the development of innovative service-learning models and placements in non-traditional services. However, these innovations have largely been driven by the increased funding to UDRHs rather than consolidation per se.

Under the current agreement, a maximum of 5% of the funding is able to be retained by the main campus of the university. Each university has a different faculty structure which determines how RHMT program funds are managed internally and how funds flow to different UDRHs, RCSs and dental programs. In spite of the consolidated agreement, most universities continue to operate UDRHs and RCSs as separate entities.

Strong support was expressed through the consultation process for maintaining the maximum 5% requirement. However, there was also considerable concern that this requirement alone is insufficient to ensure that the other 95% of the funding is actually spent in rural areas.

The consolidation has highlighted the complexity of internal university structures and the hierarchies therein. In some universities, there are ostensible underlying tensions between the medical and multidisciplinary divisions with respect to funding and autonomy.

Analysis of the funding schedule and feedback from program participants shows there is insufficient alignment and clear connection between the key elements of the operational framework of the RHMT program i.e. the overarching aim, objectives, and parameters that focus key areas of activity and articulate core requirements against which universities are required to report. The current reporting requirements do not distinguish between placements on the basis of quality or the level of engagement of the UDRH/RCS with individual students.

A number of concerns were raised during the consultations regarding administrative burden in combining reports from multiple organisational units, limited capacity to provide in depth qualitative reports on program implementation and the need to report against the parameters which obscures the nuance and complexity of some activities. Government changes to reporting processes has resulted in a disconnect between RHMT program sites and the policy arm of the Department.

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12. Impact of Consolidation and Performance Management

The focus of this evaluation is the period 2016-2018, corresponding with the timeframe of consolidation of funding agreements for RCTS, UDRH and DTERP into a single agreement between the Department and the respective universities.

Based on discussions with the Department, consolidation was expected to impact on program delivery in several ways:

- Reduced reporting burden for universities with previously separate programs
- Increased focus on workforce outcomes, driven in part by targets set for rural origin and Aboriginal and Torres Strait Islander enrolments and graduations
- Improved scope for interdisciplinary teaching and learning
- More focussed research agenda relevant to the aims and objectives of the program

During the same period, the Commonwealth also introduced new grants management processes impacting the RHMT program. Under these arrangements, the Department retains responsibility for policy and development of programs while the Community Grants Hub (the Hub) is responsible for administering grant programs.

The impact of consolidation was included as a key area of investigation for the evaluation particularly in relation to:

- Opportunities for interdisciplinary training
- Flexibility and innovation in delivery models
- Resource management, including staffing and funding
- Reporting and monitoring

12.1 Opportunities for interdisciplinary training

As highlighted previously in this report (see Chapter 4), the evaluation found limited examples of formalised, regular interdisciplinary training. Such training does occur and is embedded in delivery of the RHMT program at some sites, particularly where there is a single entity delivering both UDRH and RCS programs. Where this occurs, the consultation found that interprofessional learning is an established pedagogy and embedded in the curriculum of the university. University of Newcastle senior faculty members maintained that their rural colleagues were leaders in interprofessional learning and provided advice to other schools on implementation.

Many sites have simulation laboratories, predominantly as a result of funding grants through Health Workforce Australia. While these laboratories are often used for interprofessional learning, such sessions are generally ad hoc. The evaluation found no evidence that such sessions are the result of or have been particularly impacted by consolidation of the RHMT program.

12.2 Flexibility and innovation in delivery models

As described elsewhere in this report, there has been a considerable increase in the number of UDRH-supported placements, as well as the development of innovative service-learning models and placements in non-traditional services during the agreement period. These models have been supported by the development of flexible models of supervision, including cross-discipline supervisory arrangements and increased direct employment of allied health professionals by UDRHs. Evidence collected through the evaluation suggests that these innovations have largely been driven by the increased funding to UDRHs and corresponding increased targets for placement numbers, rather than by the consolidation of RHMT program components, per se.

12.3 Resource Management

Under the current agreement, a maximum of 5% of the funding is able to be retained by the main campus of the university. Each university has a different faculty structure which determines how RHMT program funds are managed internally and how funds flow to different UDRHs, RCSs and dental programs. In spite of the consolidated agreement, most universities continue to operate UDRHs and RCSs as separate entities.

Faculty heads and Deans interviewed for the evaluation indicate that the retained 5% funding is used to support human resource management, corporate structure, legal and contract management, management of accreditation of the curriculum and back office processes to sustain teaching in the regions. Most indicated that the university provides other in-kind support to the sites but this was not always clearly articulated. Examples included supporting research infrastructure, supporting rural and remote staff with continuing professional development, and placement office support.

Strong support was expressed through the consultation process for maintaining the maximum 5% requirement. However, there was also considerable concern that this requirement alone is insufficient to ensure that the other 95% of the funding is actually spent in rural areas.

A number of informants suggested that the previous requirement to demonstrate that the majority of staff live in rural areas, while a cumbersome reporting requirement, forced universities to expend funds in those areas. Evidence suggests an increasing use of fly-in/fly-out and drive-in/ drive-out workforce arrangements by some universities under the current agreement. Examples were also provided to the evaluation team of centralised bulk purchasing and other university-level functions resulting in reduced local spending on goods and services. RCS and UDRH managers who have been in their posts for a substantial period report successfully advocating for increased local purchasing in their communities.

Employing local staff is important to support both local health services and academic networks; model rural workforce roles to students; provide embedded leadership; support local communities economically and socially; and ensure educators and supervisors have a deep and nuanced understanding of rural practice. It is difficult to achieve these things through a fly-in/fly out or drive-in/drive-out workforce.

The consolidation has highlighted the complexity of internal university structures and the

hierarchies therein. In some universities, there are ostensible underlying tensions between the medical and multidisciplinary divisions with respect to funding and autonomy. A number of people interviewed for the evaluation expressed concern at the purported dominance of medicine and the potential of the consolidated RHMT program agreement to diminish universities' commitment to UDRH functions in favour of their RCS counterparts. Based on the financial information provided to the evaluation team, it is not possible to confirm specific instances of this occurring or to quantify the potential shifting of resources. It is noted, however—as a common theme arising in consultations and one worthy of consideration in future RHMT program agreements—that new accountability mechanisms are needed to ensure RHMT program funds are used in target communities for intended purposes.

12.4 Program requirements

The implementation of the RHMT program is guided by an overarching aim, objectives, and parameters that focus key areas of activity and articulate core requirements against which universities are required to report. Analysis of the funding schedule and feedback from program participants shows there is insufficient alignment and clear connection between each of these elements. For example, UDRHs and RCSs report on placement numbers and placement weeks (or months for long medical placements). Consultations clearly identified that the targets for UDRH placement numbers and placement weeks drive activity, but do not necessarily reflect delivery of high-quality rural experiences. The current funding system does not distinguish between placements that provide minimal student support (e.g., access to accommodation only) and high-quality service-learning placements that require investment by the UDRH to establish and support placements, employ clinical educators, and ensure continuity of services and client information as student cohorts transition through placements.

12.5 Reporting and monitoring

Since consolidation, universities have been required to provide a single report on all applicable program activity (UDRH, RCS, DTERP and RHC). For the majority of universities, these reports are essentially a compilation of separate reporting by each unit reflecting their operations as separate entities. A number of concerns about the reporting format were raised during the consultation including:

- Increased administrative burden in combining reports from multiple organisational units
- Word limits limited the depth and coverage of reporting on activities, particularly across multiple organisational units
- Reporting against parameters obscured the nuance and complexity of some activities, in particular with respect community engagement and development

In addition, universities raised concern about the administrative arrangements through the Hub. Specifically, informants noted that they received limited (or no) feedback on reports and when feedback was received, that Hub staff did not appear to have a good understanding of the RHMT program. Examples were cited of queries raised by Hub staff that did not reflect the universities' understanding of program requirements. Further, it was noted that communication

with the Hub is difficult as it can only be via email. Program participants felt that the policy arm of the Department had become less visible as a result of these changed administrative arrangements.

12.6 Summary

Overall, the evaluation found that the main impact of consolidation was on administrative arrangements rather than on key aspects of program delivery. RHMT program organisational units have generally continued to operate as they did prior to consolidation. That is, where UDRHs and RCSs were integrated, they remained so; where they were separate, they did not become more integrated. Increased funding to UDRHs appears to have had a more significant impact on the increase in placements and implementation of flexible and innovative approaches, particularly for allied health students, than consolidation.

13. Workforce Outcomes



Introduction

A key objective of this evaluation is to assess the extent to which the current design of the RHMT program is achieving its aim of increasing professional uptake and retention of health professionals working in rural, regional and remote Australia. This chapter seeks to answer two key questions:

- What has been the contribution of the RHMT program to rural workforce outcomes?
- What are the lessons learned for improving workforce outcomes?

This chapter describes:

- A synthesis of peer-reviewed publications of medical rural workforce outcomes including predictors for rural medical practice
- A synthesis of studies of workforce outcomes following rural training for nursing, allied health and dental students
- Findings of the national Multidisciplinary Health Workforce Survey
- Enablers and barriers to rural workforce conversion following rural training
- Current graduate tracking processes.

Medicine

There is a significant body of peer-reviewed evidence indicating that training medical students in rural settings increases their uptake of rural practice after graduation. After controlling for rural background, RCS participants are significantly more likely to take up rural practice. Combining placements in general practice and rural hospitals are associated with subsequent practice in smaller regional and rural areas. Longer rural placement duration (>1 year), greater remoteness of placement(s) and increased number of rural experiences during undergraduate training have stronger relationships with doctors choosing rural work.

Predictors of rural medical practice have been synthesised from the literature.

Predictor	Odds Ratio range (95% CI)	References		
Duration of RCS placement:				
1 year	1.79 – 2.85 (1.15 – 4.58)	Kondalsamy-Chennakesavan et al. (2015); Kwan et al. (2017); O'Sullivan et al. (2018); Playford et al. (2017)		
Greater than 1 year	3.0 (2.3 – 4.0)	O'Sullivan and McGrail (2020)		
2 years	2.26 – 5.38 (1.54 – 9.20)	Kondalsamy-Chennakesavan et al. (2015); Kwan et al. (2017); O'Sullivan et al. (2018)		
2+ years	4.43 (3.03 – 6.47)	O'Sullivan et al. (2018)		
Remoteness of Placement				
MM 2-3	1.3 (1.1 -1.6)	O'Sullivan and McGrail (2020)		
MM 4-7	1.8 (1.5-2.1)			
Rural background	2.10 – 3.91 (1.37 – 7.21)	(Kondalsamy-Chennakesavan et al., 2015; Kwan et al., 2017; McGirr et al., 2019; O'Sullivan et al., 2018; Playford et al., 2017)		
Rural return of service obligation	1.63 – 2.34 (1.19 – 3.98)	O'Sullivan et al. (2018)		
Placement setting:				
Regional hospital	1.94 (1.39 – 2.70)	O'Sullivan et al. (2018)		
Regional hospital and rural general practice	3.26 (2.31 – 4.61)	O'Sullivan et al. (2018)		
Rural general practice only	1.91 (1.06 – 3.45)	O'Sullivan et al. (2018)		
Rural internship	3.90 (1.9 - 8.0)	Woolley et al. (2014)		
GP (vs non-GP specialist) training	3.44 (2.16 – 5.47)	Kwan et al. (2017)		
Prevocational (vs specialist)	1.39 (0.78 – 2.48)	Kwan et al. (2017)		
International student	5.70 (3.92 - 8.27)	O'Sullivan et al. (2018)		
Aboriginal and Torres Strait Islander heritage	5.6 (1.2 – 26.9)	Woolley et al. (2014)		
Rural background (vs metro) of partner	3.08 (1.96 – 4.84)	Kondalsamy-Chennakesavan et al. (2015)		
Single (vs married)	1.98 (1.28 – 3.06)	Kondalsamy-Chennakesavan et al. (2015)		

Nursing, allied health and dental

Relative to the research literature on RCS program effectiveness, few studies have looked into the workforce outcomes associated with rural placement programs for nursing, midwifery allied health and dental students. Several studies have found a positive association between completing at least one rural placement, longer duration of rural exposure and future work in a rural area for allied health and nursing. One study found that dental students who had participated in rural clinical placement programs were more than twice as likely to work rurally than those who had not.

Multidisciplinary Health Workforce Survey

The Multidisciplinary Health Workforce Survey undertaken as a component of this evaluation, allows for a comparison of graduates' workforce outcomes while controlling for a range of factors such as rural upbringing and intent to practise rurally in the future. The survey sought to determine the extent to which current rural work among nursing, midwifery, and allied health graduates is attributable to rurally based clinical placements (ASGS RA2-5), distinguishing between allied health and the nursing and midwifery disciplines. The survey cohort were nursing, midwifery and allied health graduates from 2005-2018, including people who had and had not completed rural placements irrespective of whether their rural placement was supported through a UDRH.

The results demonstrate that, on average, graduates who had the most rural clinical placement experience are now working more in regional, rural and remote Australia (ASGS RA2-5) than graduates who did not do a rural clinical placement.

- Allied Health: 12.07 more hours per week (0.32 FTE)
- Nursing & Midwifery: 18.02 more hours per week (0.47 FTE)

These estimated workforce impacts were statistically significant at the 99% confidence level (p-value <.01). Post-estimation diagnostics indicate that observations were appropriately matched in both models.

Survey participants indicated the most important reasons for their current workplace location. Respondents were grouped according to the amount of work they currently do in rural areas (ASGS RA2-5). Key points:

- Irrespective of where they work, all of the allied health professionals and nursing and midwifery respondents cited 'Opportunities for my own professional advancement,' 'Preferred lifestyle' and 'Proximity to my partner, family and/or friends' as central reasons for their choice of primary work location.
- Metropolitan-based professionals were statistically significantly more likely to cite the location of their professional networks as a top motivation for their choice of work location.

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• Rurally based respondents were significantly more likely than metropolitan-based professionals to cite 'Cost of living,' 'Commitment to the health of this particular community,' and 'I had a positive training experience in a similar community whilst at university' as main reasons for undertaking a larger amount of rural work.

This latter finding indicates that ensuring students have a positive experience on such placements is important to their subsequent retention in rural practice.

The rural workforce literature generated through the RHMT program identifies the enablers to rural workforce conversion to include:

- Availability of early career and speciality training and employment opportunities in rural areas
- Positive rural undergraduate training experiences
- Supportive policies at jurisdictional level to foster rural career pathways

The barriers to rural workforce conversion include:

- Lack of education opportunities for practitioners' children and professional opportunities
- for partners, noting these are also cited as barriers to rural workforce recruitment and retention as well as conversion following rural training
- Limited rurally based prevocational and vocational training opportunities for medicine
- Limited availability of early career employment opportunities particularly for allied health professions
- Metropolitan-centric approaches of medical specialist colleges to training requirements

Tracking rural health workforce outcomes

Medical

The national consolidation of health practitioner registration data under Ahpra has enabled workforce tracking linking student-level university records with work location and can be used to evaluate rural workforce education and training initiatives such as the RHMT program. While this has been used and refined over time for medicine it continues to be resource intensive i.e. an estimated 10 to 15 FTE employees are directly funded by the RHMT program to manage graduate tracking databases.

Although a number of participating RHMT program funded universities have evaluated the impact of their own medical programs in terms of participants' post-program career pathways, methodological inconsistencies between single-institution studies largely precludes quantitative comparison of RCS workforce outcomes.

Allied health and nursing

A new requirement of the UDRHs under the 2016-2018 RHMT program agreement was to track multidisciplinary participants' workforce outcomes. Notwithstanding recent data linkage opportunities, the longitudinal tracking and analysis of graduates' workforce outcomes remain expensive and time-consuming for universities. Whilst there may be opportunities to develop a national data linkage mechanism between universities and Ahpra for the purpose of tracking multidisciplinary workforce outcomes over time, such a linkage would likely exclude allied health professionals not required to register with Ahpra.

Lessons Learned

The research generated through the RHMT program provides a strong body of evidence for the predictors of rural practice offering a sound framework to inform future rural training models.

In recognition of the system level factors that contribute to rural practice, universities should be accountable for measuring and reporting against those factors that are within their direct control and those factors where they have influence. Suggested metrics against which the universities should report include:

- Rural origin
- Placement duration
- Placement setting
- Placement rurality
- Number of rural placements undertaken by a student
- Transition to rural work i.e. for medicine location of internship/prevocational post; allied health, nursing and dental location of first job
- Student assessment of placement quality (using rubric) indicative of positive learning experience to promote transition to rural work.

Concurrent to the RHMT program evaluation, the Commonwealth has funded MDANZ to undertake the annual Medical Schools Outcome Database (MSOD) survey and national trend report and to explore a potential data linkage with Ahpra. However, as graduate outcome is a key metric to link training with the aims of the RHMT program, universities will need to continue to track medical graduates until a reliable replacement is operational. Therefore, there needs to be consistency of methodology and variables to enable comparison of medical graduate outcomes following rural training across universities.

13. Workforce Outcomes

13.1 Introduction

A key objective of this evaluation is to assess the extent to which the current design of the RHMT program is achieving its aim of increasing professional uptake and retention of health professionals working in rural, regional and remote Australia.

The initial design of the evaluation had proposed two national workforce surveys – one targeting medical graduates and a second targeting allied health and nursing graduates to investigate whether there was an association between student rural clinical placements and amount of rural work following graduation. However, the ERG advised against pursuing the medical workforce survey because:

- The RHMT program medical survey would have occurred at the same time as a national medical training survey to inform the National Medical Workforce Strategy and there was concern that survey fatigue could negatively impact on both surveys
- Universities are requires to track medical graduates and it was felt that the evaluators could draw on the resultant publications to make an assessment of rural medical workforce outcomes while noting differences between universities on variables collected.

It was acknowledged that there is very little published on the impact of rural clinical training for nursing and allied health students on workforce outcomes, with most publications focused on 'intent' for rural work. Therefore, it was agreed that the national multidisciplinary health workforce survey proceed.

This chapter seeks to answer two key questions:

- What has been the contribution of the RHMT program to rural workforce outcomes?
- What are the lessons learned for improving workforce outcomes?

This chapter describes:

- A synthesis of peer-reviewed publications of medical rural workforce outcomes including predictors for rural medical practice
- A synthesis of studies of workforce outcomes following rural training for nursing, allied health and dental students
- Findings of the national Multidisciplinary Health Workforce Survey
- Enablers and barriers to rural workforce conversion following rural training
- Current graduate tracking processes.

13.2 Medicine

There is a significant body of peer-reviewed evidence indicating that training medical students in rural settings increases their uptake of rural practice after graduation. All RCSs have begun
tracking the career pathway of graduates over time linking student-level university records (student demographic and academic data), FRAME survey records (RCS experiences) and the MSOD survey (career intent) with longitudinal data from Ahpra for annual primary practice location.

A number of studies have found that RCS participants are significantly more likely than nonparticipants to take up rural professional practice and have highlighted the importance of rurally based clinical training in preparing students for the unique challenges of rural medical practice associated with social, professional and geographic isolation (see, for example, Eley et al., 2012; Kondalsamy-Chennakesavan et al., 2015; Kwan et al., 2017; Moore et al., 2018; Playford et al., 2014).

In an inter-university study of 12 RHMT programs across Australia, McGirr et al. (2019) found that RCS graduates were 1.5 times more likely than non-RCS participants to be in practice outside of major cities (ASGS RA2-5) and 2.6 times more likely than non-RCS participants to be practising in a rural or remote location (MM 3-7). These results accord with those of other recent studies that control for a broad range of confounding factors (see, for example, O'Sullivan et al., 2018 below). Importantly, McGirr et al. (2019) also demonstrated that rural workforce outcomes vary significantly between RCS programs, with the proportion of universities' individual program graduates working rurally five years after graduation ranging between 5.8% and 55.6% for RA 2-5 and 4.5% to 29.9% for MM3-7.

Several studies have suggested that the workforce benefits of rurally based training extend to a diversity of students i.e. not only rural origin students, and that RCS recruitment should therefore include metropolitan-origin students (see, for example O'Sullivan et al., 2018; Playford et al., 2014; Playford et al., 2015; Playford et al., 2019). Given the larger absolute number of metropolitan-background students relative to their rural-background counterparts, urban-background students will continue to play an important role in the sustainable development of the rural health workforce.

While the available evidence suggests that extended rurally based training increases the likelihood of recruitment and retention in subsequent rural practice, to what extent does RCS participation increase the likelihood of taking up professional practice in more remote locations in Australia?

Among rural practitioners in Western Australia, RCS participation increased the likelihood of practice in an "outer regional, remote or very remote location relative to inner regional practice" (Playford et al. (2015). Likewise, Campbell et al. (2019) found that placement setting has an influence on work location where students immersed in general practice and hospital care in small rural communities were significantly more likely to take up professional practice in smaller regional and rural centres. Furthermore, clinical placements longer than one year in a combination of clinical settings were associated with subsequent practice in smaller rural localities (O'Sullivan et al., 2018). After controlling for a wide range of potential confounders, including rural background, age, sex, direct or graduate course entry, postgraduate year, international student status (domestic or international); self-reported interest in future rural practice at commencement; and recipients of either a Bonded Medical Place or Medical Rural Bonded Scholarship, there was a clear positive association between rural clinical placement duration and rural practice uptake. Further, the authors suggested that "training students across

a range of rural settings [...] may help to prepare them for the full realm of rural practice, by building skills and networks in both acute and community care" (pp. 810-811).

Research has highlighted the increasingly mobile nature of the medical workforce and of the rural medical workforce in particular (see Moore et al., 2018; Playford et al., 2016; Playford et al., 2019). Studies have shown that irrespective of training setting, the proportion of graduates working rurally tends to increase over time, suggesting that medical professionals may become more amenable to rural practice after an initial period working in cities. Furthermore, while a substantial proportion of RCS graduates go on to practice rurally, very few do so exclusively. Most will spend at least some time in metropolitan practice after graduation. In a six year longitudinal cohort study of Western Australia medical students, 1 in 2 rural origin students who had undertaken a RCS immersion were working rurally compared to 1 in 10 graduates of urban background with no RCS immersion. Furthermore, RCS participants were more likely to sustain work in more remote areas compared to non-RCS participants. While the proportion of graduates practising in RA3-5 compared to RA2 did not differ significantly between groups at the start of the study (2014), at the end of the study (2018) the proportion practising in RA 3-5 was significantly higher for both RCS groups (rural and urban origin) compared to the urban origin and no RCS group (Playford et al., 2019). This supports an earlier study where Playford et al. (2016) showed the impact of (some forms of) rural training to be durable over the longterm, with some 44% of RCSWA graduates found to persist in rural practice up to 10 years after graduation.

Of key interest to policy makers concerned with the efficacy of the RHMT program is the extent to which extended rural training placements mediate pre-existing interest in rural practice. While Herd et al. (2017) found that incoming RCS participants' self-reported preference for future rural practice was the most consistent predictor of their subsequent practice location preferences, Playford and Puddey (2017) suggest that rural training placements play an important role in the consolidation and operationalisation of rural practice intent among trainees irrespective of pre-existing intent. Among the possible explanations for the apparent relationship between having undertaken an extended rural clinical placement and a successful transition into a rurally based internship, Clark et al. (2013) identified pre-existing interest in future rural practice, greater exposure to a range of disciplines relative to metropolitan-based training, smaller student cohorts, enhanced interaction with educational staff and clinical supervisors, the opportunity to develop more holistic perspectives on community health issues, and the broader appeal of life and professional practice in the rural environment.

A national cross-sectional study examining the influence of short and long-term rural undergraduate training on workforce outcomes has shown that any rural exposure is related to doctors working rurally across diverse career stages. Furthermore, longer placement duration (> 1 year), greater remoteness of the placement(s) and increased number of rural experiences (up to three) during undergraduate training have stronger relationships with doctors choosing rural work (O'Sullivan and McGrail, 2020). Rural background and working in general practice were both independently associated with rural work while being female was negatively associated with rural work.

This national study has important implications for the next iteration of the RHMT program indicating that to grow the rural medical workforce, universities should ensure their approach to rural undergraduate training focuses on the multiple dimensions of placement duration, remoteness of placement, placement setting and, offering a number of undergraduate training experiences. While the universities participating in the RHMT program have carriage of (re) design of training experiences, O'Sullivan and McGrail (2020) identified the need for broader system level support is required to promote uptake of general practice and participation of female doctors in rural medicine.

13.2.1 Predictors of rural medical workforce conversion

Researchers have identified a number of statistically significant predictors of rural medical practice (ASGS RA2-5):

Rural background, commonly defined as having lived in an ASGS RA2-5 area for at least five years since beginning primary school, was the most consistent and most studied predictor in the literature. A number of multivariate analyses showed that rural background increased the odds of subsequent rural practice by between 2.10 and 3.91.

Rural clinical placement consistently predicted an increased likelihood of subsequent rural work. Further, longer duration rural immersion during clinical training was generally associated with a greater likelihood of future rural medical practice.

Rural clinical placement setting has also been identified as a statistically significant driver of future rural workforce participation. Having undertaken a clinical placement in a combination of regional hospital and rural general practice settings was found to have the greatest impact, increasing the odds of subsequent rural practice by 3.26.

Remoteness of clinical placement was associated with working rurally with an odds ratio of 1.8 for placements in MM 4-7 and 1.3 for placements in MM 2-3.

Rural return-of-service obligation, such as bonded or medical bonded scholarship, was also a consistent predictor of rural practice, increasing the odds of rural practice by between 1.63 and 2.34.

International graduates. Evidence is mixed concerning the influence of domestic/international student status on the likelihood of subsequent rural practice. While one study found international graduates were 5.7 times more likely to be working rurally than domestic graduates, Cheek et al. (2017) surmised that international medical graduates may be more likely to transition quickly to metropolitan locations more accessible to their home country and specialist training opportunities.

Aboriginal and Torres Strait Islander graduates were found by Woolley et al. (2014) to be 5.6 times more likely to practise in RA3-5 areas than their non-Indigenous counterparts. However, this small sample estimate (n=11 of 246) may not be generalisable and reflects particular patterns of post-graduate practice observed in other studies of James Cook University graduates (Sen Gupta et al., 2014).

Rural Internship. Woolley et al. (2014) found that graduates who completed their internship in a non-metropolitan location were 3.9 times more likely to practise in ASGS RA3-5.

Additional identified predictors of rural practice included **GP** specialist (vs. non-**GP** specialist) training (OR 3.44); pre-vocational (vs. specialist) training (OR 1.39); having a partner with a

rural-background (OR 3.08); and being single (OR 1.98).

Predictors of rural medical practice synthesised from the literature are summarised in Table 13-1.

	Odds Ratio range	
Predictor	(95% CI)	References
Duration of RCS placement:		
1 year	1.79 – 2.85 (1.15 – 4.58)	Kondalsamy-Chennakesavan et al. (2015); Kwan et al. (2017); O'Sullivan et al. (2018); Playford et al. (2017)
Greater than 1 year	3.0 (2.3 – 4.0)	O'Sullivan and McGrail (2020)
2 years	2.26 - 5.38 (1.54 - 9.20)	Kondalsamy-Chennakesavan et al. (2015); Kwan et al. (2017); O'Sullivan et al. (2018)
2+ years	4.43 (3.03 – 6.47)	O'Sullivan et al. (2018)
Remoteness of Placement:		
MM 2-3	1.3 (1.1 -1.6)	O'Sullivan and McGrail (2020)
MM 4-7	1.8 (1.5-2.1)	
Rural background	2.10 – 3.91 (1.37 – 7.21)	(Kondalsamy-Chennakesavan et al., 2015; Kwan et al., 2017; McGirr et al., 2019; O'Sullivan et al., 2018; Playford et al., 2017)
Rural return of service obligation	1.63 – 2.34 (1.19 – 3.98)	O'Sullivan et al. (2018)
Placement setting:		
Regional hospital	1.94 (1.39 – 2.70)	O'Sullivan et al. (2018)
Regional hospital and rural general practice	3.26 (2.31 – 4.61)	O'Sullivan et al. (2018)
Rural general practice only	1.91 (1.06 – 3.45)	O'Sullivan et al. (2018)
Rural internship	3.90 (1.9 - 8.0)	Woolley et al. (2014)
GP (vs non-GP specialist) training	3.44 (2.16 – 5.47)	Kwan et al. (2017)
Prevocational (vs specialist)	1.39 (0.78 – 2.48)	Kwan et al. (2017)
International student	5.70 (3.92 - 8.27)	O'Sullivan et al. (2018)
Aboriginal and Torres Strait Islander heritage	5.6 (1.2 – 26.9)	Woolley et al. (2014)
Rural background (vs metro) of partner	3.08 (1.96 – 4.84)	Kondalsamy-Chennakesavan et al. (2015)
Single (vs married)	1.98 (1.28 – 3.06)	Kondalsamy-Chennakesavan et al. (2015)

Table 13-1 Predictors of rural medical practice

The predictors of rural medical practice highlights the requirement of a system level approach to developing the rural medical workforce of which the universities are a key contributor (Table 13-2).

	Sphere of influence			
Predictors of rural practice	University	Jurisdiction/ LHNs policies & funding	Commonwealth policies & funding	Individual
Selection of students – rural origin, rural interest	Yes	No	No	Yes
No. undergraduate rural exposure opportunities	Yes	No	No	No
Duration of placement	Yes	No	No	No
Placement settings	Yes	Yes	No	No
Rurality of placement	Yes	No	No	No
Rural internship	Some (RTH)	Yes	No	No
Prevocational training opportunities	Some (RTH)	Yes	Yes	No
Return of service	No	No	Yes	No
GP training	No	No	Yes	No
Rural background of partner	No	No	No	Yes
Single (vs married)	No	No	No	Yes

Table 13-2 System level contribution to developing the rural medical workforce

13.3 Nursing, midwifery and allied health

Relative to the research literature on RCS program effectiveness, few studies have looked into the workforce outcomes associated with rural placement programs for nursing, midwifery and allied health students. Playford et al. (2006) investigated the employment locations of metropolitan-based nursing and allied health graduates who undertook rural placements in their final year of study, finding a strong positive association between rural background and rural professional practice. Yet nearly a fifth of students of non-rural background also undertook rural professional practice. The study also noted that shorter placements (less than 4 weeks) were associated with a higher likelihood of rural practice uptake, theorising that, For urban-based allied health and nursing students, rural placements mean separation from family and friends and loss of work income as well as transportation and social dislocation; issues over which the student has limited control. It is likely that shorter placements minimise these negative non-workrelated factors while giving an adequate window into rural practice. (p. 18-19)

Playford et al. (2006) also found a strong association between voluntary placements and future rural practice, with students indicating that rural placements undertaken by choice serve to identify and consolidate personal preferences for future rural professional practice. Rural placement programs may therefore benefit from an emphasis on fostering students' agency to make informed, personally beneficial decisions about their individual training and professional trajectory. With a significant proportion of non-rural background nursing and allied health students choosing rural practice, more research is needed into the role of rural placement experiences in the consolidation of participants' intention and uptake of rural professional practice.

The Nursing and Allied Health Graduate Outcome Tracking (NAHGOT) study (2019), a collaboration between Monash University, University of Newcastle and Deakin University, has shown that nursing and allied health students who completed at least one rural placement were three (3) times more likely to be practising in a rural location and students who had completed two or more rural placements (or at least six weeks of rural undergraduate experience), were three (3) to six times (6) more likely to be working in a rural area (Deakin University, 2019). In contrast to the association noted by Playford et al. (2006), results of the NAHGOT would indicate that longer rural placements are more likely to promote positive rural workforce outcomes.

Recent (unpublished) results of the North West Queensland Centre of Rural and Remote Health (NWQ CRRH) Graduate Destination Study (2018-2019), similarly suggest a positive association between rural placements and professional uptake in regional, rural and remote locations (ASGC RA2-5) (NWQ CRRH, 2019).

A longitudinal study of University of Newcastle allied health graduates reported that 52% of students who undertook one year immersive rural training in rural New South Wales were working in a non-metropolitan area (ASGS RA2-5) one year after graduation and 37.5% three years post-graduation (Brown et al., 2017). The rural immersion is similar to the RCS year in that students undertake their academic and clinical components of their studies remote from the main campus, while sharing accommodation with other students, and undertake extracurricular activities aimed at engaging with the local community. Brown et al. (2017) also demonstrated that positive rural placement experiences can lead urban-background allied health professionals to consider rural practice, with over half of urban-background students who participated in a rural placement reporting favourable attitudes towards future rural practice.

13.4 Dental

Currently, there is little research concerning the impacts of rurally based training on dental graduates' subsequent workforce outcomes. In a study of University of Sydney dental graduates from 2009-2013, work locations for 2015 and 2017 were compared between participants and

non-participants of the Rural Clinical Placement Program (RCPP), a four week placement offered to final year dental students supervised by a university faculty trained rural practising clinician (Johnson et al., 2019). After controlling for gender and graduation year, RCPP participants were more than twice as likely to work rurally in 2015 compared to non-RCPP participants (PR 2.16, 95%CI 1.77-2.64). Furthermore, RCPP participants were almost twice as likely to remain working rurally between 2015 and 2017 (PR 1.9, 95%CI 1.2-3.2).

13.5 Multidisciplinary Health Workforce Survey

Determining the impact of the RHMT program on rural workforce has been challenged by inadequate control of confounding variables and lack of appropriately matched controls (O'Sullivan et al. (2018a). Estimating the workforce impact (and, by extension, the cost-effectiveness) of the RHMT program is complicated by the fact that program participants tend to differ from non-program participants. That is, participants tend to share in common a range of background characteristics, including rural upbringing and an intent to practise rurally in the future. So, while a proportion of program participants go on to practise professionally in non-metropolitan localities, many may have done so irrespective of having undertaken rural placements as students.

The Multidisciplinary Health Workforce Survey undertaken as a component of this evaluation, allows for a comparison of graduates' workforce outcomes while controlling for such factors. The survey provides information on respondents' socio-demographic background, professional discipline and role, tertiary education, impediments to undertaking a rurally based clinical placement, clinical placement duration, current employment and primary career drivers. Using a well-established framework for estimating the effectiveness of vocational training programs (Gemici et al., 2012), survey respondents likely to have participated in a rural training placement were paired with appropriate controls according to their shared background characteristics. As program participants and the controls with whom they are matched share in common all potentially mitigating factors, the differences that emerge between them—in terms of where they choose to practise professionally—may be attributed to participation in a long-duration rural clinical placement.

Full text of the Multidisciplinary Health Workforce Survey may be found at Appendix 5. Technical details of the statistical framework used in the analysis of survey data are provided at Appendix 6.

In sum, we sought to determine the extent to which current rural work among nursing, midwifery, and allied health graduates is attributable to rurally based clinical placements (ASGS RA2-5). The survey cohort were graduates from 2005 to 2018 when participants had opportunities for placement support through the UDRHs. However, the study does not differentiate between UDRH or other rural placements. The analysis distinguishes between allied health and the nursing and midwifery disciplines. As placement requirements are broadly different for these two target groups, in particular with regard to curriculum and placement duration, a separate estimate is provided for each discipline.

13.5.1 Effectiveness of rural placements

Analysis of the Multidisciplinary Health Workforce Survey included Australian-trained allied health, nursing and midwifery graduates who:

- Completed their health degree in the period 2005 to 2018
- Reported at least one-hour of paid employment in Australia in the previous week (respondents on leave or not currently employed in Australia were excluded)

After screening, responses from 1,185 allied health professionals and 966 nurses and/or midwives were included in the analysis. Survey responses by major discipline and profession are presented in Table 13-3.

Profession	Frequency	Percent	
Allied Health			
Physiotherapy	242	20.40%	
Occupational therapy	167	14.10%	
Social work	135	11.40%	
Speech pathology	121	10.20%	
Dietetics	88	7.40%	
Pharmacy	76	6.40%	
Exercise physiology	55	4.60%	
Psychology	55	4.60%	
Paramedicine	52	4.40%	
Other allied health profession	49	4.10%	
Podiatry	38	3.20%	
Radiography	25	2.10%	
Medical laboratory science	17	1.40%	
Audiology	10	0.80%	
Radiation therapy	9	0.80%	
Sonography	8	0.70%	
Optometry	6	0.50%	
Dentistry	5	0.40%	
Oral health, dental therapy, prosthesis, hygiene	5	0.40%	
Music, art therapy	4	0.30%	
Nuclear medicine	4	0.30%	
Osteopathy	4	0.30%	
Genetic counselling	3	0.30%	
Rehabilitation counselling	3	0.30%	
Orthoptics	2	0.20%	
Chiropractic science	1	0.10%	
Orthotics, prosthetics	1	0.10%	

Table 13-3 Multidisciplinary Health Workforce Survey response by profession

Profession	Frequency	Percent
Total Allied Health	1,185	100%
Nursing and Midwifery		
Nursing	914	94.6%
Midwifery	35	3.6%
Nursing and midwifery (dual registration)	17	1.8%
Total Nursing and Midwifery	966	100%

Based on their own recollection, respondents were grouped into quintiles according to the total number of weeks of clinical placement training they undertook in a regional, rural or remote area (ASGS RA2-5). 452 allied health practitioners and 398 nurses and midwives reported having undertaken no clinical placements outside of major metropolitan areas during their studies. These respondents comprised the 'control group' to be paired with otherwise like-respondents who were exposed to the greatest amount of rural clinical training. The average number of rural clinical placement weeks undertaken by respondents is presented in Table 13-4 (by quintile).

Table 13-4 Average clinical placement weeks undertaken in ASGS RA2-5 by quintile and discipline

Discipline	Q1	Q2	Q3	Q4	Q5
Allied Health	0.0	1.8	4.9	9.5	20.6
Nursing & Midwifery	0.0	0.0	4.0	9.9	19.4

Propensity score matching (PSM) was used to estimate the proportion of current non-metropolitan practice attributable to participation in rural clinical placements. The model controls for gender, age at enrolment, rural background, full/part-time enrolment, personal and financial barriers to undertaking rural placements, and university of enrolment. The analysis compares the working outcomes of graduates in the highest quintile (who undertook an average of around 20 weeks of rurally based clinical placements as students) against those of respondents in the lowest quintile (who did not undertake any rurally based clinical placements).

The analysis also controls for extreme outliers: respondents who indicated more than 120 weeks of rural clinical placement and/or more than 80 hours worked in the previous week were excluded. Results are presented in Table 13-5 and Table 13-6

Hours worked in ASGS-RA 2-5	Lowest quintile— clinical placement duration	Highest quintile— clinical placement duration	Exposure effect [†]
All respondents	8.02	23.50	
Matched respondents only	11.42	23.50	12.07 ***
	Se	95% Conf. Interval	
	2.65	6.88—17.27	
Number of observations	452 (control)	212 (treated)	

Table 13-5 Matching estimates – Hours worked in ASGS-RA 2-5 by exposure status, Allied Health

Note: *** *p* < 0.01

[†] Sample average treatment effect among the treated (SATT); Se is standard error; n-control and n-treated are the number of respondents in the sample in the lowest and highest quintile of ASGS-RA 2-5 clinical placement duration, respectively

Table 13-6 Matching estimates – Hours worked in ASGS-RA 2-5 by exposure status, Nursing and Midwifery

Hours worked in ASGS-RA 2-5	Lowest quintile— clinical placement duration	Highest quintile— clinical placement duration	Exposure effect†
All respondents	6.79	28.05	
Matched respondents only	10.03	28.05	18.02 ***
	Se	95% Conf. Interval	
	2.50	13.12—22.91	
Number of observations	398 (control)	192 (treated)	

Note: *** *p* < 0.01

† Sample average treatment effect among the treated (SATT); Se is standard error; n-control and n-treated are the number of respondents in the sample in the lowest and highest quintile of ASGS-RA 2-5 clinical placement duration, respectively

The results demonstrate that, on average, graduates who had the most rural clinical placement experience are now working more in regional, rural and remote Australia (ASGS RA2-5) than graduates who did not do a rural clinical placement.

- Allied Health: 12.07 more hours per week (0.32 FTE)
- Nursing & Midwifery: 18.02 more hours per week (0.47 FTE)

These estimated workforce impacts were statistically significant at the 99% confidence level (p-value <.01). Post-estimation diagnostics indicate that observations were appropriately matched in both models.

The effect also appears consistent. On average, graduates in the 4th quintile of placement

weeks also worked more hours in non-metropolitan areas, though fewer than graduates in the highest quintile. Respondents in the 3rd quintile did more rural work as well, just behind those in the 4th quintile.¹⁵

13.5.2 Career drivers

Survey participants were also asked to indicate the most important reasons for their current workplace location. Respondents were grouped according to the amount of work they currently do in rural areas (ASGS RA2-5). Results highlighted each group's most important drivers, with comparisons to illuminate statistically significant differences between groups. Results are presented in Table 13-7 and Table 13-7.

	Percent of Quintile that chose factor			
Quintile of current work in a non-metropolitan area (ASGS RA2-5):	Q1	Q4	Q5	
Factor				
Salary, benefits	23.9%	22.5%	24.5%	
Postgraduate/specialist training	10.1%	3.2% ***	3.3% ***	
New graduate position	18.3%	20.9%	24.5% **	
Opportunities for my own professional advancement	51.5%	45.8%	49.5%	
Obligation related to a bonded university place	0.3%	1.2%	0.0% ***	
My professional networks are strongest there	38.9%	20.9% ***	16.0% ***	
Could not find employment in my preferred rural location	5.1%	3.6%	8.0% *	
Cost of living	19.4%	34.8% ***	34.4% ***	
Preferred lifestyle	61.9%	62.8%	62.3%	
Employment for my spouse/partner	30.4%	27.7%	24.5% *	
Education for my children/dependents	8.3%	8.3%	4.2% **	
Proximity to my partner, family and/or friends	67.8%	55.3% ***	46.2% ***	
Commitment to the health of this particular community	9.3%	28.9% ***	26.9% ***	
Commitment to enhancing Aboriginal and Torres Strait Islander health	3.1%	9.5%	9.0%	
I had a positive training experience in a similar community whilst at university	16.0%	27.3% ***	28.3% ***	
Could not find employment in my preferred metropolitan	5.3%	7.1%	13.7% ***	
Other	10.3%	10.7%	15.6% **	
Total in Quintile:	720	253	212	

Table 13-7 Main reasons for choice of primary work location—Allied Health

Analysis of variance-statistically significant difference (Q1 base-level): ***p<0.01, **p<0.05, *p<0.10.

¹⁵ All Q4 vs. Q1 results were statistically significant at the 95% confidence level. The Q3 vs. Q1 result was statistically significant at the 95% confidence level for allied health only.

Irrespective of where they work, all of the allied health professionals surveyed cited 'Opportunities for my own professional advancement,' 'Preferred lifestyle' and 'Proximity to my partner, family and/or friends' as central reasons for their choice of primary work location. Metropolitan-based professionals were statistically significantly more likely to cite the location of their professional networks as a top motivation for their choice of work location. Conversely, respondents in the fourth and fifth quintile of non-metropolitan work were significantly more likely than metropolitan-based professionals to cite 'Cost of living,' 'Commitment to the health of this particular community,' and 'I had a positive training experience in a similar community whilst at university' as main reasons for undertaking a larger amount of rural work. At over a quarter of respondents currently undertaking significant amounts of rural work, this latter finding is of particular interest to the present evaluation, suggesting that beyond merely exposing students to rural training, ensuring they have a positive experience on such placements is important to their subsequent retention in rural practice.

	Percent of Quintile that chose factor			
Quintile of current work in a non-metropolitan area (ASGS RA2-5):	Q1	Q4	Q5	
Factor				
Salary, benefits	14.8%	12.9%	19.9%	
Postgraduate/specialist training	23.0%	13.4% ***	10.8% ***	
New graduate position	32.7%	30.2%	25.6% *	
Opportunities for my own professional advancement	41.8%	32.2% **	37.5%	
Obligation related to a bonded university place	2.1%	2.0%	2.3%	
My professional networks are strongest there	26.8%	19.3% **	15.9% ***	
Could not find employment in my preferred rural location	4.8%	6.9%	6.8%	
Cost of living	16.8%	27.2% ***	33.0% ***	
Preferred lifestyle	52.5%	50.0%	57.4%	
Employment for my spouse/partner	27.9%	26.7%	24.4%	
Education for my children/dependents	12.3%	17.3% *	11.9%	
Proximity to my partner, family and/or friends	65.2%	57.4% *	51.7% ***	
Commitment to the health of this particular community	7.5%	15.3% ***	21.0%	
Commitment to enhancing Aboriginal and Torres Strait Islander health	1.3%	6.9% ***	9.7% ***	
I had a positive training experience in a similar community whilst at university	12.5%	14.4%	13.1% ***	
Could not find employment in my preferred metropolitan	4.5%	8.9% **	10.2% ***	
Other	9.8%	17.3% ***	15.3% **	
Total in Quintile:	560	202	176	

Table 13-8 Main reasons for choice of primary work location-Nursing and Midwifery

Analysis of variance-statistically significant difference (Q1 base-level): ***p<0.01, **p<0.05, *p<0.10.

Among other observations, all of the nursing and midwifery respondents cited 'Opportunities for my own professional advancement,' 'Preferred lifestyle,' 'Employment for my spouse/partner,' and 'Proximity to my partner, family and/or friends' as key determinants of their choice of work location. Metropolitan-based practitioners were statistically significantly more likely to cite 'Postgraduate/specialist training' than their rurally based peers, suggesting a geographic concentration of advanced training opportunities in urban areas. Similarly, a significantly larger proportion of metropolitan-based nursing and midwifery professionals cited the urban location of their professional networks as a primary driver of work location. Like their allied health professional counterparts, rurally based nurses and midwives were significantly more likely than urban-based practitioners to cite 'Cost of living' as an important motivating factor. Rurally based respondents were also significantly more likely than urban practitioners to cite 'Commitment to the health of this particular community' and 'Commitment to enhancing Aboriginal and Torres Strait Islander health,' both central aims of the RHMT program.

13.6 RHMT Program Workforce Conversion

Key to strengthening rural career uptake and retention is an expansion of rurally based postgraduate internships (Woolley et al., 2019) and rural vocational training pathways (Eley & Baker, 2006; Playford et al., 2016), as well as the general enhancement of rural workplace satisfaction (Pinikahana & Happell, 2004; Ragusa & Crowther, 2012). Positive training experiences, supportive placement staff and meaningful interactions with the community have all been shown to positively influence health students' rural practice intentions (Smith et al., 2018).

Structurally, research has stressed the persistent lack of rurally based vocational training opportunities as a critical bottleneck in rural workforce conversion following rural undergraduate training. The limited availability of prevocational training opportunities is a critical gap in the rural medical pipeline and particularly acute with respect to general practice, which informants to the evaluation identified as fundamental to an effective, sustainable model of care in rural and remote settings. In general, limited early career rural training and employment opportunities were seen as more problematic among the medical and allied health professions, with nurses more equitably distributed throughout the country (see Figure 1-4). Kwan et al. (2017) posited that the lack of rurally based specialist employed positions and training opportunities, in combination with the "metropolitan-centric approaches of the specialist Colleges," as impediments to rural practice uptake by medical specialists (p. 10).

Playford et al. (2016) observed that extended rural clinical training may be associated with long-term retention of medical practitioners in the same state, and there are several examples of how jurisdictions may foster effective rural career pathways at the state-level. In New South Wales, for example, HETI's Rural Preferential Internship Program works to link undergraduate training in rural areas to postgraduate medical training positions in rural areas (HETI, 2019, p. 4). NSW also offers two-year employment contracts, strengthening the ability of new medical graduates to build professional relationships and clinical networks in the critical workforce transition phase. In Queensland, the Rural Generalist Pathway supports medical training and careers in rural generalism as a recognised discipline. The Pathway, which features structured vocational training, career guidance and facilitation, currently supports more than 350 medical officers across Queensland (Queensland Government, 2020). Some new medical graduates may also be required to practise rurally through return of service obligations. Graduates of the NTMP, for example, are now required to work in the Northern Territory for four years,

including their intern year (see Chapter 10).

Finally, Playford et al. (2020) emphasise that, like their medical counterparts, rural conversion of multidisciplinary health graduates requires clear, rurally based vocational training pathways. In that study, nursing and allied health professionals who trained and remained in rural localities for their first jobs were significantly more likely to be in rural practice 15-17 years after graduation than graduates whose first posts were in major cities.

Understanding the role of the jurisdictions on rural health workforce recruitment and retention including the ways in which regional initiatives interface with medical, allied health and nursing training in higher education—will remain central to strengthening the workforce impact of the RHMT program moving forward.

13.7 Tracking rural health workforce outcomes

The national consolidation of health practitioner registration data under the auspices of Ahpra has enabled workforce tracking opportunities not previously available to researchers. Since 2010, practitioners in 16 health professions—covering medicine, nursing, midwifery, and a range of allied health disciplines—have been required to renew their annual registration within this unified scheme (Australian Health Practitioner Regulation Agency, 2019). As part of the registration renewal process, registrants are asked to undertake a detailed workforce survey, providing data on practitioners' educational history, workforce details, distribution and other key indicators. In conjunction with student-level university records, Ahpra data could have the potential to be used to evaluate rural workforce education and training initiatives such as the RHMT program.

13.7.1 Medicine

The RHMT program agreement includes a requirement to track RCS participants' workforce outcomes over time. Some medical schools, such as Western Sydney University, have only recently developed tracking databases; others, like the University of Western Australia, have been systematically tracking graduates' professional trajectories for nearly two decades.

Universities' early efforts to track medical graduates with direct follow-up surveys frequently resulted in low response rates. However, data linkage methodologies now allow most universities to capture 90-98% of medical graduates each year, although this continues to be resource intensive. Across the RHMT program funded universities, an estimated 10 to 15 FTE employees are directly funded by the RHMT program to manage graduate tracking databases. Direct costs of tracking include:

- Research staff to manage databases, related to the size of the medical program and complexity of data linkage method
- Fees to access Ahpra data
- Licensing of data analytics software

While the type and scope of data collected to track medical graduates differ between universities, it typically includes:

- Age
- Gender
- University
- RCS participation
- Graduation year
- Rural background (Yes/No)
- Rural background of partner (Yes/No)
- Career intent
- Vocational training type
- Remoteness of practice location (recorded as RA)

Although a number of participating RHMT program funded universities have evaluated the impact of their own programs in terms of participants' post-program career pathways, there is a lack of national synthesis of programmatic outcomes to further substantiate the link between rurally based clinical training and subsequent recruitment and retention in rural practice (Humphreys et al., 2018; Ranmuthugala et al., 2007). With few exceptions (see McGirr et al., 2019), there remains a lack of critical inter-program comparisons to inform Commonwealth support for RCS programs and other rural workforce development strategies. Methodological inconsistencies between the single-institution studies largely preclude any meaningful quantitative comparison of RCS program workforce outcomes. As a result, program impacts may be difficult to distinguish from overarching state and national workforce predictors. O'Sullivan et al. (2018), among others, therefore recommend further investigation into the impacts of rural immersion for students predisposed to future rural practice, greater temporal and geographic disaggregation of program studies, panel studies of graduates' career pathways over time, and an increased focus on the potential jurisdictional influences on rural training and workforce outcomes.

13.7.2 Allied health and nursing

A new requirement of the UDRHs under the 2016-2018 RHMT program agreement was to track multidisciplinary participants' workforce outcomes. Notwithstanding recent data linkage opportunities, the longitudinal tracking and analysis of graduates' workforce outcomes remain expensive and time-consuming for universities. While some UDRHs are investigating how this can be done—including via Ahpra data linkage and follow-up surveys of students supported for placements—others indicated that it is beyond their capacity to do this on an ongoing basis. Tracking UDRH participants over time is highly complex—UDRHs typically engage with students from multiple universities, across disciplines, often for very short periods of time. Furthermore, individual students often undertake a number of placements during their course, with various levels of support from multiple UDRHs. Whilst there may be opportunities to develop a national data linkage mechanism between universities and Ahpra for the purpose of tracking multidisciplinary workforce outcomes over time, such a linkage would likely exclude allied health professionals not required to register with Ahpra.

13.8 Future Directions

In recognition of the system level factors that contribute to rural practice, universities should be accountable for measuring and reporting against those factors that are within their direct sphere of influence and those factors where they have influence. Suggested metrics against which the universities should report include:

- Rural origin
- Placement duration
- Placement setting
- Placement rurality
- Number of rural placements undertaken by a student
- Transition to rural work i.e. for medicine location of internship/prevocational post; allied health, nursing and dental– location of first job
- Student assessment of placement quality (using rubric) indicative of positive learning experience to promote transition to rural work.

Concurrent to the RHMT program evaluation, the Commonwealth has funded MDANZ to undertake the annual MSOD survey and national trend report and to explore a potential data linkage with Ahpra. However, as graduate outcome is a key metric to link training with the aims of the RHMT program, universities will need to track medical graduates until a reliable replacement is operational. Therefore, there needs to be consistency of methodology and variables to enable comparison of medical graduate outcomes following rural training across universities.

14. Value for Money

Introduction

The evaluation considers the benefits to local health delivery from engagement in teaching and training through the RHMT program. The evaluation also seeks to articulate the extent to which the RHMT program represents 'value-for-money' with respect to the program's underlying costs.

This chapter complements the evaluation's multiple lines of qualitative assessment with an analysis of RHMT program expenditures, as well as the cost-effectiveness of rural clinical placements for improving rural workforce outcomes among nursing, midwifery and allied health graduates.

Program Income and Expenditure

The Commonwealth provides approximately \$200m per annum to the 21 universities funded through the RHMT program to support the delivery of training for medical, nursing, allied health and dental students in rural, remote and regional Australia.

In 2018, RHMT program participating universities spent approximately \$8.38m (3.8% of total program expenditure) on central university infrastructure fees and charges, \$126m (59.9%) on salaries and related on-costs, and \$76.1m (36.1%) on recurrent expenditure relating to the provision of training, facilities and student support. Of the latter, goods, services and consumables; student support; property and maintenance; and 'other' expenses comprised the largest line-item costs, at 5.9%, 5.0%, 6.0% and 9.1% of total recurrent expenditure, respectively.

Value of the Program – Achievements and Benefits

Over the last twenty years the RCSs and UDRHs have established a university presence in rural communities, provided new capital infrastructure, built local academic and professional networks, enabled the teaching and supervision of health students beyond the confines of the city, developed rural and remote research capacity and expertise, and strengthened clinical service delivery across Australia.

Universities have, on the whole, met their core requirements with variation in the extent to which short and medium-term programmatic outcomes have been achieved.

Teaching innovation

The RHMT program has demonstrated that universities can be supported to deliver tertiary-level teaching and training of health students in rural, remote and regional settings to an equivalent or higher standard than that of metropolitan settings.

RCSs have developed networks of clinical supervisors in rural, regional, remote and very

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remote locations across a variety of care settings to deliver both short and extended placement for medical students. Several have established medical education models where the majority of the medical program is delivered in regional and rural areas.

New service-learning placement models for allied health have emerged and are becoming widespread across the UDRH network providing students with "real world" training opportunities while at the same time meeting local health and community service needs. These placements have been developed for a range of disciplines and in a variety of settings, providing new or augmenting existing services and therapeutic interventions in rural, remote and regional communities.

Longer rural immersions are less common for allied health disciplines but have been established by several UDRHs working closely with individual allied health programs at a university level.

While nursing curricula requires the majority of clinical placements to occur in acute care settings, the UDRHs have developed strategies to support rural and regional hospitals increase the volume of student placements as well as developing new placement opportunities to enable student nurses experience of and exposure to primary care, mental health, aged care and remote health.

Research capability and capacity

Rural and remote research capability and capacity has been built over time through the RHMT program. In particular RCSs and UDRHs have been instrumental in progressing research in rural and remote health, rural health workforce, rural health service delivery and rural training.

Workforce outcomes

While an intended outcome of the RHMT program is to increase the number of appropriately qualified health professionals working in rural, regional and remote Australia, many factors external to the program influence where health professionals work. That said, there is now a body of literature published by RHMT program funded universities demonstrating medical students who are RCS participants (from both rural and metropolitan backgrounds) are significantly more likely than non-participants to take up rural practice. Furthermore, the Multidisciplinary Health Workforce Survey undertaken as part of this evaluation has demonstrated the positive impact of allied health and nursing undergraduate rural placement on subsequent rural work.

Overall, rural training opportunities such as those offered through the RHMT program are important contributors to developing a rural health workforce.

Community benefits

The RHMT program provides a range of benefits to the communities in which they operate,

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noting variation between universities and between sites in the types of benefits realised.

Through the investment in infrastructure, academic and professional staff, student support and student expenditure while on placement, the RHMT program, has a direct economic benefit to the communities and regions with economic analyses demonstrating a positive multiplier effect of around 2 i.e. for every spent under the RHMT program another dollar is generated in the local economy.

Across RHMT program sites, students contribute to communities in a variety of ways including volunteering, mentoring young people and participation in community activities. In addition, they provide additional capacity to health and community services both directly through service-learning placements and indirectly through support of local clinicians in the development of new health programs and resources and support for research and quality improvement activities.

Community development activities supported through the RHMT program are multi-faceted with RCSs and UDRHs working with local government, ACCHOs and NGOs to undertake locally relevant research and needs assessments to develop funding proposals, inform health promotion projects, service development strategies and, community social plans resulting in a broad range of new or strengthened community based programs. Research networks and local conferences auspiced by RCSs and UDRHs showcase community development activities and are illustrative of the community agenda driving research.

Rural placements are identified as a workforce generator or supply line where allied health and graduate nurse positions are available. Alumni of the RHMT program (across professions) are now visible in many communities, working in their profession and often teaching and supervising students.

Wider community benefits accrue through a variety of RHMT program activities including, for example, research, professional development for local health professionals and customised cultural training for health and community services.

Cost analysis - Student placement

Delivering student placements is a core requirement of the RHMT program and one of the key metrics the universities report to the Department.

In 2018, participating RCSs completed 95,961 RHMT program funded (long and shortduration) rural clinical placement weeks for Australian medical students at a total recurrent cost of approximately \$127m. Universities' individual costs-per-rural placement week ranged from \$488 to \$4,579, with a weighted mean of \$1,235 (std. dev.: \$761). Approximately three quarters of universities' total RCS rural placement weeks (74.5%) had an average cost of less than \$1,500 per placement week. The costs of RHMT program funded rural placements for nursing, midwifery and allied health students (combined) were slightly less varied, and on average, less expensive than those provided to medical students. UDRHs completed 65,014 total placement weeks for Australian students at a recurrent expenditure of approximately \$66.1m. Universities' individual costs-per-rural placement week ranged from \$304 to \$4,785, with a weighted mean of \$953 (std. dev.: \$629). More than 95% of total UDRH placement weeks had an average cost of less than \$1,500 per placement week.

In 2018, the six DTERP programs provided 2,354 rural placement weeks for Australian dental students at a total recurrent expenditure of approximately \$3.7m. DTERP program expenditures were more tightly clustered than those of RCSs and UDRHs. Costs-per-placement week ranged from \$649 to \$2,481, with a weighted mean of \$1,210 (std. dev.: \$571).

Analysis shows there is some apparent variation between universities with respect to average cost-per-placement week, irrespective of remoteness. This variation is likely related to program maturity, geographic reach, and economies of scale, among other factors.

Cost effectiveness of investing in rural multidisciplinary clinical placements

The cost effectiveness of rural clinical placement on multidisciplinary rural workforce outcomes was assessed by pairing the findings of the Multidisciplinary Health Workforce Survey with the cost of placement analysis. An investment of \$19,624 in longer duration rural placements (approximately 20 weeks) potentially yields an additional 0.32 FTE allied health professional working in RA 2-5 (\$61,782 per FTE). For nursing and midwifery, the investment of \$18,481 in long duration rural placements yields an additional 0.47 FTE (\$38,972 per FTE).

Lessons learned

A range of benefits accrue to communities, local health and community services and students through the RHMT program beyond those benefits directly related to teaching and research. In the next iteration of the program universities should be encouraged to report and describe these benefits and where feasible develop processes to evaluate the efficacy of local initiatives and in so doing demonstrate the value-add of the RHMT program investment in the rural communities in which they operate.

The RHMT program is intended to support universities in their delivery of rural training. To understand the total cost of rural training it is important to identify and quantify the direct and in-kind contribution of the universities in addition to RHMT program funding. Therefore, to ensure the program is maximising its impact as efficiently as possible, the Department could consider requesting the universities to:

• Describe and quantify their in-kind contribution to the delivery of rural training (teaching, placement support, student support, research and infrastructure)

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Value for Money

• Provide a detailed cost and expenditure report including identification of funds spent directly in the regions and funds spent through central university entities

This information could then be used with other program reporting to understand the real cost of different placement types (discipline, quality, duration, settings) in different locations (rurality) to inform future rural training investment.

14. Value for Money

A key objective of this evaluation is to consider the benefits to local health delivery from engagement in teaching and training through the RHMT program. The evaluation also seeks to articulate the extent to which the RHMT program represents 'value-for-money' with respect to the program's underlying costs.

This chapter complements the evaluation's multiple lines of qualitative assessment with an analysis of RHMT program expenditures, as well as the cost-effectiveness of rural clinical placements for improving rural workforce outcomes among nursing, midwifery and allied health graduates.

14.1 Program Income and Expenditure

The Commonwealth provides approximately \$200m per annum to the 21 universities funded through the RHMT program to support the delivery of training of medical, nursing, allied health and dental students in rural, remote and regional Australia.

Following a request by the evaluators, RHMT program funded universities completed a (non-audited) supplementary financial report template based on their existing revenue and expenditure reporting requirements. Where participating universities only operated a single program operational unit (i.e., RCS or UDRH), financial reports previously submitted to the Department were used.

University-level expenditures were disaggregated by program operational unit (i.e., RCS, UDRH, DTERP and IRTP) and itemised by broad expense category (i.e., central infrastructure/ overhead; academic, professional, technical and administrative salaries and on-costs; and other recurrent expenditure relating to the provision of training, facilities and student support). Total program income and expenditures for 2018 are presented in Table 14-1. This data has been used to undertake a cost analysis of the delivery of student placements (Section 14.3) and assessment of cost effectiveness of rural clinical placements for improving rural workforce outcomes among nursing, midwifery and allied health graduates (Section 14.4).

In 2018, RHMT program participating universities spent approximately \$8.38m (3.8% of total program expenditure) on central university infrastructure fees and charges, \$126m (59.9%) on salaries and related on-costs, and \$76.1m (36.1%) on recurrent expenditure relating to the provision of training, facilities and student support. Of the latter, goods, services and consumables; student support; property and maintenance; and 'other' expenses comprised the largest line-item costs, at 5.9%, 5.0%, 6.0% and 9.1% of total recurrent expenditure, respectively.¹⁶

¹⁶ 'Other' expenditures typically referred to single-item expenditures and program-related expenses not readily categorised elsewhere on the reporting template.

Table 14-1	Consolidated F	RHMT program	income and	expenditure	(2018)
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Item	RCS	UDRH	DTERP	IRTP	Total
Income					
Commonwealth funding (2018 funding agreement)	\$116,259,293	\$56,361,702	\$2,628,037	\$11,726,659	\$186,975,692
RHMT funds carried forward	\$6,966,326	\$17,358,178	\$382,785	\$7,501,123	\$32,208,413
University contribution	\$1,087,272	\$15,594	\$225,514	\$-	\$1,328,379
Income earned on RHMT program funds (interest)	\$396,513	\$558,924	\$5,719	\$46,650	\$1,007,806
Income earned on RHMT program activities (e.g. rent)	\$714,724	\$104,291	\$-	\$8,909	\$827,923
Other Income	\$4,409,800	\$205,506	\$122,548	\$67,238	\$4,805,091
Total Income	\$129,833,928	\$74,604,194	\$3,364,602	\$19,350,580	\$227,153,304
Expenditure					
Centra	l University Infra	astructure Fees	and Charges		
Infrastructure - RHMT expenditure (max 5%)	\$4,059,920	\$3,286,534	\$308,996	\$370,382	\$8,025,832
Infrastructure - non-RHMT expenditure	\$318,601	\$-	\$-	\$35,686	\$354,287
Total Central Infrastructure Expenditure	\$4,378,521	\$3,286,534	\$308,996	\$406,068	\$8,380,119
	Salary relat	ted Expenditure			
Academic Salaries & Oncosts - medical	\$44,455,028	\$214,157	\$-	\$-	\$44,669,185
Academic Salaries & Oncosts - multidisciplinary	\$1,259,830	\$22,190,575	\$-	\$-	\$23,450,404
Academic Salaries & Oncosts - other (dental, mental)	\$149,375	\$255,184	\$1,173,658	\$-	\$1,578,217
Academic Salaries & Oncosts - regional training hubs	\$-	\$-	\$-	\$5,497,111	\$5,497,111
Professional & Administrative Salaries & Oncosts	\$31,474,400	\$13,213,532	\$624,014	\$5,490,274	\$50,802,219
Total Salary-related expenditure	\$77,338,632	\$35,873,447	\$1,797,672	\$10,987,385	\$125,997,137
Other expenditure relat	ing to the provis	ion of training,	facilities and s	student support	:
Employee-related expenditure	\$978,446	\$474,443	\$10,569	\$224,590	\$1,688,047
Fixed-capital expenditure (depreciable)	\$1,713,433	\$972,376	\$-	\$142,165	\$2,827,974
Goods, services, & consumables	\$7,361,112	\$3,317,395	\$263,595	\$1,419,934	\$12,362,036
Travel and motor vehicles	\$4,489,902	\$2,301,950	\$140,068	\$776,002	\$7,707,921
Student support	\$5,799,886	\$4,268,401	\$370,763	\$45,481	\$10,484,532
Rent	\$3,362,903	\$620,622	\$168,007	\$57,918	\$4,209,450
Utilities	\$2,313,760	\$1,469,044	\$73,537	\$30,786	\$3,887,126
Property and Maintenance	\$4,108,651	\$8,267,957	\$197,808	\$121,914	\$12,696,330
Equipment (non-depreciable)	\$2,547,159	\$1,152,234	\$17,832	\$220,138	\$3,937,363
Other	\$12,653,663	\$4,144,487	\$387,492	\$1,921,301	\$19,106,942
Total Other recurrent expenditure	\$45,328,914	\$26,988,909	\$1,629,669	\$4,960,229	\$78,907,721
Total Expenditure	\$127,046,067	\$66,148,891	\$3,736,337	\$16,353,682	\$213,284,976
Balance	\$2,787,861	\$8,455,303	-\$371,735	\$2,996,898	\$13,868,328

14.2 Value of the Program - Achievements and Benefits

The preceding chapters describe in detail what has been delivered through the core components of the program. Table 14-2 summarises these findings and outlines additional benefits to students, local health and community services and communities that have been derived through engagement with the RHMT program.

Input	Activities/Outputs	Outcomes	Other Benefits
Program funding Academic and Professional staff	Student placements: Pastoral support Cultural safety training	 Increased No. Student placements Increased No. Student weeks Increased % rural origin students Innovative teaching models and placements: Medicine – across acute and primary care settings Allied health service-learning Nursing – some non-acute care settings 	 Students – good learning experiences (clinical and rural exposure) Service-learning – new and/or augmented therapeutic interventions meeting local community needs and gaps in services; increasing access to health services New student-led health promotion and prevention programs Expanding student-led dental clinics to rural and remote locations Supporting clinical audits, quality improvement processes Student-led research projects and supporting local research initiatives Social benefit - volunteering
Infrastructure: • Teaching • Student Accommodation	Local Academic networks - Employed, contracted/ conjoint, adjunct • Supervisor training and capacity building • Continuing professional development	 Supervision capacity and capability developed to supervise allied health, nursing and medical students New supervision models Developing interprofessional education opportunities 	 Local clinical services augmented by RHMT program employed staff Enhancing/ developing supervision capacity and capability in ACCHOs Social benefit – RHMT program academics and professional staff engagement and participation in local community and health governance groups Physical infrastructure including libraries, teaching facilities, meeting rooms, videoconferencing capability available to students, supervisors, local health professionals, local health and community services, community groups and organisations Visible presence of a university in the town – benefit to the town (kudos) and to the central university (demonstrating its social contribution to the area)

Table 14-2 Overview of programmatic outcomes and benefits

Input	Activities/Outputs	Outcomes	Other Benefits		
University – In-kind (curriculum, some research support)	 Research Research capacity building Graduate tracking 	 Increased research capability within RHMT program units, local services and students Local research and evaluation Local research networks established with health and community services and local providers 	 Research translation for new health service models and improved practices 		
	 Regional Training Hubs 	 Regional training pathways developed for several specialties and rural generalists Career planning and vocational guidance for medical students and junior doctors 	 Strong partnerships in some locations between the RTH/university and LHN and/or regional hospital Resource sharing i.e. shared employment arrangements between RTH and LHN Collaborations across RTHs to map training pathways at jurisdiction or sub-jurisdiction level to enable medical students and junior doctors see rural and regional training options 		
	Rural Health Clubs	Student and community activities	Career expos, school visits – promoting health careers to rural school students		
Partners – local health services and providers, and Community	 Community projects and community development 		 Economic benefit to communities (Multiplier effect approximately 2) Pride and kudos of having university in the town Support local government in development of community social plans, local and regional projects and services Workforce generator – developing supply line from student to early career practitioners University alumni working and teaching in regions 		

Over the last twenty years the RCSs and UDRHs have established a university presence in rural communities, provided new capital infrastructure, built local academic and professional networks, enabled the teaching and supervision of health students beyond the confines of the city, developed rural and remote research capacity and expertise, and strengthened clinical service delivery across Australia.

Teaching Innovation

The RHMT program has demonstrated that universities can be supported to deliver tertiary-level teaching and training of health students in rural, remote and regional settings to a standard that is equivalent to, or higher than that of metropolitan settings.

RCSs have developed networks of clinical supervisors in rural, regional, remote and very remote locations and in hospital, general practice and Aboriginal and Torres Straits Islander primary health care settings for the delivery of extended and short-term placements for medical students. These local networks, spanning acute care and primary care, and the public, private and Aboriginal Community Controlled health sectors can offer innovative and diverse learning opportunities for medical students during extended placements.

Supervision capacity has been increased in the hospital setting through vertical training models using medical specialists, rural generalists, registrars and junior doctors and similarly in rural hospitals and general practice. Multidisciplinary supervision for medical students has progressed in ACCHOs, rural hospitals, remote primary health clinics and outreach services. Furthermore, supervisor training strategies employed by the RCSs are relevant to and provide benefit across the medical training continuum from students to vocational training for registrars.

Several universities have established medical education models where all, or the majority, of the medical program is delivered in regional and rural locations and will be progressed by other universities through the Murray Darling Medical Schools Network.

New service-learning allied health placement models have emerged, initially in response to community and workforce need, and are becoming widely spread across the UDRH network for "real world" training opportunities as well as meeting local health service gaps. Service-learning placements have been developed for a range of disciplines including podiatry, occupational therapy, speech pathology, physiotherapy, exercise physiology and social work. Service-learning placements are delivered in a diversity of settings such as schools, residential aged care, ACCHOs, private practices, community organisations, hospitals and remote health clinics. Placement supervision is provided under various models including direct employment of clinical educators by the UDRH, sub-contracting local clinicians or supporting private practitioners. Through these placements, new and augmented services are available targeting chronic disease management, early childhood development, child behaviour and learning development, physical rehabilitation and mobility, drug and alcohol early interventions. The continuity of student supply to ensure ongoing service delivery to communities through the placements is a challenge which has largely been met by UDRHs through collaborations with universities and faculties that value this contribution to rural communities.

Longer rural immersions have been established by several UDRHs by tailoring placements to meet requirements of specific allied health programs. Faculties are increasingly recognising the

value and learning benefits to students of longer immersions. One UDRH has worked with the central university to establish a full year training placement for three allied health disciplines, and another university is currently revising its pharmacy program to enable extended rural placements.

While nursing curricula requires the majority of clinical placements to occur in acute care settings, the UDRHs have developed strategies to support rural and regional hospitals increase the volume of student placements as well as developing new placement opportunities to enable student nurses experience of and exposure to primary care, mental health, aged care and remote health. End to end nursing programs are offered by several universities in receipt of RHMT program funding.

The RHMT program requires UDRHs and RCSs to deliver high quality training with specific annual placement targets for (i) the number of placements and (ii) placement weeks. Across the program, the universities have largely met their placement targets.

Research capability and capacity

Through the network of RCSs and UDRHs, rural and remote research capability and capacity has been built over time with each centre having the autonomy to develop their own research strategy and direction. In addition to developing research capacity through a variety of training and development offerings for students and supervisors, and in local health and community services, the RCS and UDRH network has developed research capability within their teams by supporting staff to undertake higher degree programs.

The RCSs and UDRHs have been instrumental in progressing research in rural and remote health, rural health workforce, rural health service delivery and rural training. Key collaborative research efforts have informed a number of Commonwealth health workforce policy initiatives. At a local and regional level, their research and evaluation efforts have driven the development of new or improved teaching models, service models and programs, and clinical practice.

Workforce Outcomes

While an intended outcome of the RHMT program is to increase the number of appropriately qualified health professionals working in rural, regional and remote Australia, many factors external to the program influence where health professionals work. There is an established evidence base describing community, personal and professional factors as drivers for recruitment and retention of health professionals to rural and remote areas. Furthermore, Commonwealth and state health workforce policies and initiatives impact on the availability of employment opportunities for graduates and early career practitioners.

Medicine

There is now evidence of the longer-term impact of rural immersions during university medical school training on workforce outcome. At a program level, the literature published by universities funded under the RHMT program demonstrates that after controlling for rural background, students who are RCS participants are significantly more likely than non-participants to take up

rural practice. While not all universities have individually published their medical workforce outcomes, the inter-university comparative analysis undertaken by McGirr et al., (2019) has demonstrated significant variation between RCS programs on the proportion of graduates working rurally. Predictors for rural practice have been identified through the research efforts funded under the RHMT program. Individual universities can use this evidence to revise their approach to rural training to increase rural workforce outcomes and return on investment.

Allied Health and Nursing

There is very limited literature to assess the impact of rural undergraduate placements on workforce outcomes for allied health, nursing and dentistry. However, the Multidisciplinary Health Workforce Survey undertaken as part of this evaluation has demonstrated the positive impact of allied health and nursing undergraduate rural placement on future rural work. While the study does not differentiate between UDRH or other rural placements the findings demonstrate the impact of longer rural placement (which may be cumulative) and positive rural placement experiences on future rural work for nurses and allied health professionals.

Community benefits

The RHMT program provides a range of benefits to the communities in which they operate. This was described by stakeholders to include social and economic benefit, community development activities, development of the local health and community services workforces and research capacity building.

Through the RCS and UDRH network, the universities employ academic and professional staff, invest in teaching facilities and accommodation through direct builds, purchase of properties and rental arrangements. Two universities have modelled the economic impact of the training components of the RHMT program at a town level or across regions with consideration of direct expenditure related to teaching, training and accommodating students, and student expenditure while on placement. The economic analyses have demonstrated a positive multiplier effect of around 2 i.e. for every dollar directly spent on delivery of RHMT program training components and by students on placement, resulted in a flow on effect of an additional \$1 in the communities (Remplan, 2018; May et al., 2019).

Academic and professional staff contribute to the social fabric of the communities where they reside. This includes but is not limited to participation in professional and community networks, local governance and regional development activities, in additional to their contribution as individual citizens.

Across the RHMT program sites, students on placement contribute to communities through volunteering, participation in sporting and community events, career expos for secondary students and, for those on longer placements, coaching sporting teams, mentoring young people and often as role models for young people who aspire to a professional career.

In addition to their social contribution, students provide additional capacity to the health and community services and practices where they are placed. As well as the direct delivery of health interventions through service-learning placements and student-led clinics, students can

be the key workforce to support local (busy) clinicians in the development of new health programs and resources and, support research projects and quality improvement activities.

Community development activities supported through the RHMT program are multi-faceted. There were multiple examples of RCSs and UDRHs working with local government, ACCHOs and NGOs to undertake locally relevant research and needs assessments to develop funding proposals, inform health promotion projects and service development strategies, with some supporting the local government in the development of community social plans. Community development strategies underpinned the work of UDRHs to expand clinical placement opportunities, working with Aboriginal and Torres Strait Islander community organisation, local government, disability services and aged care providers to develop placements and through these providing a raft of new programs or strengthening existing programs. After school programs, school holiday and youth programs, falls prevention programs, group exercise programs are examples in addition to direct clinical and therapeutic interventions offered through service-learning placements. Research networks and local conferences auspiced by UDRHs and/or the RCSs showcase community development activities and are illustrative of the community agenda driving the research agenda.

The evaluation found evidence of the value of rural placements as a 'workforce generator' or supply line particularly for graduate nursing positions and allied health positions where jobs were available; creation of new positions within organisations when they see the benefit arising from a placement; longer placements effectively a long interview as a recruitment strategy and transition to rural work. Alumni of the RHMT program inclusive of doctors, allied health professionals and nurse are now visible in many communities, working in their professions and often also teaching and supervising current students.

The RCSs and UDRHs offer professional development and delivery of short courses for local health professionals; many offer customised cultural training for health and community services; and provide opportunities for health professionals to combine teaching/research with clinical work as a recruitment and/or retention strategy for local health services.

14.3 Cost analysis – Student placements

Delivering student placements is a core requirement of the RHMT program and one of the key metrics the universities report to the Commonwealth. This section characterises the costs associated with student training undertaken through the RHMT program, including attribution of the 'cost per-student placement week' of providing rurally based clinical placements for medical, allied health and nursing (combined) and dental students.

The analysis used the data collated in Table 14-1. In order to reflect the ongoing operational costs of providing rural clinical placements, the analysis excluded depreciable fixed-capital expenditure (e.g., construction of new buildings).

Universities' disaggregated program expenditures were cross-referenced with their activity outputs to determine the weighted average cost-per-rural placement week for each university by program operational unit. The average costs-per-rural placement week by RCS, UDRH and DTERP operational units are summarised in Figure 14-1.



Figure 14-1 Cost per rural placement week (RA2-5)

In 2018, participating RCSs completed 95,961 RHMT program funded (long and shortduration) rural clinical placement weeks for Australian medical students at a total recurrent cost of approximately \$127m. Universities' average costs-per-rural placement week ranged from \$488 to \$4,579, with a weighted mean of \$1,245 (std. dev.: \$761). Approximately three quarters of universities' total RCS rural placement weeks (74.5%) had an average cost of less than \$1,500 per placement week.

The costs of RHMT program funded rural placements for nursing, midwifery, pharmacy and other allied health students were slightly less varied and, on average, less expensive than those provided to medical students. UDRHs completed 65,014 total placement weeks for Australian students at a recurrent expenditure of approximately \$66.1m. Universities' average costs-per-rural placement week ranged from \$304 to \$4,785, with a weighted mean of \$953 (std. dev.: \$629). More than 95% of total UDRH placement weeks had an average cost of less than \$1,500 per placement week.

In 2018, the six DTERP programs provided 2,354 rural placement weeks for Australian dental students at a total recurrent expenditure of approximately \$3.7m. DTERP program expenditures were more tightly clustered than those of RCSs and UDRHs. Costs-per-placement week ranged from \$649 to \$2,481, with a weighted mean of \$1,210 (std. dev.: \$571).

Key to this analysis is the extent to which the costs of rural placements vary by remoteness discussions with university stakeholders suggest that increasing the remoteness of placements entails higher program costs, particularly with respect to local purchases, student support activities and transportation. Notwithstanding these differences, there is also some apparent variation between universities with respect to (average) costs-per-placement week, irrespective of remoteness. This variation is likely related to program maturity, geographic reach, and economies of scale, among other factors. Figure 14-2 and Figure 14-3 plot universities' average cost-per-placement week by program size and the proportion of clinical placements undertaken in outer-regional, remote or very remote areas (RA3-5) (by RCS and UDRH programmatic units, respectively).



Figure 14-2 RCS - Average cost per-placement week by university and proportion in RA3-5

As indicated in Figure 14-2, the majority of RCS placements are undertaken in inner-regional (RA2) areas (Quadrant III). There is relatively less variation in average cost between programs that facilitate less than 25% of their rural clinical placements in RA3-5 areas. While individual universities may incur higher costs when facilitating more remote placements, there is no clear (linear) association between remoteness and average cost between universities, with considerable apparent variation in average costs among universities facilitating around three quarters of their clinical placements in RA3-5 areas (Quadrant IV). The clear outlier in Quadrant I comprises a relatively small program.



Figure 14-3 UDRH - Average cost per-placement week by university and proportion in RA3-5

There is even greater variation between universities with respect to the cost and remoteness of UDRH placements. While informants referenced higher costs for more remote placements, there is no apparent linear association between remoteness of placement and average cost between universities. Nearly all of the programs' average costs per placement week were between around \$500 and \$1,500, irrespective of the overall proportion of placements facilitated in RA3-5 areas (Quadrants III and IV). Again, there is a single clear outlier in Quadrant I—a small UDRH program. It should be noted that as Figure 14-3 reflects an amalgamation of nursing and allied health placements, it may obscure potentially important impacts related to discipline, rather than efficiency, per se. That is, in addition to economies of scale and other structural factors, the mean cost of multidisciplinary placements is also likely impacted by the various disciplines' particular training requirements.

Any inter-program comparison informed by Figure 14-2 and Figure 14-3 should take a number of caveats under consideration:

- Inter-program comparison is generally only appropriate between like-sized programs— Individual RCS and UDRH programs of different size entail different economies of scale that may translate into distinct cost and efficiency possibilities
- Smaller programs are more sensitive to changes in parameter values—Larger programs with proportionally few placements in RA3-5 areas may still be providing a greater absolute number of rural and remote placements than smaller programs that emphasise delivery in these areas
- Outliers are unique—Clear outliers represent programs with distinct structural circumstances likely to bias comparison with most other programs on the basis of cost-effectiveness

- From a cost and efficiency perspective, universities appear differently positioned to extend the RHMT program into smaller and more remote communities (RA3-5)
- Apparent differences in cost structure and efficiency should inform a deeper, qualitative inquiry into these programs' quality and other characteristics
- For a given university, more remote placements are generally more expensive to administer, but it is not necessarily the case that all placements in RA3-5 areas are more expensive than those in RA2 areas (e.g., a regionally based university may facilitate placements in RA3-5 areas at a lower mean cost per placement week than a metropolitan-based university)

14.4 Cost-effectiveness of investing in rural multidisciplinary clinical placements

Are investments in rural clinical placements a cost-effective way to develop Australia's rural multidisciplinary health workforce?

By pairing the average cost of providing a long-duration clinical placement (approx. 20 weeks) with the workforce impacts estimated in Section 13.5.1, we may calculate a UDRH program cost-effectiveness ratio for each discipline. Dividing this cost by the estimated impact—i.e., the hours of rural work gained as a fraction of a full week—these cost-effectiveness ratios represent the expenditure to achieve an additional FTE nurse, midwife or allied health professional in a rural area (ASGS RA2-5). Results are presented in Table 14-3.

Discipline	Avg. duration (highest quintile rural placement)	Recurrent cost to UDRH	Surplus hours worked (RA2-5)	Cost per- FTE [†]
Allied Health	20.6 weeks	\$19,624	12.07	\$61,782
Nursing and Midwifery	19.4 weeks	\$18,481	18.02	\$38,972

Table 14-3 Cost-effectiveness ratio estimation

⁺ Full-time equivalent based on 38-hour week.

As shown in Table 14-3, providing an average of 20.6 weeks of rural training exposure to allied health students who would otherwise not undertake rural clinical placements would generate approximately 12 hours of work in a non-metropolitan setting per student per week at an average cost of \$19,624 (\$61,782 per FTE).

Providing an average of 19.4 weeks of rural training exposure to nursing and midwifery students who would otherwise not undertake a rural clinical placement is expected to yield around 18 additional hours of rural work per student per week at an average cost of \$18,481 (\$38,972 per FTE).

Importantly, these ratios represent the estimated cost-effectiveness of rural clinical placements

nation-wide. Individual training programs are likely to vary with respect to efficiency, quality, and effectiveness. Universities operate in distinct jurisdictional environments and face disparate structural circumstances and regional health workforce needs. The cost per-FTE attributable to individual universities' workforce impacts may therefore differ considerably from the average cost-effectiveness ratios reported above.

14.5 Limitation to the cost analysis

There are a number of limitations to the cost analysis:

- The analysis provides an estimate of the cost of rural placements as detailed cost and expenditure data was not provided by the universities
- The analysis assesses cost of training but does not assess quality
- Only one metric was analysed i.e. placement week, and clearly the universities deliver a range of outputs to varying extent through the RHMT program investment.

14.6 Limitations on determining Value for Money

Cost effectiveness is a commonly accepted method for evaluating value for money. However, it was not possible to undertake a comprehensive cost effectiveness analysis of the RHMT program for a number of reasons:

- The planned medical workforce outcome survey was not feasible due to another national survey occurring at the same time. While published workforce outcome literature has been reviewed to describe impact of the program on rural medical workforce, data was not sufficient to inform an economic analysis
- The Multidisciplinary Health Workforce Survey provided a measure of allied health and nurse graduate work following rural undergraduate training, however, the survey could not differentiate UDRH supported placements from non-RHMT program supported rural placements.
- With respect to multidisciplinary training, expenditure data for cost of placements in metropolitan locations was not available and hence it was not possible to compare relative cost of training in rural versus urban settings.

However, Value for Money is a broader concept than the economic assessment alone, and considers what was invested, what was the result of the investment, was it worth it and, to whom?

Therefore, the evaluation has sought to identify the outputs, and tangible and intangible benefits derived through the program for a range of stakeholders including students, health and community services, local health professionals and supervisors, and rural communities. These have been described in this and previous chapters.

Greater transparency of allocation of resources (in-kind and financial) and program expenditure by the universities and, more targeted performance and outcome measures at a program and

university level would enable a stronger assessment of Value for Money.

14.7 Monitoring program efficiency

The RHMT program is intended to support universities in their delivery of rural training. Therefore, in order to understand the total cost of training it is important to understand the direct and in-kind contribution of the universities in addition to the RHMT program funding. Figure 14-2 and Figure 14-3 indicate variation between universities in cost of training. Therefore, to ensure the program is maximising its impact as efficiently as possible, the Department could consider requesting the universities to:

- Describe and quantify their in-kind contribution to the delivery of rural training (teaching, placement support, student support, research and infrastructure)
- Provide a detailed cost and expenditure report including identification of funds spent directly in the regions and funds spent through central university entities.
15. Conclusion and Recommendations

15. Conclusion and Recommendations

15.1 Introduction

This evaluation has found that overall, the RHMT program has been an appropriate response and important contributor to addressing rural health workforce shortages. After two decades there is a strong foundation for rural training and research in rural, remote and regional areas which is now considered routine.

The maturity of the RHMT program is recognised. Recommendations are offered to improve the various components of the RHMT program to ensure it continues to be an appropriate approach to addressing current and emergent rural health workforce shortages, contemporary models of care and characteristics of the new generation of health professionals. The RHMT program is situated in a complex and changing health and higher education policy environment which needs to be considered in the future iteration of the program.

The recommendations focus on:

- Program Outcomes, Objectives and Principles
- Student selection
- Curricula
- Placement Quality
- Strengthening the research networks
- Responding to community and workforce need
- Transitioning medical students to rural work
- Social Accountability
- Measuring program impact
- Program performance
- Funding and innovation

The chapter concludes with a set of draft outcomes and objectives for consideration by the Department.

15.1.1 Complex and changing environment

The RHMT program operates in an environment where the health workforce is maldistributed and relatively fragile with high turnover of medical, allied health and nursing professionals particularly in rural and remote locations. There is an established evidence base that community, professional and personal factors influence recruitment and retention in both the short and longer terms. Furthermore, there are multiple Commonwealth, state and territory government policies in place to support the training and professional development of health professionals, as well as incentives for recruitment and retention of health professionals, particularly medical professionals. The Department funds a number of rural medical workforce programs with the shared goal of delivering and retaining a medical workforce working in rural, regional and remote Australia (Chapter 1; Appendix 2; Appendix 2a). The suite of initiatives targets students (including the RHMT program), postgraduate training, incentivising and supporting GPs to continue to work rurally and funded support for practitioners to develop and maintain skills required for rural practice.

Job opportunities for graduates who have participated in rural training are critical to deliver the strategic intent of the RHMT program in rural, remote and regional Australia. As key employers of early career nurses and allied health professionals, the workforce training and employment policies of the jurisdictions influence the availability of jobs for new graduates. For medicine, different state and territory government policies influence opportunities for junior doctors to follow a rural training pathway as do vocational training requirements of medical specialist colleges and GP RTO general practice placement policies.

The RHMT program is a health workforce program delivered through the higher education sector. As such, changes to university funding as a result of capped Commonwealth funding for non-medical bachelor level places at 2017 levels, and increasing focus on high end research to improve university rankings and competitiveness in a global education market pose challenges to the RHMT program which seeks to leverage existing university capacity and capability. The emerging impact of fiscal tightening within universities and increasing focus on competitiveness for rural origin, Aboriginal and Torres Strait Islander students and international students was evident.

15.1.2 Sphere of influence of the RHMT program

Two of the four intended outcomes of the RHMT program are directed towards increasing the number of appropriately qualified health professionals working in rural and remote Australia and, ensuring a well distributed health workforce. However, while the intent of the RHMT program is to contribute to the rural health workforce, these outcomes are outside the direct sphere of influence of universities.

The direct sphere of influence of the universities' centres on student enrolment, delivery of accredited health courses and graduation of students (see Figure 15-1). Universities funded under the RHMT program are directly responsible for ensuring the delivery of high quality and positive rural training experiences for students and can be influential in encouraging their graduates to pursue a rural health career. The universities have some influence in supporting school students and others to aspire to health careers through the activities of the RHCs, and other programs they deliver separate from the RHMT program. Those universities managing RTHs have some, but limited, influence in the transition of medical students to rural, regional and remote prevocational training and facilitating vocational training capacity. There is no mechanism under the UDRH component of the program to support the transition of allied health and nursing students to employment in rural, remote and regional Australia.

Figure 15-1 A university's sphere of influence



15.2 Program Outcomes, Objectives and Principles (Recommendations 1, 2)

Recommendation 1:

The Department, in consultation with the universities, refine the objectives and outcomes of the RHMT program to better reflect the sphere of influence of the universities toward achieving the long term goal of a health workforce that is clinically and professionally capable and culturally responsive for rural and remote health practice.

Rationale:

While the intent of the RHMT program is to address rural and remote health workforce shortages, its contribution is predominantly focused on training health and medical students to develop knowledge, skills and aptitude for rural practice. The RHMT program would benefit by including focused program objectives and outcome measures that reflect the teaching and research activities of universities for which they are directly accountable.

Universities participating in the RHMT program contribute to the development of rurally capable graduates. This is through the delivery of accredited health program curricula that develops clinical and professional knowledge, understanding of Aboriginal and Torres Strait Islander health and cultural responsiveness to enable graduates to work in rural and remote models of care in a variety of clinical settings. RHMT program funding enables the delivery of this curricula by supporting students to undertake placements in rural, remote and regional locations.

Recommendation 2:

The Department, in consultation with the universities, adopt a set of principles to underpin the objectives and implementation of the RHMT program.

Principles

A set of draft principles is offered for consideration to underpin refinement of the program objectives, recognising the maturity of the RHMT program and the need to reflect the contemporary environment in order to meet current and emergent health and workforce needs

of rural and remote communities. We suggest a clear and comprehensive set of objectives could replace current objectives and parameters allowing for flexibility in how individual universities meet those objectives.

Principle	Rationale
The intent of the RHMT program is to contribute to rural workforce through high quality training and facilitating student engagement with communities to influence rural career choices.	It is designed to help secure a health workforce in rural and remote Australia which is well distributed and made up of the right kind of health professionals, in the right places, at the right time.
The RHMT program is a 'value- add' program.	It aims to assist universities to enhance existing rural health professional education programs where they are committed to contributing to address the rural health workforce issues and developing and testing innovations to do so.
Full and ongoing participation by Aboriginal and Torres Strait Islander people and organisations in activities across the whole RHMT program is central to improving equity and access, strengthening cultural safety and sustaining the community responsiveness of the program.	Equity and access are fundamental to improving the meaningful participation of Aboriginal and Torres Strait Islander people in the RHMT program. Genuine partnerships with Aboriginal and Torres Strait Islander people, organisations and communities will enhance the capacity of universities to deliver on all aspects of the program. Aboriginal and Torres Strait Islander people should be actively supported to participate in the program as students, employees, leaders and partners.
 The RHMT program complements other rural health workforce and education programs. 	It forms part of a suite of programs at Commonwealth, State and local levels and should complement, not duplicate.
The RHMT program has a longitudinal orientation towards 'building rural careers'.	This recognises the role of universities in preparing students for rural careers and in connecting with and supporting post graduate initiatives and programs.
The RHMT program is underpinned by a commitment to community investment and contributes to the social capital of the communities in which it is embedded.	It is important to recognise the economic, social and employment value of rural training sites to their rural communities and the contribution communities and health professionals make to student training.

Principle	Rationale
The RHMT program strongly supports high-quality education and training models that focus on developing rurally capable graduates across a range of health professions.	A generalist rural and remote workforce is required to meet the needs of rural communities including GPs, general specialists, generalist nurses and generalist allied health professionals.
The RHMT program will be responsive to identified and changing workforce needs over time, supporting opportunities for workforce training and retention particularly in smaller communities.	Workforce shortages continue to exist in many locations, particularly in MM 3-7 areas, and these shortages have changed over time. Training should prepare health professionals to be work ready and for the workforce in the right places, that is needed now and in the future.
The RHMT program strongly supports high quality research focused on rural workforce, rural training and service delivery and; research capacity building in rural communities.	Rurally focused research develops an evidence base to inform innovative education and training, rural workforce strategies, rural and remote models of care and service delivery.
 The RHMT program has regular and transparent performance monitoring, review and evaluation. 	The Department and universities need to be accountable for program delivery ensuring outcomes, benefits and investment is maximised.
The RHMT program supports innovation and collaboration locally, regionally, nationally and internationally.	The RHMT program is part of a complex health workforce and higher education system where community needs, models of care and workforce needs change over time. Responding to these changes requires collaboration, agility and innovation.

15.3 Student selection (Recommendation 3)

Recommendation 3:

The RHMT program requires each university to demonstrate how their selection process for rural placements identifies students with a genuine interest in rural health and preferences these students for extended and/or innovative rural placements.

Rationale:

The evaluation found variability in the processes and effectiveness of student selection

for rural streaming. While the literature (and the Multidisciplinary Health Workforce survey) demonstrates that metropolitan students who have had positive rural placements of longer durations across their university program contribute to the rural workforce, rural background as a predictor for future rural work remains an important consideration. While it is difficult to assess 'genuine interest' in rural health, several universities have developed multi-dimensional selection processes for rural placements including:

- Expressions of interest to demonstrate understanding of/or commitment to rural and remote communities, their expectations of the placement and what they are seeking to learn
- Interviews
- Consideration of rural background

The increased number of tertiary health programs and student enrolments has increased the demand for student placements. Furthermore, rural placements are increasingly being recognised as opportunities for good learning experiences. Therefore, selection of students for rural placements should identify and preference students with a genuine interest in rural and remote health.

15.4 Curricula (Recommendations 4,5)

Aboriginal and Torres Strait Islander Health

Recommendation 4:

The RHMT program requires universities to demonstrate that they meet AMC, ANMAC or professional association accreditation requirements for the inclusion of Aboriginal and Torres Strait Islander health in their health program curricula.

Rationale:

The evaluation found variation between universities in the extent to which Aboriginal and Torres Strait Islander health is scaffolded into program curricula. In most universities these subjects or topics are not directly assessed.

The universities are responsible for the development and accreditation of curricula for the health programs they offer. The AMC and ANMAC mandate curriculum including Aboriginal and Torres Strait Islander health content for medical and nursing courses respectively. Allied health curricula requirements are set by the relevant professional associations. It is not the Department's role to evaluate curricula and hold universities to account for course content.

Rural Health

Recommendation 5:

The Department consult with the universities to determine how rural health could be incorporated into their health program curricula.

Rationale:

There is no mandated requirement for rural health in program curricula. Universities in receipt of RHMT program funding could show their commitment to supporting the intent of the rural workforce program by including rural health in curricula with a focus on the differences of living and working in a rural and remote community, the social determinants of health, public health issues, remote health, health inequities, health service access and equity issues for rural and remote communities.

While the RHMT program enables a selected cohort of students to contextualise their learning in a rural environment, the inclusion of topics on rural health in course curricula for all students would provide a foundation of knowledge where the graduate may be caring for rural residents in metropolitan hospitals, or for possible future work in rural areas.

15.5 Placement Quality (Recommendations 6-14)

The RHMT program has multiple and inter-twined components that hinge around the RCSs and UDRHs providing quality student placements. These include development and maintenance of supervision capacity, developing research capacity of students, the academic networks and local health and community service staff more broadly.

Recommendation 6:

In setting targets and benchmarks for both the RHMT program and individual universities, the Department should consider factors including placement location; placement setting; quality and; innovative nature of the placement.

Rationale:

Quality has not been defined under the RHMT program framework. The evaluators developed an evaluative rubric to assess the extent to which universities were delivering quality placements relevant to the intent of the RHMT program (see Appendix 11 for full rubric).

Elements of a high-quality placement:

- Placements of extended length (at least 6-8 weeks allied health and nursing; 40 weeks medicine)
- Free or highly subsidised accommodation, utilities and Wi-Fi
- Good coordination of pre-placement applications that prioritise rural background students
- Written or online preplacement information to students about local amenities, and opportunities prior to the placement e.g., short online videos where the students can view the site, the accommodation and the key contact people.
- Face to face orientation to the clinical placement and location
- Clinical training experience specifically relevant to rural and remote job opportunities
- Clear learning outcomes of the clinical placement
- Regular access to teaching clinical educators and/or supervisors of the relevant discipline
- Access to structured inter-disciplinary education and service-learning opportunities (for allied health)
- Face to face cultural safety training contextualised to the location
- Placement includes planned and structured engagement with Aboriginal and Torres Strait Islander health services and/or community organisations
- Opportunities for students to meet people and undertake activities in the local community
- Opportunity to debrief with RCS/UDRH staff about clinical placement and personal issues
- Evaluation processes for improvement

UDRHs, to a greater extent than RCSs, are challenged in consistently delivering quality placements and meeting placement targets. There is a tension between delivering high-quality innovative placements that are resource intensive or shorter and less intensive placement that 'deliver the numbers'. Placements such as service-learning and student-led clinics provide benefit to students in gaining experience in "real world" rural models of care and increase service capacity or meet gaps in a community. However, to sustain these types of service-learning placements UDRHs require a consistent stream of students who value the rural experience. Where this has been achieved, UDRHs have been able to negotiate with universities or faculties, with similar commitment to rural communities, for flexibility in placement duration and setting. Establishing, managing and maintaining partnerships with placement partners requires sustained effort by the UDRHs.

It is recognised that placement targets and benchmarks are valuable for assessing the implementation, reach and achievements of the program but more nuance is needed in the way placements are reported and data interpreted. While the value of national program targets is recognised to assess overall program achievements, it is also important that the Department

retains the flexibility to negotiate targets with individual universities that reflect context, quality and promote innovation.

Recommendation 7:

To facilitate longer rural immersive placements, the RHMT program encourages:

- Universities to review allied health and nursing curricula and clinical placement requirements to enable longer rural placements in and across acute, nonacute and community care settings reflective of employment options in rural and remote communities.
- UDRHs to work with specific and/or like-minded universities or faculties and health and community services to develop longer rural immersions for nursing and allied health students, particularly to sustain student-led service-learning models.

Rationale:

The length of placements, including rural placements, are determined by each faculty in the development and accreditation of their course curricula. Furthermore, the states and territories' health departments have policies that can impact on the development of longer-term allied health and nursing placements. UDRHs have limited influence over the length of placements. However, a small number have worked with their central university to review allied health curricula and have successfully established, or are planning to establish, longer (up to a year) rural immersions. UDRHs have also been innovative in developing nursing placements in primary care, community mental health and remote health by topping and tailing acute care placements with these non-acute placements. In progressing longer placements and in different care settings, requires not only a review of allied health and nursing curricula in the first instance, but also negotiate placement length and settings with state and territory health services, as well as other placement providers.

The rural workforce literature and the Multidisciplinary Health Workforce Survey provides evidence of the positive effect of cumulative and longer duration rural placement on promoting rural work outcomes.

Cultural safety

Recommendation 8:

The RHMT program adopts the Ahpra definition of cultural safety to inform the development and delivery of cultural safety training for students, staff and supervisors.

Rationale:

Cultural safety training aims to ensure that students and staff act in ways that recognise

and respect the cultural identify of a person and safely meet their needs, expectations and rights and is an essential element of quality placement and supervision.

A core requirement of the RHMT program, is for universities to report the number of students receiving "cultural training". However, there is inconsistency in terminology used in the current RHMT program funding agreement and it is difficult to ascertain the nature or extent of cultural awareness and/or cultural safety training being delivered by universities at main campuses and how this is contextualised at rural sites.

Ahpra, through its Strategy Group, led by the Aboriginal and Torres Strait Islander members and in partnership with the National Health Leadership Forum, consulted on and finalised a baseline definition of cultural safety.¹⁷ Adopting this definition and requiring universities to report against it would facilitate better understanding of the extent to which students undertaking rural placements are participating in relevant cultural safety training.

Recommendation 9:

Through the RHMT program the universities be required to demonstrate their strategy for ensuring cultural safety of student placements and workplaces for all students, staff and supervisors.

Rationale:

The current RHMT program framework focuses on developing cultural safety of non-Indigenous students on placement but is silent on ensuring culturally safe placements for Aboriginal and Torres Strait Islander students. The development of culturally safe placements and workplaces for Aboriginal and Torres Strait Islander students and staff should be explicit in future guidelines.

Engagement with Aboriginal and Torres Strait Islander people, services and communities

Recommendation 10:

Through the RHMT program, the universities are encouraged to:

- Employ senior Aboriginal and Torres Strait Islander academics in leadership positions
- Recognise and value Aboriginal and Torres Strait Islander expertise in addition to academic and/or professional qualification for employed staff and people engaged on a casual or contract basis
- Develop a team of Aboriginal and Torres Strait Islander staff to work with and enact strategies for ongoing engagement with Aboriginal and Torres Strait Islander health services, organisations and communities, deliver cultural

¹⁷ <u>https://www.ahpra.gov.au/About-AHPRA/Aboriginal-and-Torres-Strait-Islander-Health-Strategy.aspx</u>

safety training and support Aboriginal and Torres Strait Islander students on placements

Develop tailored professional development programs aligned to career goals of Aboriginal and Torres Strait Islander staff

Rationale:

Establishing placements in ACCHOs requires the universities to have a genuine commitment to developing the cultural responsiveness of non-Indigenous students and providing reciprocal benefit to the ACCHO and/or local community. The evaluation identified numerous examples where this reciprocal benefit was evident and, in most cases the meaningful engagement with local ACCHOs was facilitated by Aboriginal and Torres Strait Islander staff taking the lead.

By strengthening Aboriginal and Torres Strait Islander teams and leadership in the RCSs and UDRHs, the universities can leverage on this expertise for input into the planning, delivery, monitoring and review of the key components of the RHMT program including teaching, placements, supervision capacity building, cultural safety of placements, cultural safety of the workplace, research, community and service engagement and community development.

UDRHs and RCSs draw on local Aboriginal and Torres Strait Islander people to fulfil a range of roles to support the delivery of cultural safety training to non-Indigenous students, supervisors and other health professionals, provide mentoring and support to Aboriginal and Torres Strait Islander students and, participate in various teaching activities. Many of these roles are performed on a casual or ad hoc basis. However, the evaluation found the inflexibility of human resource policies and processes in some universities challenged respectful engagement, employment and recognition of their Aboriginality as a qualification.

The contribution of Aboriginal and Torres Strait Islander people is an important and essential element in the education of health students, providing support and mentoring to Aboriginal and Torres Strait islander students through their studies and, providing a practical understanding of Aboriginal and Torres Strait culture to develop cultural responsive non-Indigenous students. Appreciation of the contribution of community members to student training needs to be appropriately recognised and remunerated.

Supervision capacity and capability

Recommendation 11:

To strengthen supervision capacity and capability in rural, remote and regional sites, the RHMT program encourages universities to engage with current and potential supervisors on a regular basis to identify and implement:

▶ Supports and skills development required to commence or continue to provide

supervision to students

- ► Employment or other engagement and recognition arrangements required recognising possible differences between localities, settings and disciplines
- Opportunities for localised or regional innovative supervision models.

Recommendation 12:

The RHMT program requires each university to adopt a continuous improvement process to benchmark and review the quality of placements and supervision capacity building strategies.

Rationale:

The quality of a student placement is highly dependent on the quality of supervision. Whilst the RHMT program operates in a relatively fragile workforce environment, particularly in rural and remote locations, the evaluation has identified innovative supervision models and supports structured to build and maintain local and regional capacity. UDRHs have developed supervision capacity through direct employment or sub-contracting particularly to support service-learning placements. Some RCSs have utilised this part-time employment approach as a mainstay for rural and remote sites, while other have used adjunct appointments or a mix of engagement arrangements.

RCSs and UDRHs described a range of activities employed to support supervisors to develop supervisory skills and capability, whilst recognising this was an area for ongoing effort and improvement, particularly in an environment where there is considerable movement of supervisors. An evaluative rubric for supervision capacity and capability was developed drawing on the literature, documentation provided by the RCSs and UDRHs, and consultations with supervisors, students and other stakeholders. The rubric provides a benchmark for assessing supervision capacity building and can be used by the universities for ongoing quality improvement (see Appendix 11 for full rubric).

Elements supporting the development and delivery of quality supervision

- Supporting supervisors to gain educational qualifications
- Support for supervisor-led research and/or opportunities to participate in research
- Documented governance processes to ensure supervisor safety and quality
- Building organisational capacity in local health services for supervision including administration, clinical education capability and workplace assessment capacity
- Face to face supervisor training
- Supervisor mentoring processes
- Conjoint or full adjunct appointments for supervisors with the university
- Formal processes for dealing with issues/complaints from supervisors or students

- Supervisors provided with individualised information about students' learning objectives
- Supervisors being familiar with the curriculum and assessment requirements of the various universities
- Supervisors being supported by academics and placement coordinators
- Supervisors provided with cultural safety training
- Regular feedback mechanisms
- Networking opportunities for supervisors with the RCS and UDRH

The sustainability of the RHMT program and the delivery of rural training to curricula requirements requires high quality placements underpinned by high quality supervision. Universities need to take a proactive approach to monitoring and reviewing placement quality including supervision capacity and capability.

Interprofessional learning

Recommendation 13:

The Department consult with the universities to determine how interprofessional learning could be progressed through the RHMT program.

Rationale:

Consolidation of the RHMT program was identified by the Department as a vehicle to improve the scope for interprofessional learning. However, delivery of interprofessional learning has been a challenge across most of the RCS and UDRH network with differences in curriculum requirements, placement lengths, timing of placements and different stages of student development within their course, impacting on the delivery of planned, structured and educationally relevant learning experiences. The need to develop effective interprofessional learning strategies has been identified by both FRAME and ARHEN.

There is a breadth and depth of knowledge and expertise in the academic and professional staff employed by the RCSs and UDRHs and currently limited opportunities where these groups come together to share learnings or jointly problem solve. ARHEN and FRAME could progress the development, implementation and evaluation of interprofessional learning models which would provide value and benefit to the broader network and establish a foundation for future shared work.

15.6 Responding to community and workforce need (Recommendation 14)

Recommendation 14:

In the next iteration of the program, the RHMT program requires all universities to:

- Invest to incrementally increase the proportion of placements provided in smaller communities
- Develop and sustain extended medical placements with exposure to general practice, ACCHOs, primary health care and rural hospitals to enable students to develop knowledge of the clinical skills and professional capabilities required of doctors working in rural and remote generalist models of care
- Develop longer immersive allied health and nursing placements in community and non-acute care settings in conjunction with local health and community care providers

Rationale:

Workforce maldistribution persists in rural, remote and very remote locations for general practitioners, general medical specialists, allied health professions and dentistry. While the nursing workforce is distributed across geographical areas it is an ageing workforce in rural and remote locations. The health needs of communities are changing with an ageing population, increased prevalence and acuity of chronic disease, and with this, changing models of care and approaches to service delivery are required.

To prepare the future health workforce for this changing rural health environment and workforce requirements the RHMT program needs a more nuanced approach to training that considers the evidence of the impact of placement duration, location and setting on workforce outcomes.

As a mature program, the universities can build on the training capacity that has been established, predominantly in RA2 and regional settings, as a stepping-stone, to increase and support placements and supervision in smaller towns. Where there may be limited options for extended placements in smaller communities, actively using regional towns as hubs to support students and supervisors for placements in smaller rural and remote sites should be encouraged.

15.7 Strengthening research networks (Recommendations 15,16)

Recommendation 15:

Through the RHMT program, universities be required to demonstrate that they are supporting rural research through the RCS and UDRH network by:

- Delivering high-quality research training, skills development and research support to local health professionals, supervisors, students and broader community stakeholders
- Developing regional consultative mechanisms to identify and respond to local research needs.

Rationale:

The RCS and UDRH networks have delivered on a broad program of research and built research capacity of the rural and remote health workforce. The RCS and UDRH networks undertake highly valued work at the local and regional level to build research skills and capability for students, graduates, supervisors and local health professionals and, conduct locally relevant research and evaluation.

The efforts of the RCSs and UDRHs to build local research capacity and, progress research and evaluation in response to community and stakeholder needs and priorities, demonstrates their social accountability and that of their central university and is fundamental to progressing the rural health research agenda.

Recommendation 16:

Through the RHMT program, universities be required to demonstrate how:

- RCS and UDRH researchers are mentored and supported to build their research capabilities and careers
- Targeted support and mentoring is provided for rural based early career researchers, mid-level and senior researchers to enable them to join established research teams to address national and global research questions related to rural and regional health and health workforce
- ▶ Rural research and teaching is recognised, valued and rewarded
- Collaborations with other RHMT program participants are developed and maintained to progress multi-site, multi-university and cross jurisdictional research to address nationally relevant questions and strategies for translation and dissemination

Rationale:

RHMT program sites draw on a range of funding sources to progress the rural health research agenda with access to national and competitive research funds highly

dependent on academic leadership in the RCS and UDRH.

The evaluation found central universities recognition of, and support to rurally based researchers to be variable. The applied and evaluative focus of rural research coupled with the scope of work of rural researchers and academics is not well aligned to the universities' metrics for academic progression. The evaluation identified that research capability and capacity across the RCS and UDRH network could be strengthened by central universities facilitating connection to, and support from, established research teams and institutes.

Through the RHMT program the RCS and UDRH has developed a sound foundation for rural research, produced a significant body of research to progress the rural health agenda and established an evidence base for rural education and training. This rural research network can be strengthened and supported through collaborations with their central university, across universities and across jurisdictions to progress rurally focused research of national and international significance.

15.8 Transitioning medical students to rural work (Recommendations 17, 18)

The Department, through the funding of RTHs under the RHMT program, has extended the role of universities to support transition of medical students to rural postgraduate training (and rural work) as part of the integrated rural medical training pathway.

Recommendation 17:

Through the RHMT program, RTHs place emphasis on engagement with RCS students and junior doctors for individual vocational planning and career guidance, with linkage to a rural clinical mentor.

Rationale:

The RTHs have been established as part of the Integrated Rural Training Pipeline which recognises the gap between graduation from medical school into regional prevocational and vocational training, and variable, and often limited availability of accredited training posts.

The RTHs have described a range of strategies to support medical students and junior doctors into regional training. Only about a half were found to directly engage with medical students and junior doctors, for career planning, vocational guidance and facilitating linkage with a rural clinical mentor.

RTHs clearly have a role in supporting the transition of RCS graduates and other medical students with a genuine interest in rural health into prevocational training in the regions. The location of RTHs in regional areas positions them to directly engage and support medical students and junior doctors to develop individual training plans toward rural medical pathways. This should be a priority for all RTHs.

Recommendation 18:

To enhance the impact of RTHs at a regional level, the Department work with the state and territory governments to explore mechanisms to progress the Integrated Rural Training Pipeline with consideration of a framework that identifies shared goals, joint planning processes, and alignment of resources to support regional training and workforce development.

Rationale:

The Commonwealth funds a number of rural medical training initiatives targeting junior doctors (i.e. RJDIF) and registrars to progress GP specialist training, through the AGPT rural stream and Rural Generalist Pathway, and non-GP specialist vocational pathways through the STP-IRTP as well as STPs. In addition, the Commonwealth funds the RWAs to support the recruitment and retention of GPs to rural areas. States and territories have responsibility for the employment and training of interns, junior doctors and hospital-based registrars on vocational pathways.

The RTHs have a facilitation role to join up the Commonwealth and State initiatives to progress the Integrated Rural Training Pipeline. However, their effectiveness appears to be dependent on the strength of partnerships with the LHNs and regional hospitals. The evaluation found local relationships, local leadership, opportunities for shared investment (e.g., co-employment arrangements, contribution of STP-IRTPs) and personnel with well-developed understanding of accreditation of training posts and pathways to be key enablers.

The impact of the RTHs and the RHMT program as a whole, would be enhanced by alignment of the goals and objectives of the Commonwealth funded initiatives across the medical training pathway to completion of fellowship together with those of State and Territory employment and training initiatives.

The co-design of medical training and employment strategies at jurisdiction and regional levels offers the potential for aligned activities toward regional workforce outcomes across these programs. Partners in the co-design strategy include the University relevant to the region(s) managing the RCS and RTH; ACRRM, RACGP and the GP RTO(s); medical colleges holding STPs and STP-IRTP; LHNs managing prevocational training posts (including RJDTIF) and vocational training posts; the RWA and PHN relevant to the region. The Rural Generalist Coordinating Units will also be operating in this space in 2020.

15.9 Social Accountability (Recommendation 19, 20)

Community Engagement

Recommendation 19:

The RHMT program requires the universities to have formal consultative mechanisms for engagement with communities and key stakeholders (i.e., health and community services, supervisors, local government) to:

- Identify local and regional training, research, community development priorities
- ► Develop, implement, monitor and review collaborations
- Progress evaluation and quality improvement of program components including placements and supervision capacity building
- Provide feedback on initiatives and activities

Rationale:

The precursors to the RHMT program were founded on innovation and community responsiveness. The establishment and maintenance of Community Boards was a requirement of earlier RCS and UDRH contracts but was not continued under the consolidation contract. Internal and external stakeholders to the RHMT program are keen that the universities and local sites remain responsive to the community and region in which they are situated. This is fundamental to the social accountability of the universities funded through the RHMT program in "directing their education, research and service activities to the priority health concerns of the community, region and nation" (Boelen & Heck, 1995).

While the maintenance of effective and meaningful community governance structures is challenging, mechanisms for the universities to engage with communities and key stakeholders for planning, evaluation and review, and quality improvement is demonstrative of their social accountability.

Community investment

Recommendation 20:

To maintain the rural integrity of the RHMT program, the Department has clear contractual requirements to protect and quarantine rural funding and maximise investment of RHMT program funds in the regions. This includes evidence of:

- Identifying and reporting on investment of RHMT program funds in rural communities
- ▶ Involvement of rurally based academics in university and faculty governance

processes

- Purchasing locally wherever possible
- Employment of local staff and engaging local contractors
- Engagement with community targeted consultative mechanisms
- Articulation and quantification of in-kind contribution by the university
- Delivering full or extended components of university degrees in regional campuses
- Senior leadership living rurally
- Employment arrangements for rurally based staff comparable to metro counterparts

Rationale:

There has been a waning in commitment to maintaining the rural integrity of the program by some universities. Centralised strategic and budgetary decisions, purchasing and human resource functions and centralisation of some key staff impacts the economic and social benefit derived through the RHMT program and accountability of the university to the communities in which they operate.

The evaluation identified that in most universities, academics and professional staff employed under the RHMT program are predominantly on fixed term contracts, as it is deemed to be external funding. This is in contrast to centrally employed staff who are more likely to be employed on continuing contracts. A clear signal of commitment to rural integrity by the universities would be the overt recognition of the embedded role of rural programs (and rural academics) in respective faculties by offering continuing contract arrangements in line with centrally based academics and professional staff.

Rural communities, rural health and community services and rural practitioners are critical to provision of the training component of the RHMT program. Therefore, the principle of community investment should underpin the RHMT program. Recognising the increasing fiscal pressure on the university sector it is important that universities maintain their commitment to rural communities and counter strategies that potentially weaken this commitment.

15.10 Measuring program impact (Recommendations 21,22)

Medicine

Recommendation 21:

The Department consult with universities to review current approaches to graduate tracking to determine an agreed methodology and variables in order to enable comparison of outcomes across universities.

Rationale:

All medical schools have progressed graduate tracking programs linking university records with Ahpra, the MSOD and FRAME student survey. The majority of studies examining workforce outcomes have reported on single-institution outcomes, with only one inter-university study reported to date. Concurrent to the RHMT program evaluation, the Department has funded MDANZ to undertake the annual MSOD survey and national trend report and explore a potential data linkage with Ahpra registration data which may inform future tracking methods.

Graduate outcome by universities has been a key metric to link training with the aims of the RHMT program. However, methodological inconsistencies do not allow for a direct quantitative comparison of single-institution RCS program outcomes limiting the assessment of the impact of the RHMT program as a whole on medical workforce outcomes.

Nursing and Allied Health

Recommendation 22:

The Department review the current requirement for UDRHs to track individual allied health and nursing students under the RHMT program agreement.

Rationale:

While the intent of graduate tracking is to determine the impact of the UDRH supported placement on rural workforce outcome, there are multiple confounders that challenge the feasibility of UDRHs tracking students and validity of findings e.g., students may be supported by more than one UDRH during the undergraduate program; often short duration placements; students can access rural placements independent of a UDRH; availability of rural employment opportunities. While there may be opportunities to develop a national data linkage mechanism between universities (not only those funded under the RHMT program) and Ahpra, this would only capture those allied health disciplines registered with Ahpra.

15.11 Program performance (Recommendations 23, 24)

Recommendation 23:

The Department develops a national monitoring and evaluation framework for the RHMT program.

Recommendation 24:

The Department require each RHMT program funded university to conduct an evaluation of their RHMT program in the next iteration of the program, using the national monitoring and evaluation framework.

Rationale:

Evaluation of the performance of individual university programs was outside the scope of this evaluation. However, as highlighted throughout this report, the evaluation found considerable variation between universities across all aspects of the program and the extent to which they are meeting program requirements and contributing to improving workforce outcomes. Furthermore, there was limited evidence of internal evaluations of individual universities' programs.

A monitoring and evaluation framework at both a program level and individual university level would provide a stronger mechanism for assessing and monitoring performance for formative and summative purposes in the next iteration of the program. A more rigorous performance management approach would enable the Department to enhance the effectiveness of the program and to address issues of concern in a timely manner.

15.12 Funding and Innovation (Recommendations 25-29)

Program expansion

Recommendation 25:

In recognition of geographic gaps in the delivery of multidisciplinary placements, the Department investigate the feasibility of the RHMT program network expanding functions into these regions or establishment of additional UDRH(s).

Rationale:

UDRHs are located in each state and the Northern Territory. However, there are obvious geographic gaps in coverage including Central Queensland and the South West and Goldfields regions of WA.

Expanding the RHMT program into regions where a university presence is limited or absent would enable the further development of rural placements and increased training opportunities in smaller towns and communities (MM 3-7 regions) as well as offering social, economic and workforce benefits.

Funding allocation

Recommendation 26:

The Department review the funding allocation formula for the RHMT Program to take into consideration remoteness for the delivery of the whole program.

Rationale:

Currently, each UDRH receives a comparable quantum of funding. However, there are higher operating costs for UDRHs that support and maintain staffing and supervision across dispersed communities as well as costs associated with supporting students to undertake placements (i.e. transport and relative accommodation costs in more remote locations).

The RHMT program operates within a finite budget. It is acknowledged that in the absence of an increase in program funding, reallocation of resources would be required to recognise differences in operating costs and support training in more remote environments.

Progressing innovation

Recommendation 27:

In the next iteration of the RHMT program, the Department considers:

- Establishing an innovations funding pool to support and drive new initiatives including training, research and community engagement, to enable universities to be agile and responsive within the changing rural environments in which they operate
- Targeted investment to increase training in MM 4-7 through universities that can demonstrate their capacity to deliver high quality, value for money placements in rural and remote areas.

Rationale:

The RCS and UDRH network have well established approaches to training and research in their regions. However, the evaluation has identified that the majority of medical and multidisciplinary training occurs in inner regional areas (RA2), and for medicine and nursing in the acute care setting. The benefits of allied health service-learning models have been described. There are a small number of universities that deliver the majority of their placements in RA 3-5 (MM 4-7) ¹⁸ which can be built on with targeted resourcing.

While research is a requirement of the RHMT program agreement with the universities, there is not an identified quantum of funding to progress rurally focused research specified in the agreement.

Universities should be encouraged to develop and progress new models for training and supervision, research collaborations and community consultative mechanisms

¹⁸ Currently the RHMT program uses the ASGS – RA classification of geographical remoteness. There is a recognised anomaly of this classification particularly for RA3. The Department is moving to adopt the Modified Monash (MM) Model geographic classification for all workforce programs and it is our understanding that the RHMT program will transition to MM.

to provide benefit within their own geographic region; to inform the broader RHMT program participants and; contribute to the evidence to develop rurally capable health professionals and rural workforce.

Progressing a multidisciplinary rural training and career pathway

Recommendation 28:

In the next iteration of the RHMT program, the Department resources the universities to extend the role of the UDRHs to facilitate transition of allied health and nursing students into graduate roles in rural, remote and regional areas. The key functions include:

- Augment the supervision capacity and capability of local health and community services to enable these agencies to establish graduate and early career positions (i.e., PGY 1-4)
- Engage with students on placement to provide career guidance outlining pathways to rural work and rural careers
- Provide additional education, professional development and mentoring support to new graduates and early career practitioners

Rationale:

For allied health and nursing the most significant predictive factor for long term rural practice was found to be initial rural practice i.e. the first job after an undergraduate degree (Playford et al., 2020). The evaluation identified a role for UDRHs to support transition of graduates into rural work.

This aligns with the findings of *The Educating the Nurse of the Future Review* identifying that graduate nurse positions in primary health care, community care and, rural and remote locations are novel and very limited and the need for Transition To Practice programs in settings other than acute care.

The National Rural Health Commissioner has been tasked to develop recommendations to improve the quality, equitable access and distribution of the regional, rural and remote allied health workforce. A proposed key initiative is pooled funding arrangements for place-based service models that promote supported and rewarding rural allied health careers. This dovetails with the intent of the RHMT program presenting an extended role for UDRHs for the delivery of longer rural training immersions and supporting students as they transition into early career roles.

A recent review by SARRAH of strategies for increasing recruitment and retention of allied health professionals in rural Australia (Battye et al, 2019) further describes a rural pipeline and demonstrated how the work currently undertaken by UDRHs could be extended across the career continuum including to support the transition of graduates into rural work. UDRHs have demonstrated their capacity and capability to directly supervise students, develop and support supervision capacity of other health professionals in acute and community care settings, and provide pastoral care and support to individual students, all of which can be applied to early career graduates and the services in which they work. Furthermore, augmenting supervision capacity in local health and community services provides future benefit to the UDRH through increased student placement capacity and supervision capability.

As occurred with the establishment of the RTHs, additional investment will be required to extend the role of UDRHs to support the transition of nursing and allied health graduates into rural work.

Articulated training pathways

Recommendation 29:

The Department of Health consult with the Department of Education, Skills and Employment on the *National Regional, Rural and Remote Education Strategy* to determine the feasibility of extending the role of UDRHs into the pre-university sector and in supporting students enrolled in online health courses.

Rationale:

Stakeholders contributing to the evaluation, including the Aboriginal and Torres Strait Islander health workforce peak bodies and ACCHOs, identified a role for the UDRHs and RHMT program funded universities to develop pathways to articulate training for Enrolled Nurses, Aboriginal Health Workers/ Practitioners and Allied Health Assistants to tertiary qualifications. *The Educating the Nurse of the Future Review* identified the need for articulated training pathways from VET credentials to degrees to enable transition from Enrolled Nurse to Registered Nurse qualifications.

As locally placed entities UDRHs are well positioned to develop pathways between rural secondary schools, the VET sector and universities. UDRHs employ or contract clinical educators and there is scope to develop localised strategies to support VET trainees in the workplace.

There is also potential for UDRHs to provide educational support and placement support to rural and remote residents enrolled in online health courses. This extends opportunities for end to end training and aligns with the *National Regional, Rural and Remote Education Strategy* to improve access to tertiary study options for students in rural, remote and regional areas.

15.13 Future Direction

15.13.1 Program Planning and Delivery

It is our understanding that the Department intends to consult the sector on the findings and recommendations of this evaluation. This section provides suggestions about the future direction of the program to assist in the consultation process.

Drawing on the findings of the evaluation, changed operating environment, and maturity of the program, the evaluators offer a refined set of DRAFT objectives to ensure the program is contemporary and meets current needs of rural and remote communities and the workforce, and that it focuses on those areas of opportunity and potential. The heterogeneity of strategies developed by RCSs and UDRHs to deliver the components of the RHMT program tailored to local and regional health workforce and service capacity is recognised as a strength of the program. Therefore, it is suggested that each university submit a 3-5 year plan that sets out how it would work toward the goal and objectives in their region as the basis for funding and ongoing accountability.

The proposed objectives are informed by the current set of parameters and activities under which the program operates. The intent of the proposed objectives is to be specific and measurable.

Proposed Goal of the RHMT program:

To provide a clinically and professionally competent and culturally responsive health graduate workforce to meet the health care needs of communities in rural, remote and regional areas of Australia.

Proposed Outcomes of the RHMT program:

- Increased number of appropriately qualified health professionals with the clinical, professional and cultural capability and interest to work in rural, regional and remote Australia
- Increased capacity for training health students in MM 3-7 regions across Australia
- Increased opportunities for nursing, allied health and medical graduates to work in areas of rural and remote workforce need
- Increased research capability in rural, remote and regional areas addressing local and national health workforce and service priorities

Proposed Objectives:

Training

• To increase training in locations and settings that reflect current workforce and community health needs for students in a range of health disciplines

- To increase the proportion of high-quality placements delivered through the RHMT program
- To increase opportunities for service-learning placements, placements in ACCHOs and rural generalist placements across disciplines
- To incrementally increase placement capacity in small communities across all disciplines
- To develop and strengthen supervision models in small communities (MM 4-7) regions
- To establish and implement mechanisms to ensure selection processes into university AND rural placement reflect the evidence for likelihood of future rural practice
- To provide locally contextualised cultural safety training to all students on placement
- To ensure the cultural safety of all placements

Research

- To strengthen research capacity and capability in rural communities (within the RCS and UDRH, health services, students, local community)
- To establish research networks across universities and across jurisdictions to address research questions of national significance in relation to rural and remote health, workforce and service delivery

Workforce transition

- To provide vocational planning support to students on placement
- To facilitate the transition of allied health and nursing graduates (PGY1-4) to rural and remote practice
- To facilitate the transition of medical students to regional and rural prevocational training

Workforce

- To increase the number of Aboriginal and Torres Strait Islander staff employed in RHMT program units in leadership, academic and professional roles
- To maintain well supported networks of rurally based academics through employment and professional development
- To provide cultural safety training to all staff, clinical supervisors and others involved in the delivery of the RHMT program
- To provide a culturally safe workplace for all staff

Community Engagement

• To establish and maintain networks and mechanisms that demonstrate reciprocity between universities and local communities

15.13.2 Governance

It is recognised that current governance arrangements aim to minimise red tape while ensuring funding recipients are held accountable for meeting program requirements. In recognition of the maturity of the RHMT program and the capacity of universities it is suggested that future accountability is built around universities reporting on progress towards their agreed plan using a continuous quality improvement model, taking the focus off meeting arbitrary program targets. Individual targets for the number, type of placement, placement setting and location of placement to be provided by each university could be negotiated as part of the plan development and approval process. Reporting would be required on achievements, lessons learned and modifications to improve performance. Feedback from the evaluation emphasises the importance of the opportunity for narrative reporting to provide background and context to quantitative data such as placement numbers.

15.13.3 Reporting and Accountability

Key elements of the plan would include:

- Overview of region(s) including current workforce needs and challenges
- Existing number, type and location of placements (as a baseline for comparison)
- Activities planned to meet objectives in key operational areas:
 - Training
 - Research
 - Workforce
 - Workforce transition
 - Community engagement
- Targets for number, type of placement, placement setting and location of placements on annual basis
- Research approach including:
 - Employment of researchers
 - Capacity building activities
 - Collaborations
- Participation of Aboriginal and Torres Strait Islander staff and students across all RHMT program activities:
 - Employment and professional development of Aboriginal and Torres Strait Islander staff
 - Support for Aboriginal and Torres Strait Islander students
- Community engagement and reciprocity including strategies for investing in, supporting and, being responsive to local communities

For the purposes of overall program monitoring and evaluation a minimum data set could be

developed including:

- Annual program level student tracking report
- Conversion of RCS students to rural internships
- New service-learning placements (type, duration and location)
- Medical placements (duration, setting, rurality, rural origin)
- Conversion of allied health and nursing students to rural, remote and regional positions
- Number of Aboriginal and Torres Strait Islander staff employed, including position types

References

References

ABS. (2018a). *Estimates of Aboriginal and Torres Strait Islander Australians, June 2016. Cat. No. 3238.0.55.001.* Canberra: Australian Bureau of Statistics.

ABS. (2018b). Regional Population Growth, Estimated Resident Population, Remoteness Areas, Australia Cat. No. 3218.0. Canberra: Australian Bureau of Statistics.

AIHW. (2017). *National Health Workforce Dataset*. Canberra: Australian Institute of Health and Welfare (AIHW).

AIHW. (2018). *Australia's Health 2018. Australia's health series no. 16. AUS 221.* Canberra: Australian Institute of Health and Welfare (AIHW).

AIHW. (2019a). *Geographically-adjusted Index of Relative Supply (GIRS)*. Canberra: Australian Institute of Health and Welfare (AIHW).

AIHW. (2019b). *National Health Workforce Dataset*. Canberra: Australian Institute of Health and Welfare (AIHW).

Australian Health Practitioner Regulation Agency. (2019). Retrieved from <u>https://www.ahpra.gov.au/</u> <u>About-AHPRA/Who-We-Are.aspx</u>

Azer, S. A., Simmons, D., & Elliott, S. L. (2001). Rural training and the state of rural health services: effect of rural background on the perception and attitude of first-year medical students at the University of Melbourne. *Australian Journal of Rural Health*, *9*(4), 178-185.

Battye, K., Roufeil, L., Edwards, M., Hardaker, L., Janssen, T., Wilkins, R. (2019). *Strategies for increasing allied health recruitment and retention in Australia: A Rapid Review. Services for Australian Rural and Remote Allied Health (SARRAH)*

Boelen, C., & Heck, J. (1995). *Defining and measuring the social accountability of medical schools*. Geneva: World Health Organization.

Bradley, D., Noonan, P., Nugent, H., & Scales, B. (2008). Review of Australian Higher Education (pp. xxix, 271 p.). Canberra: Australian Government, Department of Education, Employment and Work-place Relations.

Brown, L., Smith, T., Wakely, L., Little, A., Wolfgang, R., & Burrows, J. (2017). Preparing graduates to meet the allied health workforce needs in rural Australia: short-term outcomes from a longitudinal study. *Education Sciences*, *7*(2), 64.

Campbell, D. G., McGrail, M. R., O'Sullivan, B., & Russell, D. J. (2019). Outcomes of a 1-year longitudinal integrated medical clerkship in small rural Victorian communities. *Rural Remote Health*, *19*(2), 4987-4987.

Cheek, C., Hays, R. B., Allen, P., Walker, G., & Shires, L. (2017). Building a local medical workforce in Tasmania: where are international fee-paying medical graduates likely to work?

Clark, T. R., Freedman, S. B., Croft, A. J., Dalton, H. E., Luscombe, G. M., Brown, A. M., . . . Frommer, M. S. (2013). Medical graduates becoming rural doctors: rural background versus extended rural placement. *Medical Journal of Australia*, *199*(11), *779-782*.

Coaldrake, P. (2019). What's in a Name? Review of the Higher Education Provider Category Stan-

dards. Canberra: Australian Government, Department of Education.

Cooper, H. M. (1988). Organizing knowledge syntheses: A taxonomy of literature reviews. *Knowledge in Society*, 1(1), 104-126.

Council of Australian Governments (CoAG). (2011). *National Health Reform Agreement*. Canberra: AGPS.

Courtney, M., Edwards, H., Smith, S., & Finlayson, K. (2002). The impact of rural clinical placement on student nurses' employment intentions. *Collegian*, *9*(1), 12-18.

Critchley, J., DeWitt, D., Khan, M., & Liaw, S. (2007). A required rural health module increases students' interest in rural health careers. *Rural Remote Health*, 7(2), 688.

Davidson, E. (2014). *Evaluative Reasoning, Methodological Briefs: Impact Evaluation 4*. Florence: UNICEF, Office of Research.

Deakin University (2019). Nursing and Allied Health Graduate Outcome Tracking (NAHGOT) Study: Methods and preliminary findings. Abstract submitted to the 7th Rural and Remote Health Scientific Symposium.

Department of Education and Training. (2019). *Australian Government response for the Review of the Higher Education Provider Categories Standards Review*. Canberra: Australian Government, Department of Education and Training.

Department of Education and Training. (2019a). *Higher Education Data Cube*. Canberra: Australian Government, Department of Education and Training.

Department of Education and Training. (2019b). *National Regional, Rural and Remote Education Strategy*. Canberra: Australian Government, Department of Education and Training.

Department of Health. (2014). *Aboriginal and Torres Strait Islander Health Curriculum Framework*. Canberra: Australian Government, Department of Health.

Department of Health. (2018). National Rural Generalist Taskforce. Advice to the National Rural Health Commissioner on the Development of theNational Rural Generalist Pathway. Canberra: Australian Government, Department of Health, National Rural Health Commissioner.

Department of Health. (2019a). *Educating the Nurse of the Future. Report of the Independent Review of Nursing Education*. Canberra: Australian Government, Department of Health.

Department of Health. (2019b). *National Medical Workforce Strategy*. Canberra: Australian Government, Department of Health.

Department of Health. (n.p.). *Rural Health Commissioner Report. Improvement of Access, Quality and Distribution of Allied Health Services in Regional, Rural and Remote Australia.* Canberra: Australian Government, Department of Health.

Department of Prime Minister and Cabinet. (2019). *Strengthening Skills 2019*. Canberra: Australian Government, Department of Education and Training.

Dunbabin, J., & Levitt, L. (2003). Rural origin and rural medical exposure: their impact on the rural and remote medical workforce in Australia. *Rural Remote Health*, *3*(1), 212.

Eley, D., & Baker, P. (2006). Does recruitment lead to retention? Rural Clinical School training experi-

ences and subsequent intern choices. Rural Remote Health, 6(1).

Eley, D., & Baker, P. (2007). Will Australian rural clinical schools be an effective workforce strategy? Early indications of their positive effect on intern choice and rural career interest. *Medical Journal of Australia, 187*(3), 166-167.

Eley, D., Synnott, R., Baker, P., & Chater, B. (2012). A decade of Australian Rural Clinical School graduates-where are they and why? *Rural & Remote Health*, *12*(1).

Gemici, S., Rojewski, J., & Lee, H. (2012). Use of propensity score matching for training research with observational data. *International Journal of Training Research*, *10*(3), 219-232.

Halsey, J. (2018). *Independent Review of Regional, Rural and Remote Education*. Canberra: Australian Government, Department of Education and Training.

Health Workforce Australia. (2013). *Australia's Health Workforce Series. Health Workforce by Numbers*. Adelaide: Health Workforce Australia.

Heatlh Education and Training Institute (HETI). (2019). *Rural Preferential Recruitment Pathway*. Sydney: Heatlh Education and Training Institute, New South Wales Government.

Herd, M. S., Bulsara, M. K., Jones, M. P., & Mak, D. B. (2017). Preferred practice location at medical school commencement strongly determines graduates' rural preferences and work locations. *Australian Journal of Rural Health*, *25*(1), 15-21.

Humphreys, J., Lyle, D., & Barlow, V. (2018). University Departments of Rural Health: is a national network of multidisciplinary academic departments in Australia making a difference. *Rural Remote Health, 18*(1).

Indigenous Allied Health Australia. (2015). *Cultural Responsiveness in Action: An IAHA Framework*. Deakin: Indigenous Allied Health Australia.

Johnson G., Byun, R. Foster, K., Wright, F. & Blinkhorn, A. (2019). A longitudinal workforce analysis of a Rural Clinical Placement Program for final year dental students. *Australian Dental Journal*, 64: 181-192.

Kirby, S., Lyle, D., Jones, D., Brunero, C., Purcell, A., & Dettwiller, P. (2018). Design and delivery of an innovative speech pathology service-learning program for primary school children in Far West NSW, Australia. *Public Health Res and Pract. Online early publication*. <u>http://doi.org/10.17061/</u> <u>phrp28231806</u>

Kondalsamy-Chennakesavan, S., Eley, D. S., Ranmuthugala, G., Chater, A. B., Toombs, M. R., Darshan, D., & Nicholson, G. C. (2015). Determinants of rural practice: positive interaction between rural background and rural undergraduate training. *Medical Journal of Australia*, 202(1), 41-45.

Kwan, M. M., Kondalsamy-Chennakesavan, S., Ranmuthugala, G., Toombs, M. R., & Nicholson, G. C. (2017). The rural pipeline to longer-term rural practice: general practitioners and specialists. *PLoS One*, *12*(7), e0180394.

Laven, G., & Wilkinson, D. (2003). Rural doctors and rural backgrounds: how strong is the evidence? A systematic review. *Australian Journal of Rural Health*, *11*(6), 277-284.

Lyle, D., & Greenhill, J. (2018). Two decades of building capacity in rural health education, training and research in Australia: University Departments of Rural Health and Rural Clinical Schools. *Australian Journal of Rural Health*, 26(5), 314-322.

Mason, J. (2013). *Review of Australian Government Health Workforce Programs*. Canberra: Common-wealth of Australia.

May, J., Lang, J., Bill, A., & Stefanov, I. (2019). Joining the dots -quantifying the value of rural health training to community. *Proceedings, National Rural Health Conference, Hobart.*

McGirr, J., Seal, A., Barnard, A., Cheek, C., Garne, D. L., Greenhill, J., . . . McLeod, J. (2019). The Australian Rural Clinical School (RCS) program supports rural medical workforce: evidence from a cross-sectional study of 12 RCSs.

Moore, M., Burgis-Kasthala, S., Barnard, A., Hall, S., & Marks, S. (2018). Rural clinical school students do come back: 'But it may take time'. *Australian Journal of General Practice*, *47*(11), 812.

NHRA. (2010). Measuring the metropolitan-rural inequity. Canberra: N. R. H. Alliance.

Nicholson, C., Jackson, C. L., & Marley, J. E. (2014). Best-practice integrated health care governance: applying evidence to Australia's health reform agenda. *Med J Aust, 201*(3 Suppl), S64-66.

NWQ CRRH. (2019). *Graduate Destination Study (2018-2019)*. unpublished: Northwest Queensland Centre for Rural and Remote Health.

O'Sullivan, B.G., & McGrail, M.R. (2020). Effective dimensions of rural undergraduate training and the value of training policies for encouraging rural work. *Medical Education*, *54*: 364-374

O'Sullivan, B., McGrail, M., Russell, D., Walker, J., Chambers, H., Major, L., & Langham, R. (2018). Duration and setting of rural immersion during the medical degree relates to rural work outcomes. *Medical education*, *52*(8), 803-815.

O'Sullivan, B. G., McGrail, M. R., Russell, D., Chambers, H., & Major, L. (2018a). A review of characteristics and outcomes of Australia's undergraduate medical education rural immersion programs. *Hum Resour Health*, *16*(1), 8.

Pinikahana, J., & Happell, B. (2004). Stress, burnout and job satisfaction in rural psychiatric nurses: a Victorian study. *Australian Journal of Rural Health*, *12*(3), 120-125.

Playford, D., Evans, S., Atkinson, D., Auret, K., & Riley, G. (2014). Impact of the Rural Clinical School of Western Australia on work location of medical graduates. *Medical Journal of Australia, 200*(2), 104-107.

Playford, D., Larson, A., & Wheatland, B. (2006). Going country: rural student placement factors associated with future rural employment in nursing and allied health. *Australian Journal of Rural Health*, *14*(1), 14-19.

Playford, D., Moran, M., & Thompson, S. (2020). Factors associated with rural work for nursing and allied health graduates 15–17 years after an undergraduate rural placement through the University Department of Rural Health program. *Rural Remote Health*, *20*(5334). doi:10.22605/RRH5334

Playford, D., Ng, W. Q., & Burkitt, T. (2016). Creation of a mobile rural workforce following undergraduate longitudinal rural immersion. *Medical teacher, 38*(5), 498-503.

Playford, D., Ngo, H., Atkinson, D., & Puddey, I.B. (2019). Graduate doctors' rural work increases over time. Medical Teacher, 41(9), 1073-1080.

Playford, D., Ngo, H., Gupta, S., & Puddey, I. (2017). Opting for rural practice: the influence of medical student origin, intention and immersion experience. *Medical Journal of Australia*, 207(4), 154-158. Playford, D., Nicholson, A., Riley, G., & Puddey, I. (2015). Longitudinal rural clerkships: increased likelihood of more remote rural medical practice following graduation. *BMC medical education*, *15*(1), 55.

Playford, D., & Puddey, I. (2017). Interest in rural clinical school is not enough: participation is necessary to predict an ultimate rural practice location. *Australian Journal of Rural Health*, *25*(4), 210-218.

Productivity Commission. (2005). *Australia's Health Workforce*. Canberra: Australian Government, Productivity Commission.

Queensland Government. (2020). *Rural Generalist Pathway*. Brisbane: Department of Health, Queensland Government.

Ragusa, A., & Crowther, A. (2012). 'I think it is the best job... I love it!' Engendering workplace satisfaction in rural and remote Australian mental health nursing. *Rural Society*, 22(1), 45-58.

Ranmuthugala, G., Humphreys, J., Solarsh, B., Walters, L., Worley, P., Wakerman, J., . . . Solarsh, G. (2007). Where is the evidence that rural exposure increases uptake of rural medical practice? *Australian Journal of Rural Health*, *15*(5), 285-288.

REMPLAN (2018). Monash Rural Health Socio-Economic Analysis: Project undertaken for Monash University. Bendigo.

Sen Gupta, T., Woolley, T., Murray, R., Hays, R., & McCloskey, T. (2014). Positive impacts on rural and regional workforce from the first seven cohorts of James Cook University medical graduates. *Rural & Remote Health*, *14*(1).

Smith, T., Cross, M., Waller, S., Chambers, H., Farthing, A., Barraclough, F., . . . King, S. (2018). Ruralization of students' horizons: insights into Australian health professional students' rural and remote placements. *Journal of multidisciplinary healthcare*, *11*, 85.

Somers, G. T., Strasser, R., & Jolly, B. (2007). What does it take? The influence of rural upbringing and sense of rural background on medical students' intention to work in a rural environment. *Rural & Remote Health*, *7*(2).

Universities Australia. (2017). Indigenous Strategy 2017-2020. Canberra: Universities Australia.

Universities Australia. (2018). Universities Australia Indigenous Strategy First Annual Report. Canberra: Universities Australia.

Urbis, (2008). *Evaluation of the University Departments of Rural Health Program and the Rural Clinical Schools Program*. Canberra: Australian Government, Department of Health and Ageing.

Woolley, T., Larkins, S., & Gupta, T. S. (2019). Career choicse of the first seven cohorts of JCU MBBS graduates: producing generalists for regional, rural and remote northern Australia. *Rural & Remote Health*, *19*(2).

Woolley, T., Sen Gupta, T., Murray, R., & Hays, R. (2014). Predictors of rural practice location for J ames C ook U niversity MBBS graduates at postgraduate year 5. *Australian Journal of Rural Health*, *22*(4), 165-171.