Increasing Dental and Oral health training in rural and remote Australia: Feasibility study

# **Final Report**

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### **Project Team**

*KBC Australia* Dr Kristine Battye Dr Cath Sefton Mrs Amy Gormly

Expert Advisors Professor Janie Smith Winthrop Professor Marc Tennant

*Healthcare Management Advisors* Mr Wayne Kinrade Mr Darryn Lobo

## **KBC** Australia

PO Box 2428, Orange NSW 2800 Suite 7, 24 Sale Street, Orange NSW 2800 Phone: 02 6361 4000 www.kbconsult.com.au

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#### ACRONYMS

ACCHO	Aboriginal Community Controlled Health Organisation
ATAR	Australian Tertiary Admission Rank
ACODS	Australian Council of Dental Schools
ADA	Australian Dental Association
AHPRA	Australian Health Practitioner Regulation Agency
AIHW	Australian Institute of Health and Welfare
AOD	Alcohol and Other Drugs
ASGS	Australian Statistical Geography Standard
BDS	Bachelor of Dental Surgery/ Science
BOHT	Bachelor of Oral Health Therapy
CATSINaM	The Congress of Aboriginal and Torres Strait Islander Nurses and Midwives
CEO	Chief Executive Officer
CPD	Continuing Professional Development
CSU	Charles Sturt University
DHAA	Dental Hygienists Association of Australia
DHS	Dental Health Services
DTERP	Dental Training Expanding Rural Placement Program
EOI	Expression of Interest
FTE	Full Time Equivalent
FUELS	Flinders University Extended Learning in Science
GOS	Graduate Outcomes Survey
GP	General Practitioner
IAHA	Indigenous Allied Health Australia
IDAA	Indigenous Dental Association of Australia
JCU	James Cook University
КВС	Kristine Battye Consulting
LHN	Local Health Network
MH	Mental Health
MMM	Modified Monash Model
MoU	Memorandum of Understanding
NACCHO	National Aboriginal Community Controlled Organisation
NAHGOT	Nursing and Allied Health Graduate Outcomes
NTMP	Northern Territory Medical Program
ОН	Oral Health
OHCWA	Oral Health Centre of Western Australian
OHT	Oral Health Therapy
PGY	Post Graduate Year
RACF	Residential Aged Care Facility
RBH	Royal Brisbane Hospital
RCPP	Rural Clinical Placement Program
RCS	Rural Clinical School
RHMT	Rural Health Multidisciplinary Training
SDS	Statewide Dental Service
UCAT	University Clinical Aptitude Test
UDRH	University Department of Rural Health
UoA	University of Adelaide
UWA	University of Western Australia
VDGYP	Voluntary Dental Graduate Year
VET	Vocational Education and Training

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# **EXECUTIVE SUMMARY**

#### CONTEXT

Oral health is fundamental to overall health and wellbeing and quality of life. A healthy mouth enables people to eat, speak and socialise without pain, discomfort or embarrassment. However, poor oral health contributes to about 4.5% of all non-fatal burden of disease in Australia. Overall, people living in regional and remote areas have poorer oral health than those in cities, with limited access to dental practitioners a key factor.

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. The RHMT program supports a network of Rural Clinical Schools (RCSs), University Departments of Rural Health (UDRHs) for medical, nursing and allied health students. It also supports six metropolitan based dental schools to provide rural placements for dental students through the Dental Training Expanding Rural Placement Program (DTERP). Twelve universities offer dental and/or oral health courses in Australia, eleven of which receive funding through the RHMT program.

Peer-reviewed evidence demonstrates the importance of rural training immersions for medical, nursing, allied health and dental students in uptake of rural practice upon graduation. The predictors of rural practice include: rural origin; a number of rural exposures during training; longer duration immersions; placement setting; remoteness of placements and rural internship or first job being in a rural location.

#### PURPOSE OF THE FEASIBILITY STUDY

The purpose of this study is to determine the feasibility and best approach to increasing dental and oral health training through the RHMT program into more rural and remote locations; consider the benefits to service delivery to local communities and inform future program design and government policy to support Australia's future rural health workforce.

#### Study approach

The methodology included an environmental scan to identify factors that influence or determine opportunities for training dental and oral health students in rural, remote and regional areas; a survey of universities to map current rural, remote and regional placements; consultations with over 180 stakeholders including University Deans and academics, State Directors of dental services/ Chief Dentists, Local Health Network (LHN) dental managers and supervisors, Aboriginal Community Controlled Health Organisations (ACCHOs), students on rural placements, dental and oral health peak bodies, Aboriginal and Torres Strait Islander health workforce peak bodies and UDRH Directors. An internal team workshop was held to synthesise the findings and develop strategies for consideration. These were presented in the interim report for consideration by the Expert Reference Group and Department of Health and have been further developed in the Final report. A cost analysis of the strategies has been conducted and presented in a technical paper that accompanies the final report.

#### FINDINGS

#### Student numbers

In 2022, there were 646 first year dental students and 612 final year students enrolled in dental programs in Australia. Overall, 35% of final year students were international. In the same year, there were 432 first year students and 316 final year students enrolled in oral health therapy and dental hygienist programs, of which 3% were from overseas.

#### Placements

Bachelor of Oral Health programs are offered by nine universities of which seven offer rural placements in the final year. Of the nine universities offering a dental degree program, all have final year rural placements available, but these are not a course requirement for three universities. Rural placements in earlier years are not a requirement of any dental or oral health course.

#### Dental placements

In 2019, there were 4,709 rural placement weeks undertaken by final year dental students. The majority (68.2%) of dental rural placement weeks were undertaken in MM 1-3. (Note that the reported MM1 placements are in outer metropolitan areas and external to the main campuses of regional universities). Placements occurred in three service settings, public sector dental clinics, university operated dental clinics and ACCHOs. More than two thirds (68.6%) of rural dental placements were in public dental clinics.

#### Oral health placements

In 2019, there were 3,186 final year rural placement weeks undertaken by oral health students. Nearly all (97%) oral health placements were undertaken in MM 1-3. About two thirds (64.2%) of oral health rural placements occurred in university operated clinics and one third (33.3%) in public dental clinics. There was minimal rural placement activity in alternate settings i.e., ACCHOs and residential aged care.

#### **Quality elements of rural placements**

An output of the RHMT program evaluation was the development of rubrics to better describe the key elements of quality rural placements that were considered important for a positive rural training immersion to promote future rural workforce outcomes. The key elements 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 and prioritising rural background students and those with demonstrated interest in rural
- Pre-placement information to students about local amenities and opportunities
- Face to face orientation to clinical placement and location
- Clinical training experience relevant to rural and remote job opportunities
- Regular access to educators/supervisors relevant to discipline

- Clear learning outcomes
- Face to face cultural safety training and induction contextualised to the location
- Planned and structured engagement with Aboriginal health services or community organisations
- Inter-professional learning opportunities
- Pastoral support on placement
- Opportunities for students to meet people and undertake activities in the local community

#### Length of placement and rural immersion

The length of rural placement is very variable between universities. For dental students this ranged from a 1-week placement (usually in a ACCHO or very remote location) up to 22 weeks. Four universities offered rural placements of 4 to 8 weeks and four offer placements of 12-18 weeks. One offered longer placements predominantly in MM2 and MM3 locations (average 17 and 16 weeks) and placements in MM 4-6 with an average length of 6 to 9 weeks.

Oral health student placements in public dental clinics range from 2 to 12 weeks. There is a predominance of short 2–4 week placements for the metropolitan based universities and longer placements for the regional universities (averages of 6- 10 weeks).

Supports for students on placement were highly variable, particularly in relation to access to accommodation and preparation for placements, with limited engagement with UDRHs.

**Finding 1:** Short placements have a number of limitations: frequent student onboarding impacts service efficiency; students' clinical skills development is not optimised where they cannot complete a cycle of care, hence limiting the value of these placements to the health services and students. These limitations, combined with an absence of evidence demonstrating impact on rural workforce outcomes, raise questions as to whether short placements (<4 to 6 weeks) should be supported through RHMT program funding.

**Finding 2:** Rural placements of sufficient length for students to provide a full cycle of care (>8 weeks) are effective for dental students to develop clinical and professional skills.

**Finding 3**: There appears to be inadequate focus on rural and remote health, social and cultural determinants of health and health care access, in the dental program curriculum in some universities to prepare students for rural placements.

**Finding 4:** Rural immersion experiences for dental and oral health students would be improved by having longer placements and developing linkages with UDRHs and RCSs to access the range of supports they routinely offer including interprofessional learning, locally contextualised cultural training, social activities, pastoral, disciplinary and professional support.

#### Supervision

Supervision of students on placement is undertaken by public health service employed dentists or oral health therapists or by university employed/contracted dentists or oral health therapists located insitu or supported to travel to the placement site with students. Dentists provide supervision to dental students or oral health therapy students but supervision of dental students by oral health therapists was rarely observed.

Supervision ratios for dental students ranged from 1:1 in small rural clinics to 1:10 in larger university and health service clinics and for oral health students it ranged from 1:2 to 1:6.

**Finding 5:** There is a high reliance on public dental clinics for the provision of rural dental and oral health placements and access to supervision is a key challenge to sustaining, increasing or expanding dental and oral health training in rural and remote areas. However, most universities appear to be paying limited attention to working actively with the LHNs to develop and strengthen supervision capability in this workforce and/or harnessing the potential of private practitioners to contribute to supervision capability in rural areas.

#### Student selection

The RHMT program sets rural origin enrolment targets for universities in receipt of program funding, including DTERP. In 2018, targets for dental student enrolments in the six universities receiving DTERP funding ranged from 3% to 10%. In 2018, only three universities met their targets. One regional university has a rural origin target of 45% and exceeds this. Another has a quota of 50% but has been challenged in meeting this in recent years. The number of Aboriginal and Torres Strait Islander students undertaking dental and oral health courses is very low i.e., 1 to 5 students enrolled in any program.

**Finding 6:** While the literature demonstrates that metropolitan students who have positive rural placements of longer duration contribute to the rural workforce, rural background remains as a significant independent predictor of rural practice i.e., students from rural background are 2 to nearly 4 times more likely to work rurally. However, a focus on rural selection for dental and oral health programs was not evident in the majority of universities. Attention to promoting dental and oral health courses to rural secondary school students supported by strategies by universities to increase selection and admission to university is required as a first step in the creation of a rural dental and oral health training and career pathway.

**Finding 7:** Increasing access to health services and improving provision of culturally safe health care to Aboriginal and Torres Strait Islander peoples is best achieved where that care is provided by an Aboriginal and Torres Strait Islander health professional. Participation of Aboriginal and Torres Strait Islander health courses is very low and well below population parity. Increasing participation and completion of Aboriginal and Torres Strait Islander students in dental and oral health courses a pathways approach underpinned by partnerships between the IAHA, IDAA, NACCHO, the VET sector, UDRHs, RCSs and targeted efforts by the dental schools/ universities.

The National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan (2021-2031) provides strategic directions strategies that can be applied to increasing Aboriginal and Torres Strait Islander participation in dental and oral health training and education.

**Finding 8:** Selection of students for rural placements appears to be ad hoc. As DTERP is part of the RHMT program, the universities should have mechanisms in place to identify and select domestic students with interest in rural health for rural placements.

#### Structural issues challenging rural training and workforce development

Dental and oral health care delivery and training largely occurs in isolation from primary health care and as such there is limited focus on oral health promotion and prevention in primary care, limited awareness of the burden of poor oral health and its contribution to other chronic and complex conditions which limits consideration of training in alternate settings.

The loss of dental and oral health academic workforce capacity was identified with some universities currently at half their academic staffing establishment, impacting on teaching and supervision at the central university sites and limiting capacity to send tutors/supervisors with students for rural placements when required. RCS and UDRHs have developed significant academic networks to enable training of medical, allied health and nursing students in rural areas and the dental and oral health schools could learn from their approaches to academic capacity building.

There is an absence of a national rural focus on dentistry and oral health training, workforce development and distribution. In contrast to medicine, nursing and allied health, the dental profession is not featured within the health workforce policy arm of the Australian Government. Further dental and oral health are outside the current remit of the Office of the National Rural Health Commissioner, limiting their capacity to influence policy and strategy in this area.

#### Benefit of rural placements to patients and communities

**Finding 9:** Students add to the clinical capacity of health services. Student led dental and oral health service provision is well accepted by patients eligible to access public services. However, low income workers and their families who are not eligible for public dental services are generally unable to access student-led dental and oral health services located in public clinics in rural communities.

#### **Opportunities**

Opportunities to increase dental and oral health training in rural and remote areas and support the transition of dental students to working rurally were identified.

- Oral health placements in alternate settings where longer placements enable a mix of chairbased work and health promotion enabling oral health students to develop skills across their full scope of practice while also providing services in alternate settings and to patient cohorts that have limited access to care e.g., residential aged care, childcare and pre-schools, ACCHOs. UDRHs have demonstrated experience of developing innovative service-learning placements for allied health and nursing students in these environments which could be applied to oral health placements.
- Leveraging under-utilised chairs and infrastructure and developing placement partnership models between the universities, public dental services and ACCHOs to expand training to locations with limited service access using a regional hub and outreach approach.
- Extending placements across the calendar year into the university summer holiday period
- Rural exposures for dental students in the early years of their course through shadowing placements in rural private practices during holiday periods and/or pairing year 3 or 4 dental students to assist final year students on rural placements
- Developing a rural graduate/early career program to support transition to rural work.

Workforce outcomes of rural training are not routinely measured. However, James Cook University has used the annual Graduate Outcome Survey (2016-2020) to determine where their health professional graduates work. The analysis demonstrated JCU graduates represented 80% of the new dental graduates working in remote and outer regional Queensland, and 55% of the new graduate workforce in remote and outer regional areas nationally. While recognising the data limitations of the Graduate Outcomes Survey (i.e., that it is a non-compulsory survey and not a census), it demonstrates that there is a nationally available dataset that can be interrogated by other universities to assess impact of training on early career workforce destinations.

It was also noted in the study that, while the RHMT program requires universities to focus on increasing enrolment of Aboriginal and Torres Strait Islander students, there is currently no routine measurement of workforce outcomes for these students, in either rural or urban settings.

#### WORKFORCE DEVELOPMENT STRATEGIES

A layered approach is outlined to grow a rural and remote dental and oral health workforce based on a set of guiding principles underpinning the development of a rural and remote dental and oral health training and workforce strategy. The workforce development strategies are nested within a training pathway that spans pre-university to established career. Table 1-1 Workforce Development Strategies within the Training Pathway

Element	Pre- Uni	University	Early Career	Establishing Career			
Attraction & Selection	Market and promote rural dental and oral health careers Describe role and service environment Rural health club visits to schools <b>(S6, S7)</b>						
	Promote and preference rural origin/ rural interest, Aboriginal and Torres Strait Islander students <b>(S2)</b>						
Training pipeline ( <u>supported</u> by UDRH and RCS infrastructure)		Multiple rural exposures Long rural immersion Service learning Cultural support and mentoring Cultural safety and responsiveness Pastoral support Interprofessional exposure Curriculum scaffolds rural health <b>(S2, S6, S7)</b>	Clinical skills consolidation Clinical rotations Professional education <b>(S3)</b>	Extended skills development and consolidation CPD Community of practice <b>(S7)</b>			
Mentoring, <u>supervision</u> and support		Career planning Case management to transition to rural <b>(S2, S6, S7)</b>	Rural graduate an program (S3) Supervision capace Clinical ro Graded su experience Adjunct a	d early career ity building: itations ipervision ie and training ppointments <b>(S4)</b>			
Academic capacity development	Joint appointments workplace and for teaching and research Research linkages with UDRH and (S5)						
Underpinned by:	Nationa Aborigin leading Islander	al Rural Dental and Oral Health Wo nal and Torres Strait Islander denta implementation of strategies und r Workforce Strategic Framework (	rkforce and Trainin al and oral health w ler National Aborig 2021-2031) <b>(58)</b>	g strategy <b>(S1)</b> orkforce peak bodies inal and Torres Strait			

\* Numbers refer to Strategies detailed below

#### Strategy 1: National rural and remote dental and oral health workforce and training summit

Under the leadership of the Office of the National Rural Health Commissioner, hold a national summit to engage leaders and stakeholders in rural health education training, dental and oral health education and training, rural and remote workforce development and rural service delivery to:

- Raise the profile of the poor status of rural and remote oral health and need for a national approach to developing the rural and remote dental and oral health workforce
- Review the workforce development strategies outlined in this study and provide advice on mechanisms to progress these strategies in the short to medium term

• Develop an overarching vision and identify key components required for a national rural and remote dental and oral health workforce and training strategy.

A national leadership group would be identified to oversee progress in implementation of the workforce development strategies outlined in this feasibility study and; progress the design of the National Rural and Remote Dental and Oral Health Workforce and Training Strategy providing a tangible document to advocate for policy development and/or redesign to grow and sustain this workforce.

It is noted that dental and oral health is outside the current remit of the Office of the Rural Health Commissioner. However, the office would be well placed to lead discussions and policy development in this area if sufficiently and appropriately resourced to expand the current scope. As highlighted elsewhere in this report, oral health is integral to overall health and there are similar challenges in dental and oral health workforce as with other health professions. Therefore, there are natural synergies between the existing work of the Rural Health Commissioner and the proposed expansion into dental and oral health.

#### Strategy 2: Requirements of dental and oral health training aligned with evidence for rural practice

There is now a good evidence base to inform the design of university education and training to improve rural workforce outcomes. Consistent with other elements of the RHMT program, participating universities should demonstrate alignment with the evidence and quality elements of rural training including:

- Student selection and admission of rural origin students
- Educational and support strategies available to, and accessed by Aboriginal and Torres Strait Islander students studying dental or oral health therapy to assist them to complete their degrees
- Scaffolding rural and remote health and Aboriginal and Torres Strait Islander health into curriculum
- Cultural training genuinely reflective of cultural safety
- Options available for rural exposure for students prior to their final year
- Expression of Interest processes for the selection of students with a *demonstrated interest* in rural, remote or Aboriginal and Torres Strait Islander health for rural and remote placements (note that this means not all students would have or should have a rural placement)
- Rural placement lengths of a minimum of 12 weeks for dental students and 8 weeks for oral health, with opportunities to extend these to full semester or longer and opportunities to develop professional skills in alternate settings and/or more remote locations (both professional groups)
- Engagement with UDRHs and/or RCSs to link dental and oral health students to existing cultural, social and pastoral supports
- Written and online pre-placement information for students
- Subsidised accommodation and travel for students on rural placements

#### Supervisor engagement and capacity development (external and internal)

- Supervision manuals to ensure supervisors are familiar with relevant curriculum and assessment requirements
- Development and delivery (face to face and online) of training for supervisors e.g., Teaching On The Run, giving feedback
- Recognition of supervisors e.g., through adjunct appointments, library access
- Engagement with supervisors and on-site staff at least annually
- Cultural training for supervisors
- Supervisor mentoring and networking opportunities with other supervisors
- At commencement of each student placement provision of individualised information about student competencies and areas for skill development while on placement
- Ongoing program of continuing professional development available to supervisors
- Joint appointments and adjunct positions with the relevant universities.

#### Strategy 3: Rural Graduate and Early Career Program

This strategy describes a rural graduate program targeting new or recent dental and oral health graduates that have undertaken extended rural placement(s) during their undergraduate course and supports their transition to rural practice. It draws on elements of the Voluntary Dental Graduate Program and activities of Regional Training Hubs targeting the graduate program to rural, remote and regional locations and extending the time period to three years to:

- Provide sufficient length of time for an early career practitioner to become embedded in a rural community and rural service
- Complete a structured clinical skills and professional development program for enhanced rural practice providing a strong foundation toward becoming a supervisor for ongoing dental and oral health workforce training and development
- Provide mentoring, vocational planning and career guidance.

The Rural Graduate and Early Career Program would be a partnership between the Australian Government, Department of Health and state and territory governments with co-contribution of funding to meet salary, training, professional development and mentoring costs. A hybrid employment model could be investigated where the early career practitioner is employed part-time in a rural public dental service and part-time in rural private practice offering exposure to more complex patients more commonly seen in public clinics and opportunities to perform a broader range of treatments available in private practice. Clinical rotations would be reflective of the skills needed in both settings.

#### Strategy 4: Supervision Capacity Building

Supervision capacity is the key challenge to sustain or expand rural training. There is shared responsibility and shared benefit for the universities to partner with the Local Health Networks/ public sector dental services as well as private and ACCHO providers to develop supervision capability and capacity. A supervision capacity building framework for post graduate years 1 to 5 is put forward to provide a structure for consideration by the universities, state dental services and the wider profession. The framework outlines clinical experiences, graded supervision experience, training, employment and remuneration considerations and private practice entry.

#### Strategy 5: Academic Capacity Building

Developing academic capacity is a priority for dental and oral health schools and is particularly challenging in regional areas. Medical general practice has established GP registrar academic positions through the Australian General Practice Training Program where a GP registrar has a half time appointment with a university to progress a research study and trains half time in a usual general practice.

Academic capacity building could be a pathway within the supervision capacity building framework where a graduate has a joint appointment between a university and a rural public dental service. Within the university component the graduate could pursue a teaching strand or combined teaching and research.

#### Strategy 6: Embedding oral health in UDRHs

This strategy utilises the existing UDRH network and their intrinsic capabilities in developing effective service-learning placements to increase rural training and service opportunities for oral health students and dental students. UDRHs would be resourced to employ an oral health therapist or dentist academic to work in a way similar to other UDRH academics e.g., pharmacy, nursing etc. Their role would be to identify and develop placement opportunities in various service settings; develop rural dental networks; orientation of students to rural communities; provide supervision and guidance as required; undertake research; work as part of a rural multidisciplinary team; and provide student support.

#### Strategy 7: Rural Dental and Oral Health Clinical School

This strategy builds on the concept of the medical Rural Clinical School, where possible use existing RCS (and/or UDRH) human and capital infrastructure, to develop a rural clinical and teaching dental and oral health hub to build clinical, teaching, supervision and research capacity and capability that supports placements and service delivery to smaller "spoke" communities. The key elements of the strategy are to:

- Establish longitudinal rural immersion (semester to full year placements)
- Establish a dental and oral health community of practice inclusive of local practitioners working in public and private sectors utilising structured supervision capacity building strategies (supervision capacity building framework), CPD, networking and mentoring among other mechanisms.
- Utilise existing RCS infrastructure and resources where available (note that there is congruence with established university dental clinics and LHN dental facilities in many RCS locations across jurisdictions).
- In conjunction with LHN and/or ACCHOs, identify opportunities to develop student-led clinics in rural spoke communities where there are under-utilised chairs and draw on pool of supervisors to oversee and supervise students.
- Students participating in the long placements could transition to a graduate/early career position within the "hub and spoke" catchment, providing both a recruitment strategy for dental services and employment certainty for graduates

# Strategy 8: Leadership to grow the Aboriginal and Torres Strait Islander dental and oral health workforce

The strategic directions and implementation strategies identified in *The National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan (2021-2031)* provide mechanisms to grow the Aboriginal and Torres Strait Islander dental and oral health workforce using a pathway approach from school students to tertiary qualified practitioners.

The Commonwealth could consider investment in the Indigenous Dental Association of Australia (IDAA) as a workforce peak body to provide leadership and support for the implementation of the *National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan (2021-2031)* for dental and oral health. Objectives and priorities of the IDAA are similar to the existing Aboriginal and Torres Strait Islander Health Professional Organisations.

# **1** INTRODUCTION

The Department of Health has commissioned this study to determine the feasibility of and identify best approaches to increasing dental and oral health training through the RHMT program, including expanding into more rural and remote locations in Australia. Significant exposure to, and quality of rural training has been proven as an effective mechanism for strengthening the rural health workforce.

#### 1.1 Policy Context

Oral health is fundamental to overall health and wellbeing and quality of life. A healthy mouth enables people to eat, speak and socialise without pain, discomfort or embarrassment. Poor oral health contributed 4.5% of all non-fatal burden of disease in the Australian community in 2015.<sup>1</sup> In 2017-18 over 70,000 hospitalisations for dental conditions may have been prevented with earlier treatment.

Factors contributing to poor oral health include:

- Consumption of sugar, tobacco and alcohol
- Lack of good oral hygiene and regular dental check-ups
- Lack of fluoridation in some water supplies
- Access and availability of services including affordability of private dental services and long waiting periods for public dental care

*Healthy Mouths, Healthy Lives: Australia's National Oral Health Plan 2015–2024*<sup>2</sup> aims to improve health and wellbeing across the Australian population by improving oral health status and reducing the burden of poor oral health and developing the dental and oral health workforce. The Plan has goals across six foundation areas:

- 1. Oral health promotion
- 2. Accessible oral health services
- 3. Systems alignment and integration
- 4. Safety and quality
- 5. Workforce development
- 6. Research and evaluation

The groups that experience the most significant barriers to accessing oral health care and have the greatest burden of oral disease are:

- People who are socially disadvantaged or on low incomes
- Aboriginal and Torres Strait Islander People
- People living in regional and remote Australia
- People with additional and/or specialised health care needs

<sup>&</sup>lt;sup>1</sup>https://www.aihw.gov.au/reports/den/231/oral-health-and-dental-care-in-australia/contents/summary

<sup>&</sup>lt;sup>2</sup> Healthy Mouths, Healthy Lives: Australia's National Oral Health Plan 2015–2024 (2015) COAG Health Council

Overall people living in regional and remote areas have poorer oral health than those in major cities with oral health declining with increasing remoteness.<sup>3</sup> Rural and remote residents have access to fewer dental practitioners and often need to travel significant distances with limited transport options to access services, in addition to other factors that impact on oral health including: higher rates of smoking and drinking at risky levels; reduced access to fluoridated water; and increased costs for healthy food and oral hygiene products.

The National Aboriginal and Torres Strait Islander Health Plan 2021-2031<sup>4</sup> identifies oral health as a priority across all jurisdictions including urban, regional, rural and remote locations. Objective 5.2 of the plan is to deliver activities to improve oral health, particularly for children and including expanding access to and funding for essential dental services to ensure Aboriginal and Torres Strait Islander people receive the care they need where and when they need it.

#### 1.2 The Australian dental system

Dental services can be accessed privately or through public dental clinics or through the Department of Veterans Affairs (depending on eligibility). For services accessed privately patients may have some or all the cost paid through private health insurance. In 2020-21, 46.1 million dental services were subsidised by private health insurance providers.<sup>5</sup> Other data on private dental services is limited as there is no comprehensive national data source.

States and Territories are predominantly responsible for the delivery of public dental services. Access to these services is generally limited to those eligible for concession cards with each jurisdiction having its own eligibility and co-payment requirements. For example, in NSW adults must hold either a Health Care Card, Pensioner Concession Card or Commonwealth Seniors Health Card to receive "safety net" dental services.

The Commonwealth funded Child Dental Benefits Schedule (CDBS) commenced on 1 January 2014 and provides access to benefits for basic dental services to around 3 million eligible children. Eligibility is based on a child being eligible for Medicare and the child or their parents receiving certain other government payments. Basic dental services include examinations, x-rays, cleaning, fissure sealing, fillings, root canals and extractions. A child is eligible if they are aged between 2–17 years at any point in the calendar year and receive a relevant Australian Government payment. Eligible children have access to a benefit cap of \$1,026 over a two calendar year period.<sup>6</sup> In 2018-19, 5.4 million services were subsidised under the CBDS and in 2019 the Australian Government paid benefits of \$324,483,573 under the scheme.<sup>7</sup>

<sup>&</sup>lt;sup>3</sup> National Advisory Council on Dental Health. (2012) Report of the National Advisory Council on Dental Health

<sup>&</sup>lt;sup>4</sup> <u>https://www.health.gov.au/sites/default/files/documents/2021/12/national-aboriginal-and-torres-strait-islander-health-plan-2021-2031\_2.pdf</u>

<sup>&</sup>lt;sup>5</sup> Australian Prudential Regulation Authority (2021) <u>Quarterly Private Health Insurance Benefit Trends September 2021</u> <sup>6</sup> <u>https://www1.health.gov.au/internet/main/publishing.nsf/Content/childdental</u>

<sup>&</sup>lt;sup>7</sup>https://www.aihw.gov.au/reports/dental-oral-health/oral-health-and-dental-care-in-australia/contents/dental-care

#### Dental and Oral health Workforce

The oral health workforce comprises dental practitioners (dental hygienists, dental prosthetists, dental specialists, dental therapists, dentists and oral health therapists) and non-registered staff (dental assistants and dental technicians).

There are five main divisions for registration by the Dental Board of Australia in Australia as shown in Table 1-2.

Division	Scope of practice						
	Focus	Services	Patients				
Dentists	General, and can include any activities within the definition of dentistry.	Assessment, diagnosis, treatment, management, prevention.	All ages				
Dental hygienists	Oral health.	Assessment, diagnosis, treatment, management, education to prevent oral disease, promotion of healthy oral behaviours. <i>May also include:</i> periodontal treatment, preventive services, other oral care.	All ages				
Dental prosthetists		Patient-removable prostheses, including implant-retained overdentures, and flexible mouthguards for sport. <i>May also include:</i> taking impressions and records for manufacturing splints, stents, sleep apnoea or anti-snoring devices, and immediate dentures.	All ages				
Dental therapists	Oral health.	assessment, diagnosis, treatment, management, prevention. <i>May also include:</i> restorative treatment, tooth removal, promotion of oral health, other oral care.	Mainly children and adolescents, but some adults				
Oral health therapists	Oral health, with skills in dental therapy and dental hygiene.	Assessment, diagnosis, treatment, management, prevention. <i>May also include:</i> restorative treatment, fillings, tooth removal, periodontal treatment, other oral care to promote healthy oral behaviours.	All ages				

Tahle 1-2 Dental	Roard of	<sup>2</sup> Australia	realistration	divisions a	nd scone of	nractice <sup>8</sup>
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In order to be registered as a dental practitioner an individual must meet several criteria:<sup>9</sup>

<sup>&</sup>lt;sup>8</sup> <u>https://www.dentalboard.gov.au/Codes-Guidelines/Policies-Codes-Guidelines/Guidelines-Scope-of-practice.aspx</u>

<sup>&</sup>lt;sup>9</sup> https://www.dentalboard.gov.au/Registration.aspx

- Complete an approved program of study and examination (see Table 1-6 for list of approved courses)
- Meet national registration standards, codes and guidelines
- Renew registration every year and notify the Board of changes to principal place of practice, name or address within 30 days
- Maintain recency of practice
- Carry out and record continuing professional development
- Make mandatory notifications (required in some limited circumstances)
- Notify in writing within seven days if charged with or convicted of an offence punishable by 12 months jail or more
- Comply with audits to check renewal declarations

#### Models of service provision

The scope of oral health practice has changed over time.<sup>10</sup> Allied oral health practitioners previously had to work under the 'supervision' of dentists which was subsequently changed to be a requirement for 'practise oversight' with allied oral health practitioners needing to work with a dentist in a 'structured professional relationship'. More recently a new code of conduct has been implemented which defines standards of ethical and professional conduct for all oral health practitioners, effectively removing the 'structured professional relationship' between dentists and allied oral health practitioners.

A 2017 pilot study of oral health therapists and employer-dentists from both public and private sectors describes five models of child dental care and four models of adult dental care involving dentists and oral health therapists.<sup>11</sup> In all these models, allied oral health practitioners work collaboratively with dentists to co-ordinate patient care and are moving towards higher levels of autonomy and independence. The authors suggest that expanding use of oral health practitioners could improve access to care as well as highlighting opportunities for developing university curricula with greater opportunities for collaborative learning.

It is also noted that from 1 July 2022, dental hygienists, dental therapists, and oral health therapists can access Medicare provider numbers to directly claim for services under the Child Dental Benefits Schedule (CDBS).

#### Workforce (mal)distribution

While the dental and oral health workforce in Australia has continued to grow in terms of absolute numbers and on a per capita basis, there is considerable geographic maldistribution. This health workforce maldistribution problem is not isolated to dental and oral health but also reflected in medicine and allied health professions.<sup>12</sup>

Between 2013 and 2019 the number of registered dentists increased from 15,479 to 18,061. In 2019, the number of Full Time Equivalent (FTE) dentists in Australia was 58.7 per 100,000 of the

<sup>&</sup>lt;sup>10</sup> Wong G, Irving M. (2020) The changing face of dental practice: emerging models of team care in Australia. *British Dental Journal* 228:767-772

<sup>11</sup> ibid

<sup>&</sup>lt;sup>12</sup> AIHW, 2019. National Health Workforce Dataset, Canberra: Australian Institute of Health and Welfare (AIHW)

population.<sup>13</sup> The FTE rate of oral health therapists in Australia has also steadily increased from 3.2 in 2013 to 6.5 in 2019. However, the overall numbers mask maldistribution between major cities and other regions as shown in Table 1-3. The FTE rate of dentists decreases from 65.1 per 100,000 in major cities to 27.7 in remote and very remote regions. Similarly, the FTE rates of both dental hygienists and oral health therapists decrease with increasing remoteness. The FTE rate of oral health therapists in 2019 was 6.9 in *Major cities* decreasing to 3.4 in *Remote and very remote* areas. *Remote and very remote* areas had the highest FTE rate of dental therapists. The FTE rate of dental therapists ranges from 2.2 per 100,000 in major cities to 4 in remote and very remote areas. Note that this certificate level professional group is being phased out and replaced by the degree-level oral health therapist.

	Dentist	Dental Hygienist	Dental prosthetist	Dental therapist	Oral health therapist
Major Cities	65.1	5.2	4.5	2.2	6.9
Inner Regional	45.3	2.5	5.6	3.3	6.2
Outer Regional	37	2.4	3.1	3.5	4.9
Remote/Very Remote	27.7	1.2	0.6	4	3.4

<i>Tuble 1 51 TE Tute per 100,000 of ucritur projessions by ternoteness, 201</i>	Table	1-3	FTE	rate	per	100,000	of	dental	professions	by	remoteness,	2019
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Table 1-4 shows the FTE dentists per 100,000 population working in the public and private sectors in 2019. In the private sector, the ratio of dentists to population decreases with increasing remoteness. In the public sector the ratio of dentists to population increases with remoteness. However, the ratio of public dentists to population in remote/very remote across public and private sectors is still below that of Outer regional areas.

Table 1-4 FTE dentists per 100,000 population in the public and private sectors by remoteness (2019)

	Public	Private
Major Cities	5.6	53
Inner Regional	5.6	36.2
Outer Regional	6	28.3
Remote/Very Remote	10.7	14.8

#### Aboriginal and Torres Strait Islander Workforce

In 2020, there were 131 Aboriginal and Torres Strait Islander people registered as dental practitioners. In the five year period from 2016-2020 the number of registered Aboriginal and Torres Strait Islander dentists has doubled as has the number of oral health therapists (Table 1-5). However, these numbers are well below population parity, in 2020 making up only 0.5% of the total dental and oral health workforce (0.3% for dentists and 1.4% for oral health therapists).

<sup>&</sup>lt;sup>13</sup><u>https://www.aihw.gov.au/reports/dental-oral-health/oral-health-and-dental-care-in-australia/contents/dental-workforce</u>

Registered Indigenous Practitioners by Discipline (and percentage of total workforce)								
Year	Dental hygienist No. (%)	Dental prosthetist No. (%)	Dental therapist No. (%)	Dentist No. (%)	Oral health therapist No. (%)	Total No. (%)		
2016	17 (1)	7 (0.6)	6 (0.5)	34 (0.2)	15 (1)	79 (0.4)		
2017	17 (1)	6 (0.5)	8 (0.7)	46 (0.3)	21 (1.4)	98 (0.4)		
2018	19 (1.1)	5 (0.4)	8 (0.8)	53 (0.3)	23 (1.3)	108 (0.5)		
2019	21 (1.2)	7 (0.6)	6 (0.6)	62 (0.3)	25 (1.2)	121 (0.5)		
2020	16 (1)	7 (0.6)	6 (0.6)	70 (0.3)	32 (1.4)	131 (0.5)		

Table 1-5 Number of Aboriginal and Torres Islander dental and oral health practitioners by discipline, 2016 – 2020.

Source: Health Workforce Division, Dept of Health

The National Aboriginal and Torres Strait Islander Health Workforce Framework and Implementation *Plan 2021-2031*<sup>14</sup> sets a target for Aboriginal and Torres Strait Islander people to be fully represented in the health workforce by 2031. The implementation plan sets out six strategic goals, two of which specifically relate to training an Aboriginal and Torres Strait Islander workforce with the necessary skills, capacity and leadership:

- *Strategic Direction 4*: There are sufficient numbers of Aboriginal and Torres Strait Islander students studying and completing health qualifications to meet the future health care needs of Aboriginal and Torres Strait Islander peoples.
- *Strategic Direction 5*: Aboriginal and Torres Strait Islander health students have successful transitions into the workforce and access clear career pathway options.

Strategies to support the development of the Aboriginal and Torres Strait Islander dental and oral health workforce that align with the *National Aboriginal and Torres Strait Islander Health Workforce Framework* were considered in this feasibility study.

#### 1.3 Dental and oral health training

#### Ahpra approved dental practitioner training

Table 1-6 provides an overview of the approved courses available for study leading to registration by Ahpra as a dental practitioner in the five main divisions. (Note specialist postgraduate courses and technical qualifications obtained through TAFE have not been included in this table)

<sup>&</sup>lt;sup>14</sup> <u>https://www.health.gov.au/sites/default/files/documents/2022/03/national-aboriginal-and-torres-strait-islander-health-workforce-strategic-framework-and-implementation-plan-2021-2031.pdf</u>

#### Table 1-6 Ahpra approved dental and oral health courses

University	Degree(s) offered	Length (years)	ahpra Division
University of Sydney	Doctor of Dental Medicine (masters)	4	Dentist
	Bachelor of Oral Health Therapy	3	Dental Hygienist, Dental Therapist, Oral Health Therapist
Central Queensland University	Bachelor of Oral Health	3	Dental Hygienist, Dental Therapist, Oral Health Therapist
Griffith University	Bachelor of Dental Health Science/Master of Dentistry	5	Dentist
	Bachelor of Dental Hygiene	3	Dental Hygienist
	Bachelor of Dental Prosthetics	3	Dental Prosthetist
	Bachelor of Dental Technology/ Bachelor of Dental Prosthetics	4	Dental Prosthetist
	Bachelor of Oral Health in Dental Science/Master of Dentistry		Dentist
James Cook University	Bachelor of Dental Surgery	5	Dentist
University of Newcastle	Bachelor of Oral Health	3	Dental Hygienist, Dental Therapist, Oral Health Therapist
	Bachelor of Oral Health Therapy	3	Dental Hygienist, Dental Therapist, Oral Health Therapist
Charles Sturt	Bachelor of Dental Science	5	Dentist
University	Bachelor of Oral Health	5	Dental Hygienist, Dental Therapist, Oral Health Therapist
University of	Bachelor of Dental Surgery	5	Dentist
Adelaide	Bachelor of Oral Health	3	Dental Hygienist, Dental Therapist, Oral Health Therapist
Curtin University	Bachelor of Science (Oral Health Therapy)	3	Dental Hygienist, Dental Therapist, Oral Health Therapist
University of Melbourne	Bachelor of Oral Health	3	Dental Hygienist, Dental Therapist, Oral Health Therapist
	Doctor of Dental Surgery (masters)	4	Dentist
University of Western Australia	Doctor of Dental Medicine (masters)	4	Dentist
University of Queensland	Bachelor of Dental Science (hons)	5	Dentist
La Trobe University	Bachelor of Dental Science in Dentistry/Master of Dentistry	5	Dentist
	Bachelor of Oral Health Science	3	Dental Hygienist, Dental Therapist, Oral Health Therapist

Each university sets its own course structures and placement requirements.

In 2013, a simple cost analysis of a rural dental training facility found that dental programs are among the most expensive courses to run because of the required clinical experience and the cost of equipment and infrastructure.<sup>15</sup> Costs identified that are common to any dental clinic include staffing, consumables, computer hardware and software and administrative support. Additional costs for rural training can include staffing, salary incentives as well as student travel and accommodation. The authors noted that the benefits and savings to communities including, for example, reduced travel costs are important considerations in assessing the costs of rural training and that support from local, state and federal governments are required to sustain rural training.

#### Education and Training strategies to develop the rural health workforce

Through the <u>Rural Health Multidisciplinary Training (RHMT) program</u>, the Australian Government has made significant investment in university-based education and training as a key and foundational component of a multi-dimensional approach to develop, recruit and retain a workforce of health professionals with the skills, knowledge and aptitude for rural and remote practice. The RHMT programs now funds 22 universities to support a network of Rural Clinical Schools (RCSs), University Departments of Rural Health (UDRHs) and six dental schools to provide rural placements for medical, nursing, allied health and dental students respectively.

#### University Departments of Rural Health

The first seven UDRHs were established between 1997 and 1998. There are now 17 operating across Australia, with funding for a further two announced in the 2021-22 Federal Budget to be established in Western Australia. UDRHs provide education and training facilities in non-metropolitan locations and develop and offer opportunities for medical, nursing, midwifery, pharmacy, dental and other allied health students to develop clinical skills in a range of rural placement settings. 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.

#### **Rural Clinical Schools**

RCSs offer rurally based clinical and education training for medical students. They offer rural 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. There are 19 RCSs established across Australia. An additional RCS was announced in the 2021-22 Federal Budget as a component of the Murray Darling Medical School Network. RCSs operate under a distributed model with academic and professional staff employed at a number of sites.

#### Dental Training Expanding Rural Placement Program

The Dental Training Expanding Rural Placement Program (DTERP) was established as a Commonwealth budget initiative in 2007. Six metropolitan universities received capital funds to establish training sites and recurrent support to deliver extended rural placements for dental students. Participating

<sup>&</sup>lt;sup>15</sup> Lalloo R, Massey W. (2013) Simple cost analysis of a rural dental training facility in Australia. *Aust. J Rural Health* 21, 158-162

universities include the University of Sydney, University of Western Australia, University of Melbourne, University of Adelaide, University of Queensland and Griffith University. The DTERP was incorporated into the consolidated RHMT program in 2016.

Placements supported under DTERP 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 Royal Flying Doctor Service (RFDS), Aboriginal Community Controlled Health Organisations (ACCHO) and Residential Aged Care Facilities (RACF). Placements for dental and oral health students are also supported by UDRHs.

The DTERP is a small component of the overall RHMT program, accounting for approximately \$3 million per annum of a \$220 million program. Further, it represents an even smaller component of the Commonwealth funds expended on rural training for dental and oral health students through Commonwealth Supported Places held by the regional universities i.e., James Cook University, Charles Sturt University, La Trobe University and Central Queensland University. Several DTERP funded universities offer rural placements in addition to those directly funded through the RHMT program.

An overview of the universities in receipt of RHMT program funding is provided in Table 1-7.

University	UDRH	RCS	DTERP
University of Sydney	Х	Х	Х
University of NSW		Х	
University of Newcastle	Х	Х	
Charles Sturt University	Х	R	
University of Wollongong		Х	
Western Sydney University		Х	
Monash University	Х	Х	
University of Melbourne	Х	Х	Х
Deakin University	Х	Х	
La Trobe University	Х		
University of Queensland	Х	Х	Х
Griffith University		Х	Х
James Cook University	Х	Х	
University of Adelaide		Х	Х
University of South Australia	Х		
Flinders University (SA)	Х	Х	
Flinders University (NT)	Х	Х	
University of Western Australia	Х	Х	Х
Curtin University	R	Х	
University of Notre Dame	Х	Х	
University of Tasmania	Х	Х	
Australian National University		Х	
Edith Cowan University	R		

#### Table 1-7 Universities in receipt of RHMT program funding

**R** – denotes funding announcement in Federal Budget 2021-22

#### Dental schools

In addition to the six universities in receipt of DTERP funding to support rural dental placements, rural dental and/or oral health training is also delivered by five regional/non-major city universities and Curtin University based in Perth.

#### University Rural Health Clubs

Each university in receipt of RHMT program funding is required to provide a minimum of \$12,000 per annum toward the operation of a Rural Health Club. The intent of the Rural Health Clubs is to promote rural health careers to students and encourage students who are interested in practising in rural health care. The Clubs offer students rural experience weekends, career information sessions and professional development activities as well as providing a social base for students at university and when on rural placement.

#### 1.4 Factors influencing rural health workforce outcomes

There is a significant body of peer-reviewed evidence demonstrating the importance of rural training immersions for medical, allied health, nursing and dental students in uptake of rural practice after graduation.

A synthesis of the Australian literature generated through the RHMT program has identified a number of statistically significant predictors of rural medical practice including<sup>16</sup>:

- Rural background commonly defined as having lived in an ASGS RA2-5 areas for at least five years since beginning primary school
- Number of rural exposures
- Longer duration rural immersion with a greater likelihood of future rural practice
- Rural clinical placement setting
- Remoteness of clinical placement
- Rural internship

Rural clinical placements during university training also have a positive impact on rural workforce outcomes for allied health and nursing. A Multidisciplinary Health Workforce Survey conducted as part of the Evaluation analysed responses from more than 2,100 allied health professionals, nurses and/or midwives. The results demonstrate that, on average, graduates who had the most rural clinical placement experience during university (20 weeks cumulative) were working more in regional, rural and remote locations than graduates who did not undertake rural clinical placement. Importantly, these workforce outcomes were independent of student background and university.<sup>17</sup> Early findings from the Nursing and Allied Health Graduate Outcomes (NAHGOT) study undertaken by Monash, Deakin and Newcastle universities indicates the importance of rural origin, number of placements and

<sup>&</sup>lt;sup>16</sup> KBC Australia. (2020) Independent Evaluation of the Rural Health Multidisciplinary Training Program

<sup>&</sup>lt;sup>17</sup> Thomas, J. M., Butler, S., Battye, K., Sefton, C., Smith, J., Skinner, I., Springer S & Callander, E. (2021). Rural placements during undergraduate training promote future rural work by nurses, midwives and allied health professionals. *Australian Journal of Rural Health*, *29*(2), 253-258.

placement duration on workforce outcomes.<sup>18</sup> Furthermore, if a graduate's first job is in a rural location they are significantly more likely to continue their career in rural practice.<sup>19</sup>

Importantly, the preliminary findings of the NAHGOT study and the RHMT evaluation survey found that placements of 20 days or less had no effect on workforce outcomes, indicating that while investment in short duration rural placements may provide students with a rural learning experience it has no benefit for workforce outcomes.

The quality of the rural training experience is also a factor influencing workforce outcomes. The Multidisciplinary Health Workforce Survey identified that a "positive training experience in a similar community whilst at university" was a significant factor on work location for allied health and nursing graduates working in non-metropolitan locations. IAHA also note the impact of culturally unsafe clinical placements on retention and future intent for Indigenous students. The RHMT program evaluation demonstrated considerable variation in the quality of clinical placements delivered across rural training sites. Key elements affecting quality include supervision and supervision capacity building, academic support, training experiences that are relevant to rural work and access to good quality accommodation and infrastructure.

#### Evidence from dentistry

The published evidence of the impact of rural dental placements on the dental workforce is limited.

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.<sup>20</sup> 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). A study of 39 CSU graduates of 2013 and 2014 conducted in late 2015 and early 2016 found that more than half (54%) were working rurally.<sup>21 22</sup>

An investigation of the practice location of Australian dental graduates from three rural and three metropolitan universities who completed their degrees in 2015 showed that graduates from the three rurally focussed universities were statistically more likely to practise in regional (MM2-3) and

<sup>&</sup>lt;sup>18</sup> Beauchamp, A., et al., (2020), Nursing and Allied Health Graduate Outcomes Tracking (NAHGOT) Study. Methods and Preliminary Findings. Rural and Remote Health Scientific Symposium 2020, <u>Microsoft PowerPoint - NAHGOT</u> <u>study\_Beauchamp.pptx (ruralhealth.org.au)</u>

<sup>&</sup>lt;sup>19</sup> Playford D., Moran M., and 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).

<sup>&</sup>lt;sup>20</sup> Johnson G, Byun R, Foster K, Wright F, Blinkhorn A. (2019a) A longitudinal workforce analysis of a Rural Clinical Placement Program for final year dental students. *Australian Dental Journal* 64(2):181-192.

<sup>&</sup>lt;sup>21</sup> Johnson G, Foster K, Blinkhorn A, Wright FAC. (2020) Rural clinical school dental graduates views on rural and metropolitan employment. *European Journal of Dental Education*. 24(4):741-752

<sup>&</sup>lt;sup>22</sup> Johnson G, Blinkhorn A, Byun R, Foster K, Wright FAC. (2020) The workforce outcomes of dental graduates from a metropolitan school 'Rural Clinical Placement Program' versus a 'Rural Clinical School'. International Dental Journal Epub 2021 Jan 27. PMID: 33497576

rural/remote (MM4-6) locations than their metropolitan university peers.<sup>23</sup> Further they were found to be more likely to be practising in inland regions.

It is noted repeatedly in these studies, however, that there is a lack of longitudinal data demonstrating the retention of rurally trained dentists in their mid and later careers.

Johnson et al (2019)<sup>2425</sup> found a number of factors that influence dental graduates' decisions to work rurally including:

- Job availability
- Family and personal relationships
- Seeking good mentorship
- Clinical training and experience on offer
- Partner choices
- Lifestyle

One study comparing metropolitan graduates who had or had not undertaken a rural placement and graduates from CSU found both the CSU cohort and the metropolitan cohort who had undertaken rural placement had greater interest in and awareness of rural opportunity than those who had not undertaken rural placements.<sup>26</sup>

Reported barriers to working rurally include:

- Leaving family and friends
- Small patient base
- Low salary
- Partner factors
- Professional and personal isolation.

A 2018 systematic review of the literature of rural placement programs in dentistry found 11 studies from Australia, South Africa, United States, Thailand and India suggest that well organised rural clinical placements with experienced clinical supervisors and strong professional student support provided valuable clinical experience.<sup>27</sup> If sufficiently funded these placements can increase intention to work in rural areas post graduation but the lack of evidence for translation of intention to actual practice is highlighted.

<sup>&</sup>lt;sup>23</sup> Tchia K, Lim L, See N, Parikh S, Corker F, Woolley T. (2019) Do rurally focussed dental programs produce regional and rural dentist? An exploratory cross-sectional survey examining Australian dental graduates of 2015. *Australian Journal of Rural health* (27) 574-576

<sup>&</sup>lt;sup>24</sup> Johnson et al 2019 (a)

<sup>&</sup>lt;sup>25</sup> Johnson G, Foster K, Blinkhorn A, Wright FAC. (2019b) Exploration of the factors that influence new Australian dental graduates to work rurally and their perspectives of rural versus metropolitan employment. *Eur J Den Educ.* 23:437-447

<sup>&</sup>lt;sup>26</sup> Johnson G, Blinkhorn A, Byun R, Foster K, Wright FAC. (2020) The workforce outcomes of dental graduates from a metropolitan school 'Rural Clinical Placement Program' versus a 'Rural Clinical School'. International Dental Journal Epub 2021 Jan 27. PMID: 33497576

<sup>&</sup>lt;sup>27</sup> Johnson G, Wright FC, Foster K, Blinkhorn A (2018) Rural placement experiences in dental education and the impact on professional intentions and employment outcomes – A systematic review. *Eur J Den Educ. (22) e364-e378* 

#### Summary of training and early career factors influencing rural workforce outcomes

In its most streamlined form, the rural health professional workforce pipeline starts with rural school students identifying a health profession as a potential career and setting their sights on entry into tertiary education. Table 1-8 summarises the findings from the literature of training and early career factors that influence rural workforce outcomes. This provides a useful framework for developing options to increase and/or expand rural training for dental and oral health workforce outcomes.

Factors	What matters to workforce outcomes
Student factors	Rural origin is a strong predictor but placement factors also influence workforce outcomes independent of rural background
Rural exposure	Multiple exposures during undergraduate training Longer duration placements – minimum >20 days and appears to be dose effect
Location of	More rural
placement	Raises awareness and opportunities in rural
Placement setting	Reflective of rural work environments
Placement	Well structured and experienced clinical supervisors
"organisation"	Professional student support
Post-graduation	First job rural
factors	Mentorship
	Clinical training opportunities
	Partner willingness
	Lifestyle – community amenity

#### Table 1-8 Training and early career factors influencing rural health professional workforce outcomes

# 2 PURPOSE OF THE FEASIBILITY STUDY

The aim of the dental feasibility study is to:

- Determine the feasibility of and identify best approaches to increasing dental and oral health training through the RHMT program including expanding into more rural and remote locations
- Consider the benefits of dental and oral health service delivery to local communities
- Inform future program design and government policy to support Australia's future rural health workforce.

The Department identified seven key questions for the feasibility study:

- 1. What are the requirements for students of dentistry and oral health to register and qualify for practice?
- 2. What are some of the features of quality dental and oral health student placements?
- How can the barriers to the expansion of dental and oral health training through the RHMT DTERP program and UDRHs be addressed? (as identified in the RHMT program evaluation, 2020)
- 4. To what extent do placements vary across health services, locations and settings, including in Indigenous and more remote settings?
- 5. What supervision models could support dental and oral health student placements expand beyond MM2 into more remote locations?
- 6. What is the sector's capacity to accommodate new models?
- 7. What, if any, are the cost-implications for expanding dental and oral health training beyond MM2?

#### 2.1 Study Approach

The methodology to undertake the study included:

An *environmental scan* (January – February 2022): to identify key contextual factors that influence and/or determine opportunities for training dental and oral health students in rural, remote and regional locations and highlight areas of interest for investigation. The desktop scan included an overview of the policy context, a brief review of published literature on influence of training strategies on dental and oral health workforce distribution and analysis of RHMT program reports (where relevant) and historical rural training placement data provided by Australian universities' dental and oral health programs.

A *survey* of the twelve universities offering oral health and/or dental training (February – March 2022): to map current rural and remote placements. Data was collected for the five year period 2016 to 2020.

Consultations with key stakeholders (late March – end April 2022) to identify:

• Strengths and weaknesses of current dental and oral health rural placements

- Extent and nature of inter-disciplinary training between dental and oral health professions
- Barriers and enablers to expanding dental and oral health training to more rural and remote locations
- Student satisfaction with and feedback on rural placement
- Opportunities for expanded inter-professional training in rural settings

Consultations were undertaken by site visits to the main campus and rural training sites as well as videoconference interviews. A total of 181 people participated in the consultations.

#### Table 2-1 Consultation informants by stakeholder group

Informant type	Number
University executive (Deans, academics)	40
University course and placement coordinators	13
LHN Directors/managers of dental services	9
RFDS	1
Dental and oral health supervisors – Public	16
Private practice and ADA members	4
Students - dental	35
ACCHO CEOs, management and oral health staff	10 (includes Orange Aboriginal Medical Service (OAMS), Goondir, Mulungu and Rumbalara)
State Directors of Dental Services, Chief Dentists and policy personnel	12
Department of Health - Dental Section	1
National Rural Health Commissioner	1
UDRH Directors	6
Peak bodies Dental and oral health (national and state) Aboriginal and Torres Strait Islander Health and Workforce	33 (includes ARHEN board members)

- Information synthesis workshop (end April 2022): to synthesise data, draw conclusions and identify approaches and options to increasing dental and oral health training including expanding into more rural and remote locations. *These options were presented in the interim Report.*
- Identify preferred options in consultation with the Department and Expert Reference Group (early June 2022)
- Undertake a cost analysis of options (May-June 2022): to identify key cost drivers and formulate program development costs for each option, providing guidance to the Department about the overall funding required for the proposed development or redevelopment.
- *Final report* with identified options (end July 2022).

# **3** WHAT DID WE FIND?

This section provides an overview of the key findings of the feasibility study drawing on the analysis of placement data and consultations with key stakeholders.

#### 3.1 Student numbers

In 2022, there was a total of 646 first year dental students and 612 final year dental students enrolled in university dental programs in Australia. Overall, 35% of final year students were international students, with some universities having more international than domestic students enrolled in final year [Data does not include University of WA]<sup>28</sup>

	Dentistry								
University	Degree	YR 1, 2022	Domestic No. (%)	International No. (%)	Final Yr, 2022	Domestic No. (%)	International No. (%)		
University of Sydney	DMD	130	107 (82)	23 (18)	83	37 (45)	46 (55)		
Griffith University	MDS	101	78 (77)	23 (23)	94	75 (80)	19 (20)		
James Cook University	BDS	84	70 (83)	14 (17)	85	73 (86)	12 (14)		
Charles Sturt University	BDS	33	29 (88)	4 (12)	40	32 (80)	8 (20)		
University of Adelaide	BDS	74	38 (51)	36 (49)	75	33 (44)	42 (56)		
University of Melbourne	DDS	89	53 (60)	36 (40)	89	54(61)	35 (39)		
University of Western Aust.*	DMD	55	Data not supplied	Data not supplied	52	Data not supplied	Data not supplied		
University of Queensland	BDS	76	30 (39)	46 (61)	87	43 (49)	44 (51)		
La Trobe University	BDS	59	48 (81)	11 (19)	59	48 (81)	11 (19)		
TOTAL		646	453 (70)	193 (30)	612	395 (65)	217 (35)		

 Table 3-1. Number (%) of first and final year domestic and international dentistry students enrolled by university, 2022.

\*Totals do not include data from UWA

Table 3-2 shows the number of first and final year, domestic and international students enrolled at each university in 2022 in dental hygiene, and oral health therapy courses. In 2022, there were 432 students enrolled in first year oral health therapy and dental hygienist university programs, and 316 final year students. The proportion of international students is much lower than dentistry with only 3% of final year students from overseas.

<sup>&</sup>lt;sup>28</sup> It is noted that the data on international students in 2022 may not reflect pre-COVID 19 numbers.

Dental Hygienist, Oral Health Therapist								
University	Degree	YR 1, 2022	Domestic No. (%)	International No. (%)	Final Yr, 2022	Domestic No. (%)	International No. (%)	
University of Sydney	BOHT	91	90 (99)	1 (1)	39	37 (95)	2 (5)	
Central Queensland Uni	вон	26	23 (88)	3 (12)	19	18 (95)	1 (5)	
Griffith University	BDH	29	28 (97)	1 (3)	12	11 (92)	1 (8)	
University of Newcastle	BOHT	63	58 (92)	5 (8)	48	46 (96)	2 (4)	
Charles Sturt University	BOH	84	78 (93)	6 (7)	90	89 (99)	1 (1)	
University of Adelaide	BOH	23	22 (96)	1 (4)	23	22 (96)	1 (4)	
Curtin University	BSc (OHT)	54	52 (96)	2 (4)	30	30 (100)	0 (0)	
University of Melbourne	BOH	37	33 (89)	(11)	35	34 (97)	1 (3)	
La Trobe University	BOH	25	25 (100)	(0)	20	20 (100)	0 (0)	
TOTAL		432	409 (95)	23 (5)	316	307 (97)	9(3)	

Table 3-2. Number (%) of first and final year domestic and international dental hygiene and oral health therapy students enrolled by university, 2022.

#### 3.2 Placement mapping

#### Course requirements

Bachelor of Oral Health programs are offered by nine universities of which seven offer rural placements in the final year. University of Sydney and Griffith University do not currently offer rural placements. Curtin University has rural placements available for oral health students but it is not a course requirement.

Of the nine universities offering a dental degree program, all have final year rural placements available. Undertaking a rural placement is not a course requirement for Griffith University, University of Queensland or University of Western Australia.

Rural placements in earlier years are not a requirement of any courses.

#### Placement location and volume - Dentistry

In the five year period 2016-2020 a total of 20,796 placement weeks were provided to final year dental students (Table 3-3). Note that placements in MM1 are in outer metropolitan areas and external to the main campus of the regional university.

Dental program	Placement town/ city - MMM classification							
	Sum of Weeks per year (5-year total)							
University	MM-1	MM-2	MM-3	MM-4	MM-5	MM-6	MM-7	Total
Charles Sturt		880	4552	96	24		180	5732
University								
Griffith			20	340	136			496
University								
James Cook	170	1530	170	1190	510	170	680	4420
University								
La Trobe University	289	1023	289	150				1751
University of			912		666	812		2390
Adelaide								
University of			1575	265				1840
Melbourne								
University of		1503	594	1045		565		3707
Queensland								
University of Sydney			239	37				276
University of		171					13	184
Western Australia								
Total	459	5107	8351	3123	1336	1547	873	20796

Table 3-3 Rural Placement weeks for dental students by University and MMM Classification, 2016-2020

As the COVID pandemic impacted the provision of placements to various extents in different jurisdictions, 2019 data is presented as a more representative overview of rural placements by each university.

In 2019, there were 4,706 rural placement weeks undertaken by final year dental students. The majority (68.2%) of dental rural placement weeks were undertaken in MM 1-3 (Table 3-4)

Dental Program	Placement town/ city - MMM classification							
University	MM-1	MM- 2	MM-3	MM-4	MM-5	MM-6	MM-7	Total
<b>Charles Sturt University</b>		176	908	24			36	1144
Griffith University				68	34			102
James Cook University	34	306	34	238	102	34	136	884
La Trobe University	73	249	73	38				433
University of Adelaide			176		186	180		542
University of Melbourne			583	123				706
University of Queensland		420	84	141		156		801
University of Sydney			51	5				56
University of Western Australia		35					3	38
<b>Total (n)</b> Total (%)	<b>107</b> (2.3)	<b>1186</b> (25.2)	<b>1909</b> (40.1)	<b>637</b> (13.5)	<b>322</b> (6.8)	<b>370</b> (7.9)	<b>175</b> (3.7 <b>)</b>	4706

Table 3-4 Rural Placement weeks for dental students by University and MMM Classification, 2019

#### Placement location and volume – Dental hygienist/ Oral health therapy

In 2019, there were 3,186 final year rural placements undertaken by oral health students. Placements in MM1 were external to the main university and outer metropolitan areas or in the case of University of Sydney in alternate settings. Nearly 97% of oral health placements were undertaken in MM 1-3 (Table 3-5).

Oral Health program	Placement town/ city - MMM classification Sum of Weeks per year (2019)							
University	MM-1	MM-2	MM-3	MM-4	MM-5	MM-6	MM-7	Total
Charles Sturt University	274	447	1458		50			2229
Central Queensland University	84	133	12					229
Curtin University			9	3				12
La Trobe University		54		17				71
University of Adelaide			242					242
University of Melbourne		4	165					169
University of Newcastle	30		160	32				222
University of Sydney	6		2	2			2	12
<b>Total (n)</b> Total (%)	<b>394</b> (12.4)	<b>638</b> (20.0)	<b>2048</b> (64.3)	<b>54</b> (1.7 <b>)</b>	<b>50</b> (1.6)		<b>2</b> (0.06)	3186

#### Table 3-5 Rural Placement weeks for oral health students by University and MMM Classification, 2019

#### Placement settings

Final year rural dental placements occurred in three service settings, public sector dental clinics, university operated dental clinics and ACCHOs. As shown in Table 3-6, more than two thirds of rural dental placement were undertaken in public sector clinics.

#### Table 3-6 Dental rural placement weeks by service setting, 2019

Placement Site - Service setting	Weeks (%)
АССНО	400 (8.5%)
Public Sector Clinic	3226 (68.6%)
Uni operated clinic	1080 (22.3%)
Total	4706

Nearly two thirds (64.2%) of final year rural placements for oral health students are undertaken in university operated clinics and a third (33.3%) in public dental clinics. There is minimal placement activity in alternate settings such as ACCHOs and residential aged care facilities (RACFs) (Table 3-7).
#### Table 3-7 Oral health rural placement weeks by service setting, 2019

Placement Site - Service setting	Weeks (%)
АССНО	33 (1.0%)
Public Sector Clinic	1062 (33.3%)
Residential Aged Care	42 (1.3%)
Uni operated clinic	2047 (64.2%)
Other - MH/AOD/ Forensic	2 (0.06)
Total	3186

### **3.3** Quality elements of rural placement

An output of the RHMT program evaluation was the development of rubrics to better describe the key elements of quality rural placements that were considered important for a positive rural training immersion to promote future rural workforce outcomes. These rubrics have been used as a framework to describe current rural dental placements.

## Length of rural placements

The length of rural placement is very variable between universities (Table 3-8). For dental students this can range from 1 week placements (usually in an ACCHO or very remote location) up to 22 weeks. Analysis of the university survey data indicates that in 2019, four universities had rural placements of predominantly 4 to 8 weeks (University of Sydney, University of Melbourne, Charles Sturt University and University of Western Australia). The University of Queensland offered longer placements predominantly in MM2 and 3 locations (average 17 and 16 weeks) and placement with average length of 6 to 9 weeks in MM 4-6. Four universities offer longer placements of 12-18 weeks (Griffith University, James Cook University and La Trobe University) with University of Adelaide changing from 8 to 12 weeks in 2021.

University	MM classification	Service setting	Length range (weeks)	Average (weeks)
Charles Sturt University	MM-2	Uni operated clinic	4-6	6
	MM-3	Public Sector Clinic	6	6
		Uni operated clinic	4-6	
	MM-4	Public Sector Clinic	6	6
	MM-5	ACCHO	6	6
	MM-7	Public Sector Clinic	1	1
Griffith University	MM-3	Public Sector Clinic	4	4
	MM-4	Public Sector Clinic	12-17	15
		Uni operated clinic	17	
	MM-5	Public Sector Clinic	17	17
James Cook University	MM-1	Public Sector Clinic	18	18
	MM-2	Public Sector Clinic	18	18

Table 3-8 University.	MM Classification.	Service setting.	placement le	enath (w	eeks) 2019	– Dentists
	iiiiii ciussijicucion,	Service Setting,	pracement	cing cin (m	2010	Dentists

University	MM	Service setting	Length	Average
	classification		range	(weeks)
			(weeks)	10
		Uni operated clinic	18	18
	MM-3	Public Sector Clinic	18	18
	MM-4	АССНО	18	18
		Public Sector Clinic	18	
	MM-5	Public Sector Clinic	18	18
	MM-6	Public Sector Clinic	18	18
	MM-7	Public Sector Clinic	18	18
La Trobe University	MM-1	Public Sector Clinic	18-19	19
	MM-2	Public Sector Clinic	3-19	14
	MM-3	Public Sector Clinic	18-19	19
	MM-4	Public Sector Clinic	19	19
University of Adelaide	MM-3	Public Sector Clinic	8	6
Note changed to 12 weeks in		Uni operated clinic	4	
2021	MM-5	Public Sector Clinic	8	8
	MM-6	Public Sector Clinic	8	8
University of Melbourne	MM-3	АССНО	1	3
		Public Sector Clinic	2-4	
	MM-4	Public Sector Clinic	4	4
University of Queensland	MM-2	Public Sector Clinic	7-22	17
	MM-3	Public Sector Clinic	9-22	16
	MM-4	АССНО	4-22	9
	MM-6	ACCHO	2-12	6
University of Sydney	MM-3	Public Sector Clinic	5	5
	MM-4	Public Sector Clinic	5	5
University of WA	MM-2	Public Sector Clinic	8	8
	MM-7	Public Sector Clinic	1	1

Oral health student placements in public dental clinics range from 2 to 12 weeks (Table 3-9). However, there is a predominance of short 2–4 week placements for the metropolitan based universities and longer placements for the regional universities (Charles Sturt University, La Trobe and Central Queensland University).

Table 3-9 University, MM Classification, Service setting, placement length (weeks), 2019 - Dental Hygienist/Oral Health Therapist (DH/OHT)

University	MM classification	Service setting	Length range (weeks)	Average (weeks)
	MM-1	Public Sector Clinic	6	6
Central Queensland	MM-2	АССНО	1	10
University		Public Sector Clinic	1-6	
		RACF	1	

University	MM	Service setting	Length range	Average
Onversity	classification		(weeks)	(weeks)
		Uni operated clinic	24	
	MM-3	RACF	1	1
	MM-1	Public Sector Clinic	6-7	6
	MM-2	Public Sector Clinic	6-7	6
Charles Sturt		Uni operated clinic	6-7	
University	MM-3	Public Sector Clinic	6-7	6
		Uni operated clinic	6-7	
	MM-5	Public Sector Clinic	6-7	6
Currenting I have a sector	MM-3	Public Sector Clinic	3	3
Curtin University	MM-4	Public Sector Clinic	3	3
	MM-2	Public Sector Clinic	12	10
La Trobe University		RACF	2	
	MM-4	Public Sector Clinic	2	2
	MM-3	Public Sector Clinic	3	4
University of Adelaide		Uni operated clinic	4	
	MM-2	Public Sector Clinic	4	4
University of Molbourpo	MM-3	АССНО	1	3
Melbourne		Public Sector Clinic	4	
	MM-1	Public Sector Clinic	1	1
University of	MM-3	Public Sector Clinic	4	4
Newcastle	MM-4	Public Sector Clinic	4	4
	MM-1	АССНО	2	2
University of Sydney		Other - MH/AOD/ Forensic	2	
		Public Sector Clinic	2	
	MM-2	Public Sector Clinic	2	2
	MM-3	Public Sector Clinic	2	2
	MM-4	Public Sector Clinic	2	2
	MM-5	Public Sector Clinic	2	2
	MM-7	Public Sector Clinic	2	2

The findings from the consultations indicated that students and supervisors preferred longer placements (i.e., >8 weeks duration) enabling students to develop a patient treatment plan, undertake a broader range of clinical treatment and complete a full cycle of care for a patient. Where placements were shorter, the range of treatments that students could provide was limited impacting on opportunities to practice a broader range of skills. Longer placements were also more efficient for the health services as supervisors were not constantly onboarding and orientating students hence increasing the productivity of the service and improve student productivity as they became familiar with clinic operations.

Short placements in ACCHOs (1-2 weeks) are inefficient models as they place considerable burden on the health service to orientate students to understand the ACCHO model of care, services available and provide cultural training to improve student engagement with Aboriginal and Torres Strait Islanders patients and mitigate potential cultural safety issues relative to the placement duration. Services would prefer to take fewer students for longer placements.

**Finding 1:** Short placements have a number of limitations: frequent student onboarding impacts service efficiency; students' clinical skills development is not optimised where they cannot complete a cycle of care, hence limiting the value of these placements to the health services and students. These limitations, combined with an absence of evidence demonstrating impact on rural workforce outcomes, raise questions as to whether short placements (<4 to 6 weeks) should be supported through RHMT program funding.

## Rural immersion experience

The extent of the rural immersion experience for dental and oral health students was influenced by a number of inter-related factors including:

- The relative rurality of the placement. Placements in some MM2 and MM3 locations are within commuting distance to the student's metropolitan base and in many cases students travel to and from the placement on a daily or weekly basis diminishing their rural experience.
- Length of placement longer placements enable opportunities to explore and become embedded in the rural community and wider area; it provides opportunities for students to understand the organisation and workings of the clinic and develop time management and clinical skills and become more engaged in the clinic; to engage in community activities and events; develop a better understanding of the rural social fabric and culture of the community
- Extent to which students are linked in with UDRHs and RCSs. Consultations indicated that while there were a few exceptions, overall, there was limited engagement with UDRHs and RCSs and where this occurred it was predominantly to access accommodation. There was little connection for the purpose of interprofessional learning, accessing cultural training, social activities, or pastoral support that is routinely offered by UDRHs. This was reflected in the RHMT program evaluation where oral health placements accounted for 1.2% of placement weeks supported by UDRHs in 2018.

## Clinical experience relevant to rural work

Interviews with dental students on placement indicated the high value rural placements provided in developing and strengthening their clinical skills and work readiness. The caseload, clinical complexity of the patient cohort, diversity of patients and working four or five days a week were beneficial for clinical and professional skill development.

The breadth of clinical treatment undertaken by dental students was determined by factors including:

• Placement setting - jurisdictions and local health service have rules about clinical procedures/items available to eligible patients in public clinics i.e., some jurisdictions do not provide treatments such as crowns, bridges and root canal while others provide these

treatments to eligible patients and charge a co-payment. A wider range of clinical treatments are provided in ACCHO placements and university clinics in rural or regional areas

- Length of placements with shorter placements limiting breadth of treatment (as described earlier)
- Extent to which clinics/ supervisors screened patients to be treated by students.

Across universities it was observed that dental students have limited opportunities for paediatric experience. The Child Dental Benefit Schedule precludes health services claiming payment for services provided by students. As a result, to optimise revenue, treatment is generally provided by the registered dental or oral health practitioners employed by the health service.

An interesting observation arising from the student interviews was that for most groups students were generally surprised by the complexity, co-morbidities and lower oral health literacy of the patient cohort they encountered on rural placement. In contrast, students from two regional universities indicated that the clinical and social complexity of rural patients and cultural diversity had been embedded in their course work and they were now seeing it on placement. This suggests opportunities for universities to include rural health in course curricula with a focus on the differences of living and working in a rural and remote community, the social determinants of health and connection to oral health burden of disease, health inequities and health service access.

## Student support

A good quality rural placement and positive student experience is enhanced through good preparation and support including:

- Written or online information about the placement site, its accommodation, its local amenities, supervision arrangements, and opportunities available prior to placement
- Orientation to the clinical placement and location
- Access to accommodation and utilities
- Cultural safety training contextualised to the location
- Pastoral support while on placement.

Findings from the consultations indicated considerable variation between universities.

- Variability in preparation of students for placements i.e., information about patient cohort and community, accommodation, transport options to the community, clinical and professional skills they will develop (*One student took an Uber to travel 2.5 hrs to the placement*)
- Access to accommodation ranged from the faculty sourcing and paying for accommodation; some providing a travel subsidy, through to students sourcing and paying the full cost of accommodation i.e., \$250 per person per week. In most cases universities have identified accommodation available, usually through a UDRH or RCS and students pay \$80 \$100/week, which includes electricity, WiFi etc. Due to the short length of most placements, students were also paying for their accommodation in the city while on placement as it was not possible to rent out their houses for less than 6 months. Most report having to borrow from their parents to pay their rent as they also lost their jobs in the city during this time.

- Orientation to the clinical placement is usually undertaken by the health service and local supervisor.
- In most cases, it was reported students had completed the cultural safety training modules as
  part of their usual course but there was no local/ contextualised cultural orientation identified
  in our site visits other than in ACCHO placements where it was provided by their staff. The
  nature and quality of cultural safety training modules also varies and in many cases is cultural
  awareness rather than programs that develop students' capabilities to be more culturally safe
  in the provision of care

**Finding 2:** Rural placements of sufficient length for students to provide a full cycle of care (>8 weeks) are effective for dental students to develop clinical and professional skills.

**Finding 3**: There appears to be inadequate focus on rural and remote health, social and cultural determinants of health and health care access, in the dental program curriculum in some universities to prepare students for rural placements.

**Finding 4:** Rural immersion experiences for dental and oral health students would be improved by having longer placements and developing linkages with UDRHs and RCSs to access the range of supports they routinely offer including interprofessional learning, locally contextualised cultural training, social activities, pastoral, disciplinary and professional support.

## 3.4 Supervision

The main models of supervision for students on placement were:

- Supervision of dental students by public health service employed dentists
- Supervision of dental students by a university employed/contracted dentist located in-situ or supported to travel to the placement site with students. This could be the same dentist for the placement duration or a rotation of supervisors. This was observed to occur in rural university clinics, ACCHOs and in some cases public health services where the local dentist was not determined to have adequate experience to supervise students
- Supervision of oral health students by public health service employed oral health therapist or dentist
- Supervision of oral health students by a university employed/contracted oral health therapist

Supervision ratios for dental students ranged from 1:1 in small rural clinics to 1:10 in larger university and health service clinics and for oral health students it ranged from 1:2 to 1:6.

### Challenges to supervision capacity

The lack of supervision capacity was identified as the main barrier to supporting rural placements and was attributed to:

- Public health sector challenges in recruiting and retaining dental officers with many reporting unfilled positions following extensive advertising
- The public sector dental workforce is predominantly junior/ recent graduates and do not have adequate experience to supervise (notionally 3-5 years post graduate experience)
- Private practice business model is not supportive of clinical placements but there may be opportunities for shadowing or off-site teaching

- The majority of university employed supervisors lived in the city and drove or flew to the rural site weekly. This affected their ability to engage students in the social fabric of rural communities
- The majority of university employed supervisors worked part time and many had come back into the workforce following retirement i.e., aged workforce.
- There was no noted succession planning of supervisors.
- There was little connection noted between the supervisors and the universities in terms of networking, professional development and peer support

## Building and supporting supervision capacity

The quality of a student placement is highly dependent on the quality of supervision. The RHMT evaluation developed a rubric to assess the extent to which universities support supervision capacity development. Application of this rubric to the dental and oral health programs identified a number of shortfalls and areas where improvements could be made by the universities including:

- Developing and regularly updating a supervision manual for external and internal supervisors, that includes students' scope of practice and expectation – only one university has a manual for supervisors
- Planned supervision training e.g., 'Teaching on the Run', in conjunction with orientation to course requirements both online and face to face
- Orientation and training for supervisors throughout the year recognising turnover in the dental/supervisor workforce
- Establishing a national network of dental supervisors and academics to have collegial support in teaching, learning and research
- Joint appointments through private practice and part time supervision
- Recognition of the contribution of external supervisors to supporting university training through adjunct appointments, access to university library resources and provision of/access to continuing professional development.

**Finding 5:** There is a high reliance on public dental clinics for the provision of rural dental and oral health placements and access to supervision is a key challenge to sustaining, increasing or expanding dental and oral health training in rural and remote areas. However, most universities appear to be paying limited attention to working actively with the LHNs to develop and strengthen supervision capability in this workforce and/or harnessing the potential of private practitioners to contribute to supervision capability in rural areas.

## 3.5 Agreements and cost of placements

Dental and oral health student placements in health services are underpinned by various agreements and arrangements. There is variation between and within jurisdictions in relation to supervision arrangements, cost of placements and utilisation of dental assistants.

Table 3-10 Student	placement agreements an	d arrangements by jurisdiction
	, ,	

Jurisalction	Agreements and arrangements
New South Wales	NSW Health does not charge the universities for dental or oral health rural placements. Rural placements are seen as a recruitment strategy. The LHD clinics provide supervision to students from University of Sydney and CSU. Students are usually in pairs and (dental) assist for each other.
Queensland	<ul> <li>Main types of agreements:</li> <li>Queensland Health funds an annual block amount to Griffith University and JCU to undertake clinical activity for eligible public patients in their university clinics. The universities can choose to provide a range of services so students get experience of crowns, bridges, root canal that is not available in the HHS clinics. Placements are available for students across years.</li> <li>Queensland Health funds Metro North HHS to run clinics, provide supervisors and manage patient appointments at the Royal Brisbane dental service. University of Queensland built the RBH clinic and it is combined with the dental hospital.</li> <li>In relation to student placements in the rural HHS sites there are various arrangements dependent on whether a university has made a contribution to/ or fully funded the building of dental clinics and infrastructure. For example, the HHS-owned dental clinic at Mareeba was built with funding from JCU (via Health Workforce Australia) and Cairns Hinterland Hospital and Health Service (CHHS) provides clinical supervision at no cost to JCU under a 10 year agreement. Whereas Griffith University paid for the building of the dental clinic and 10 room student accommodation in Kingaroy, under a 20 year agreements (approximately \$400 - \$500/chair per week) and the HHS provides supervision and dental assistance.</li> <li>Queensland Health does not provide any funding to Central Queensland University for Oral Health Therapy. CQU students do undertake placements in Rockhampton Hospital and HHS staff provide supervision.</li> <li>In relation to non-Queensland Health placements, University of Queensland collaborated with Goondir Aboriginal Health Service to establish two dental placement sites in St George and Dalby under a 20 year agreement.</li> </ul>
Victoria	In Victoria, Dental Health Services Victoria (DHSV) has a purchasing agreement with the individual Health Services for the provision of dental and oral health services. La Trobe and University of Melbourne have separate MoUs with each Health Service in which dental and oral health students are placed (note that La Trobe has negotiated individual agreements with eight Health Services and no two are the same.) Placement charges differ between Health Services and some Health Services also seek payment for equipment. La Trobe does not pay for BOHT placements.
South Australia	University of Adelaide and SA Health entered into a 30-year Dental Education Partnership Agreement in 2015. Under this agreement, the UoA built the Adelaide Dental Hospital and State-wide Dental Services are "tenants". Under the agreement, SA Dental guarantees training places for dental and oral health students in both the Adelaide Dental Hospital and Statewide Dental Service clinics. This includes providing staff (dental assistants), consumables and infrastructure and managing appointments for patients eligible for public services. UoA employs dental tutors/supervisors (casual and employed basis) and where the University is

	unable to provide a tutor, the dental hospital or SDS supplies a tutor under a re- charge arrangement.
	There are 40 chairs in the teaching clinics at Adelaide Dental Hospital and 50 chairs state-wide to support under-graduate teaching/placements. This includes four community clinics in and around Adelaide and four regional clinics – Port Lincoln, Whyalla, Berri and Mt Gambier.
	To be eligible for Commonwealth funding (under the Federal Funding Agreement) SA Dental has baseline activity requirements and student activity contributes to this baseline. SA Dental has set baseline activity targets for the Dental school to ensure SA Dental meets its federal commitment.
	SA Dental is keen to maximise utilisation of chairs to meet activity targets and ensure staff effectively deployed. This resulted in UoA extending its clinical year for Yrs 4 and 5 BDS students and Yr 3 BOHT students. <i>From 2021 onwards, rural placements are 12 week duration for BDS and remain at 3 weeks for BOHT.</i>
Western Australia	WA Department of Health operates as the system manager and funds WA Dental Health Services to provide community based dental and oral health services and the Oral Health Centre of WA (OHCWA) as the tertiary provider of dental and oral health care. The Dean and Head of the School of Dentistry, UWA is also the Director of OHCWA. Final year placements are undertaken in a UWA run clinic in Bunbury and there is the option of a rural placement in Bunbury DHS clinic. There is no charge for placements.
	DHS has a limited number of short (3 week) rural placements available for Bachelor Oral Health students (15-18 students per year). DHS provides supervision at no charge to Curtin University.
Tasmania	Prior to 2012, Health Workforce Australia provided funding to the Tasmanian government to establish dental chairs in Hobart, Launceston and Devonport to facilitate student training. Tasmanian Dental Services has partnership agreements with JCU and University of Adelaide to take final year students. Tasmanian Dental Service charges the universities \$500/chair/week for student placements and this includes supervision (ratio 1:3), consumables and a dental assistant for each student. Has capacity to take 10 students in Hobart, 6 in Launceston and 3 in Devonport

# 3.6 Student Selection

## Rural Origin

The RHMT program sets rural origin enrolment targets for universities in receipt of program funding, including DTERP funds. In 2018, these targets ranged from 3% to 10% for dental student enrolments in the six universities receiving DTERP funding. In 2018, only three universities met their targets. James Cook University also had a rural origin target of 45% and exceeded this target by about 20 percentage points.<sup>29</sup> Charles Sturt University had a quota of 50% rural origin and Aboriginal and Torres Strait Islander students when it commenced in 2009. However, it has had difficulty meeting this quota in recent years and has subsequently increased enrolments of metropolitan students.

<sup>&</sup>lt;sup>29</sup> KBC Australia, 2020 op. cit.

Findings from the consultations suggest that the majority of universities offering dental programs have no specific selection or admissions process for rural origin students with the exception of James Cook University. In most universities, students are selected into dentistry based on their ATAR (or equivalent), UCAT score and, in some cases, an interview to determine motivation for studying dentistry. In contrast, James Cook University selection includes consideration of their ATAR (or equivalent) and a written application outlining their demonstrated understanding of/or commitment to rural and remote communities and consideration of their rural background. There is no requirement for a UCAT.

The RHMT program also sets rural origin targets for allied health professions, which would include oral health therapy. In 2020, this target was set at 21% across the program. The feasibility study has not sought data on rural origin oral health therapy students. However, Central Queensland University indicated that 50-65% of the oral health therapy intake is of a rural background with a majority of students trained as dental assistants and seeking to upskill. For the other universities offering oral health therapy courses, students were reported to be predominantly from metropolitan backgrounds.

## Aboriginal and Torres Strait Islander students

The number of Aboriginal and Torres Strait Islander students undertaking dental and oral health courses is very low. Data provided to the study by James Cook University indicates that between 2015 and 2019, there were between 8 and 14 Aboriginal and Torres Strait Islander students enrolled in their dental program (i.e., 2% - 3.6% of student cohort). For a sample of five other universities this ranged from 1 to 5 students (0.45% to 1.36% of the respective university's cohort).<sup>30</sup> Central Queensland University currently has two Aboriginal and Torres Strait Islander students enrolled in the Bachelor of Oral Health, both of whom were previously dental assistants.

Within an equity framework, the proportion of Aboriginal and Torres Strait Islander people registered as dental practitioners should be about 780 dental practitioners based on 2017 data. However, in that year there were 98 Aboriginal and Torres Strait Islander people registered as dental practitioners across the five general registration divisions.<sup>31</sup> The low participation of Aboriginal and Torres Strait Islander students enrolling and completing dental and oral health qualifications reflects a lack of effective recruitment, support and retention strategies in both the higher education and health service sectors and needs significant attention to progress toward population parity within a reasonable (10 year) timeframe.

### Increasing rural origin and Aboriginal and Torres Strait Islander student intake

A number of barriers to entry of rural and Aboriginal and Torres Strait Islanders students into dental and oral health training were identified including:

- Requirements to sit the UCAT including the challenge and additional cost to undertaking the test and relative performance against students who have the means to be coached
- Recognition that rural students often have lower ATARs than metropolitan students which challenges selection

 <sup>&</sup>lt;sup>30</sup> James Cook University analysis of Higher Education Information Management System Data, 2015-2019
 <sup>31</sup> Australian Medical Association, 2019. AMA Report Card on Indigenous Health. No More Decay: Addressing the oral health care needs of Aboriginal and Torres Strait Islander people. <u>2019 AMA Report Card on Indigenous Health 0.pdf</u>

• No active rural selection strategies and in fact some Deans were unaware of rural origin targets for RHMT/ DTERP funding.

The Centre for Oral Health Strategy, NSW Ministry of Health, has commissioned University of Sydney to undertake a literature review to identify barriers to dental and oral health training for rural and remote and Aboriginal and Torres Strait Islander people and this will be completed in June 2022. This can inform options for universities to increase participation by rural, remote and Aboriginal and Torres Strait Islander people is dental and oral health training for rural and Torres Strait Islander people and this will be completed in June 2022. This can inform options for universities to increase participation by rural, remote and Aboriginal and Torres Strait Islander people in dental and oral health courses.

To increase rural origin and Aboriginal and Torres Strait Islander intake into their oral health therapy program, Central Queensland University offers a free on-line preparatory program where students have automatic entry if they pass this course.

Advice from the Indigenous Dental Association of Australia (IDAA), Indigenous Allied Health Australia (IAHA) and National Aboriginal Community Controlled Health Organisation (NACCHO), re-iterated the importance of a training and career pathway for Aboriginal and Torres Strait Islander students, commencing in school through opportunities such as the IAHA Academy and school-based traineeships with supported education and potentially bridging programs for entry into courses and ongoing study and scholarship support to improve course completion.

The IAHA High School to Deadly Careers program has been effective in engaging Aboriginal and Torres Strait Islander students, and the participation of an Aboriginal dental student in the Northern Australia program led to an increase interest in oral health, with two students from the IAHA NT Academy now on oral health pathways.

The National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan (2021-2031) provide strategic directions and implementation strategies that can be applied to increasing Aboriginal and Torres Strait Islander participation in dental and oral health training and education. However, national leadership by an Aboriginal and Torres Strait Islander dental peak body is not identified in the Workforce Strategic Framework and Implementation Plan. Ensuring a focus on this workforce could be progressed through IDAA which is representative of dentists, oral health therapists and technicians.

## International students

International students represent about a third of the dental student cohort and undertake placements in both metropolitan and rural settings. A number of health service representatives interviewed expressed concern at the high number of international students they are required to supervise while on placement in public health services as these international students are not likely to return to rural health services as graduates.

It should also be noted that the RHMT program precludes funding of placements for international students. This issue may require further consideration and investigation by the Department in relation to use of RHMT program funds to support rural placements for dental students.

**Finding 6:** While the literature demonstrates that metropolitan students who have positive rural placements of longer duration contribute to the rural workforce, rural background remains as a significant independent predictor of rural practice i.e., students from rural background are 2 to

nearly 4 times more likely to work rurally. However, a focus on rural selection for dental and oral health program was not evident in the majority of universities. Attention to promoting dental and oral health courses to rural secondary school students supported by strategies by universities to increase selection and admission to university is required as a first step in the creation of a rural dental and oral health training and career pathway.

**Finding 7:** Increasing access to health services and improving provision of culturally safe health care to Aboriginal and Torres Strait Islander peoples is best achieved where that care is provided by an Aboriginal and Torres Strait Islander health professional. Participation of Aboriginal and Torres Strait Islander health courses is very low and well below population parity. Increasing participation and completion of Aboriginal and Torres Strait Islander students in dental and oral health courses a pathways approach underpinned by partnerships between the IAHA, IDAA, NACCHO, the VET sector, UDRHs, RCSs and targeted efforts by the dental schools/ universities.

The National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan (2021-2031) provides strategies that can be applied to increasing Aboriginal and Torres Strait Islander participation in dental and oral health training and education.

## Selection for rural placements

The selection of students for rural placement appears to be ad hoc. Interviews with students on rural placement indicated that they could submit preferences but that did not necessarily translate to where they were placed. Furthermore, identifying students with a rural interest and selecting them for a rural placement e.g., via submission of an Expression of Interest for a rural placement, was only identified in one university.

International students are placed in rural sites and a number of international students took part in interviews during the site visits. Supervisors in public dental services commented that while these students add to service capacity in the same way as domestic students, there is no long term workforce benefit to the health service or the community.

**Finding 8:** Selection of students for rural placements appears to be ad hoc. As DTERP is part of the RHMT program, the universities should have mechanisms in place to identify and select domestic students with interest in rural health for rural placements.

# 3.7 Structural issues challenging rural training

The earlier sections have outlined key elements in which the dental and oral health schools can directly influence student selection and rural training experiences to improve rural workforce outcomes. This section identifies other issues emerging through the study that need to be considered to increase rural training to grow the rural dental and oral health workforce.

## (Dis)connection with the broader primary health care and training system

Dental and oral health care delivery and training largely occurs in isolation of primary health care and as such there is limited focus on oral health promotion and prevention in primary care, limited awareness of the burden of poor oral health and its contribution to other chronic and complex conditions. Strategies to promote interprofessional learning at student and graduate levels and as part of continuing professional development would increase awareness of dental and oral health in the broader health environment, improve timely referrals and earlier interventions for patients. A distinct lack of preventative and dental care in aged care communities was also noted.

Workforce development strategies for dental and oral health were not obvious in *Australia's Primary Health Care 10 Year Plan 2022-2032*, as it was for nursing, allied health and medical workforces, reiterating the disconnect with the primary health care system and broader rural health workforce development policies.

## Academic capacity

Across universities the loss of dental and oral health academic workforce capacity was identified. The reported causes included an ageing, largely retired and part time urban living cohort, absence of succession planning, competition with private practice where remuneration is much higher, and increasing workload in university positions. Academic capacity impacts teaching and supervision at the central university site and limits capacity to send tutors/supervisors with students for rural placements where there is not supervision available through the public dental clinic or in alternate settings such as ACCHOs or RACFs. Universities are carrying long-term academic vacancies, with some currently at half their academic staffing establishment.

With the exception of a couple of universities, there was no obvious symbiotic connection between the dental and oral health schools and RCSs or UDRHs. The RHMT program has funded and supported the development of a significant academic network to enable medical, allied health and nursing training in rural areas but dental and oral health academic capacity has not been progressed. There is also potential for the regional universities (not in receipt of RHMT/DTERP funds) to better nurture their local network of public and private practitioners to develop academic capacity though networking, joint appointments, adjunct appointments, research and local support and links with the university.

### Linkages within and between universities

Dental schools are usually located within medical/health faculties at most universities with varying autonomy in relation to the management of DTERP funds.

Examples:

- The dental school manages its DTERP budget and provides additional funding from within the dental school budget to meet the full cost of rural placements (a shortfall of approximately \$210,000 per annum).
- The School of Rural Health charges the dental school for rural placement accommodation (at \$200/week) which fully expends the DTERP funding (prior to 2022 the dental school did not pay for accommodation for students on placement)
- A third university used RCS underspend to establish a clinic and the DTERP to continue operation. However, it is high cost and not fully covered through DTERP
- A fourth dental school receives DTERP funding provided through the RCS which comes under the medical Faculty, yet the dental school comes under another Faculty; this causes confusion regarding the allocation of the budget

• Another dental school received additional funds from the RHMT program budget even though the overall funding envelope was not increased.

There is a lack of clarity of the role of UDRHs in supporting accommodation for dental students, with one indicating this was in addition to current KPIs, while others are supporting dental students through usual accommodation arrangements and/or placement grants.

## Intra-professional placements and interprofessional learning

There was limited evidence of intra-professional or interprofessional learning occurring for dental and oral health students within their professional groups or with other allied health, nursing and medical students, however, where it occurred it was highly valued.

The University of Melbourne places dental and oral health students in the Moe Health Service clinic for four-week placements. Students work in pairs with another student from their program for three weeks and for one week the dental students are paired with oral health students. The university receives very positive feedback from students reporting that intra-professional pairing increased understanding between the student groups of each other's skills and professional roles.

There is competition between universities and even within university dental and oral faculties for student placements in public dental health clinics and ACCHOs in some cases. Preference for dental students over oral health students for rural placements emerged at a placement level. The more limited scope of practice of Bachelor of Oral Health Therapy students was identified as a contributing factor as dental students can provide a broader range of services to patients to meet activity targets. Further, short placement length of 2-3 weeks was seen as "dental tourism" rather than value to the health service.

Rural Health Clubs offer opportunities for students of different disciplines to come together for social and learning activities – both on campus and in rural locations. However, interviews with dental students on rural placements (who were predominantly metro-background or international students) indicated they were not engaged with the Rural Health Clubs. This aligns with the findings of the RHMT program evaluation where only 3.7% of Rural Health Club members were dental and pharmacy students in 2018.

## (In)Flexible delivery of education

Education and training models have historically been reliant on students attending a university, usually in a metropolitan area that has been a barrier to Aboriginal and Torres Strait Islander people and people from regional, rural and remote areas participating in tertiary education. This has been a particular issue for programs such as dental and oral health where there is the requirement to develop technical skills in dental simulation labs.

The COVID pandemic has caused universities to re-appraise the delivery of education and training, resulting in increased use of online learning. This has extended to dental and oral health training where students have undertaken large components of their pre-clinical education online and attended universities for simulation intensives.

Re-designing the delivery of education and training to utilise online learning and intensives for technical and clinical skills development was identified by some stakeholders as a mechanism to increase participation of rural origin and Aboriginal and Torres Strait Islander people in oral health training. This would be particularly relevant for mature age students living in rural areas and for rurally based dental assistants seeking to transition to a tertiary qualification.

## National leadership

The Australasian Council of Dental Schools (ACODS) is the peak body comprising the heads of all education providers in the dentistry and oral health professions across Australia and New Zealand. The Dental Hygienists Association of Australia (DHAA) is the peak professional body representing dental hygienists, dental therapists and oral health therapists in Australia. The Australian Dental and Oral Health Therapy Association is a representative body promoting the development of the dental and oral health therapy profession.

However, unlike medicine, nursing and allied health, there is an absence of a national rural focus on dentistry and oral health training, workforce development and distribution. While the Australian Dental Association is the peak national body for dentists, there is not a representative body focused on rural workforce development and distribution across private and public sectors.

In contrast to medicine, nursing and allied health, the dental profession is not featured within the health workforce policy arm of the Australian Government. Further, dental and oral health are outside the current remit of the Office of the Rural Health Commissioner, limiting their capacity to influence policy and strategy in this area.

The strategic development of the rural medical, nursing and allied health workforce has largely been driven by member-based organisations such as the Rural Doctors Association Australia, CRANA*plus,* Services for Rural and Remote Allied Health (SARRAH) and the National Rural Health Alliance through ongoing engagement with government at both federal and state level to advocate for and influence policy tailored to rural health and workforce issues. This rural strategic leadership within the dental and oral health sector was not obvious in the feasibility study. This does not mean it is not there, but rather may need a vehicle to bring together rural leaders and strategic thinkers within the dental and oral health professions to develop a national and coordinated approach to grow the rural and remote dental and oral health workforce.

# 3.8 Enablers

The key enablers to developing and sustaining rural dental and oral health placements are good relationships between the dental and oral health schools and the health services where the placements provide mutual benefit and roles, responsibility and resourcing was clearly documented.

## Examples

## James Cook University and Queensland Health - workforce

James Cook University and Queensland Health have developed a mutually beneficial relationship that has delivered training placements for the university and additional clinical capacity and rural dental workforce for Queensland. The Chief Dental Officer indicates that JCU graduates are the mainstay of

the rural Queensland workforce (see Section 3.11), particularly in North Queensland, and these graduates are now supervising students on placement. The 10 year agreement with Queensland Health sets out the roles, responsibilities and resource contributions by each partner.

# University of Queensland and Goondir Aboriginal Health Service – services to Aboriginal and Torres Strait Islander patients

A very successful relationship exists between University of Queensland and Goondir Health Services in Dalby and St George in far west Queensland. The initial funding for Dalby commenced 9 years ago in 2013 with Goondir Aboriginal Health Service as part of a 20 year agreement to provide student led dental health services. The funding came from DTERP funds and Goondir contributed \$750K towards the venture from unspent infrastructure funds to establish the service. This partnership was described as undertaken with 'goodwill and good intent' and provides a service to those who are vulnerable and socioeconomically disadvantaged. The parties including the Hospital and Health Service (HHS) meet with University of Queensland and others in a governance arrangement monthly to discuss issues. They are currently working to expand to Chinchilla with collaborations with the HHS, Southern Queensland Rural Health (the UDRH) and other relevant partners.

## La Trobe University and Ballarat Health Service – enhanced learning experience

Dental placements at the Ballarat Health Service dental clinic are recognised as "the best" placements by La Trobe students. The success of the placement model is attributed to:

- The underpinning philosophy that the Ballarat clinic is a teaching clinic rather than focused predominantly on service delivery. This philosophy is driven by the Manager of the Ballarat Health Service Dental Clinic.
- Shared contribution to the establishment and operation of the clinic. The clinic was built with funding from La Trobe University via Health Workforce Australia and includes 12 chairs in the student clinic. Ballarat Health provides a dental assistant for every two chairs and supervisor for every four chairs.
- Selection of supervisors committed to teaching. Supervisors are employed specifically to teach (must have 3-4 years full-time clinical experience at a dental chair in Australia) and paid at a higher rate than dentists that do not supervise as a recruitment and retention strategy. Public sector dentists wanting to work in the student clinic go through an interview process and have to demonstrate their commitment to teaching. Several supervisors work part time in private practice and part time for the health service and are generally people who want to "give back"
- Resources to support supervision and learning. Ballarat Dental Clinic has developed their own supervisor manual and La Trobe provides training to supervisors. Planned tutorials and teaching sessions are provided (clinical and professional e.g., legal issues, private practice) by the Clinic staff as well as ad hoc in response to student needs where staff notice a gap in knowledge or skills, e.g., ergonomics. Clinic staff often run tutorials after hours.
- Placements are structured to promote development of clinical and professional skills. At the beginning of the placement the Clinic allocates a number of patients to a student. Students call their patients prior to the first appointment to discuss social, dental and medical history and talk about their oral hygiene prior to the first appointment. At the first appointment the student develops a treatment plan and will be allocated the same patient to enable them to

follow through on treatment. Generally, students are given about 10 patients out of which they are likely to get a mix of treatment needs including crowns, bridges, toothaches, dentures etc. The clinic operates a 'sit and wait' program where patients on the waitlist are invited to come in and wait and will be seen if there is a fail to attend. Therefore, student placement time is maximised if their patient does not turn up because there will always be someone in the waiting room for them to see. Students participate in community days where they go to aged care, childcare, homeless shelters.

- Formal feedback sessions are held with students, with clinic supervisor collecting information from all clinicians working with students including the Dental Assistants. Role playing is used to give feedback to students to improve communication.
- Clinic staff provide pastoral support to students.

## 3.9 Benefit to patients and community

Health services reported that patients are aware when dental clinics are provided by students and have generally positive feedback. Students interviewed while on placement felt that patients were appreciative of the services students provided and trusted in the student's clinical decisions regarding their treatment. Local health services indicated that students added to their clinical capacity and in many cases noticeably reduced wait lists. Conversely, where student clinics were ceased during COVID, wait lists have increased.

In public dental clinics, students provide services to eligible patients i.e., patients on healthcare cards or pensioners, and hence it is predominantly this cohort that benefits through student rural placements. There is a cohort of low income workers and their families who are not eligible for public services and have limited capacity to pay for private services. This cohort may have access to services at a reduced cost in some university-operated clinics, but it is dependent on individual university business models and only in larger rural/regional communities where university clinics are located.

**Finding 9:** Students add to the clinical capacity of health services. Student led dental and oral health service provision is well accepted by patients eligible to access public services. However, low income workers and their families who are not eligible for public services are generally unable to access student-led dental and oral health services located in public clinics in rural communities.

## 3.10 Opportunities – training, service enhancement and workforce

Multiple opportunities were identified to increase dental and oral health training in rural and remote areas that would provide services in alternate settings, new locations or more services in current locations. While specific locations were identified by various stakeholders through the consultations this detail is not reported here. Opportunities to support the transition of dental students to working rurally were also identified.

## Oral health placements in alternate settings

Placement data indicates that in 2019, oral health therapy students undertook the majority of rural placements in university operated clinics (2,047 weeks; 64% of total placement weeks) and public sector clinics (1,062 weeks; 33% total placement weeks). Only 33 weeks of placements were undertaken in ACCHOs (1.0%) and 42 weeks (1.3%) in RACFs. The scope of practice of oral health

therapists includes assessment, restorative treatment, fillings, extraction, periodontal treatment and health promotion. These data indicate the majority of rural placements are focused on clinical activities with limited health promotion.

Improving oral health care of people with an intellectual disability was identified as a priority of the *National Roadmap for Improving the Health of People with Intellectual Disability*. The extent to which dental and oral health student-led services are suitable for this population requires further investigation.

Opportunities to develop longer rural placements that included a mix of chair-based work and health promotion were identified that enabled oral health students to develop skills across their full scope of practice while also providing services in alternate settings and to patient cohorts that have limited access to care e.g., residential aged care, childcare and pre-schools, ACCHOs. UDRHs have demonstrated experience of developing innovative service-learning placements for allied health and nursing students in these environments and sometimes combined with an acute care placement and/or a placement with the Royal Flying Doctor Service which could be applied to oral health placements.

## Leveraging under-utilised chairs and infrastructure

Under-utilised dental chairs were identified in rural communities in public dental clinics and ACCHOs in most jurisdictions. Under-utilisation generally resulted where dental services were provided on a visiting basis. Developing placement partnership models between the university, public dental service and ACCHOs offers opportunities to increase and/or expand delivery of dental and oral health services to locations that have limited access while also providing students with experience in more remote locations and to a more complex patient cohort. Long placements where students are based in a regional hub and outreach to smaller communities were identified as one potential approach.

## Extending placements across the calendar year

Most universities provide clinical placements that align with the academic year i.e., 34-38 weeks. Several public sector stakeholders identified the opportunity to extend placements into the university summer holiday period to increase training opportunities (which could be for Year 4 students/penultimate year students prior to final year placement) and maintain service capacity. For example, University of Adelaide has increased its placements to cover 48 weeks a year for both year 4 and year 5 dentistry students under the Dental Education Agreement with SA Health.

## Early rural exposures for dental students

Rural placements in public dental clinics only occur in the final year, which is seen as the intern year. However, the evidence indicates the number of rural exposures during training contributes to rural workforce outcomes. Opportunities for rural placements or rural exposure in earlier years were identified:

 Students undertake short placements (1-2 weeks) in rural private practices in a shadowing capacity during the university holiday period. University of Sydney Dental Rural Association is piloting a rural experience week in 2022. The student leadership team have established an EOI process to identify dental students and rural dental practices that are interested in participating, with students self-funding the placement. The first placements are planned for June/July 2022, and 35 student EOIs were submitted by April.

• Pairing earlier year dental students (Year 3 or 4) to dental assist final year dental students on rural placement.

## Developing a graduate/ early career program

The Voluntary Dental Graduate Program was identified by various stakeholders as a successful strategy to developing the public sector dental workforce. A number of graduates of the program were encountered in the consultations working in rural sites. The graduate or early career program (over 1-2 year) specifically targeted to rural areas was identified as a mechanism to:

- Transition students to a rural job potentially in the same location or health service in which they undertook a rural placement
- Provide a structured program of professional development within a professional practice framework such as rotations through head and neck clinics, special needs, remote work, prison/ youth detention, general anaesthetic/theatre, shadowing max/fax specialists, intensives to develop oral surgery skills, manage medical emergencies, exposure to geriatrics, management of Aboriginal and Torres Strait Islanders patients
- Facilitate individualised coaching, mentoring, development of reflective practice and peer review
- Develop and embed their scope of practice within the service setting they work and provide patient with options
- Raise awareness of oral health/ burden of disease by presentations to other health professionals e.g., allied health and medical students, junior doctors

This aligns with recent literature identifying factors influential to dentist decisions to work rurally.<sup>32</sup> The graduate/early career program could also be the first stage of a supervisor capacity building program. There was discussion of opportunities for entry of private sector rural dentists to develop supervision capacity in this workforce.

Vacancies in public sector services exist and could provide the salary component for the graduate positions. A similar approach could be applied to support Oral Health Therapist recruitment and retention in rural services.

## 3.11 Workforce Outcomes

The impact of rural training on rural dental and oral health workforce outcomes has not been routinely measured or reported by the universities. Consultations with the jurisdictions provided advice on the source of graduates working in their rural public dental services.

James Cook University has undertaken an analysis of national data collected as part of the Graduate Outcomes Survey (2016-2020) to determine where their health professional graduates work. The GOS data indicates that in their first year after graduation, dental graduates from James Cook University represented 79% of the new dental graduates working in remote Queensland, 83% in in Outer regional and 40% in inner regional areas. At a national level, JCU graduates accounted for 55% of new dental graduates working in remote areas, 55% in outer regional, 17% in inner regional areas. This analysis

<sup>&</sup>lt;sup>32</sup> Johnson et al., (2019) Op. Cit.

indicates JCU is a key contributor to the rural and remote dental workforce in Queensland and nationally.

While recognising the data limitations of the Graduate Outcomes Survey in that it is a non-compulsory survey and not a census, it demonstrates that there is a nationally available dataset that can be interrogated by other universities to assess impact of training on early career workforce destinations.

# 4 WORKFORCE DEVELOPMENT STRATEGIES

## 4.1 Introduction - Framing workforce development strategies within a training pathway

The National Rural Generalist Pathway has been developed as a mechanism to develop a rural medical workforce with advanced skills and aptitude for rural and remote practice. This training pathway bridges medical education in RCSs transitioning graduates into rural junior doctor and rural generalist registrar training positions in hospital and community general practice settings. Similarly, an Allied Health Rural Generalist Training pathway is being progressed to grow an allied health workforce with the clinical and professional skills required for rural and remote practice. These initiatives can inform the development of a pathway to grow the rural dental and oral health workforce.

This section outlines a layered approach to rural and remote dental and oral health workforce development using an evidence based and multidimensional training strategy. The approach draws on findings from this feasibility study and learnings from the RHMT program whilst optimising Commonwealth and state investment in capital and human infrastructure for training and development of the rural health workforce and provision of dental and oral health care.

The Strategies presented are intended to complement each other, addressing different aspects of rural training and workforce development from pre-university to career establishment (Table 4.1).

A rural dental and oral health pathway starts in secondary school, extends through university and is consolidated during the early career phase. The pathway offers the opportunity for graduates to pursue a career path that develops their clinical and professional skills fit for rural practice and/or an academic endpoint and, builds future supervision and teaching capacity.

The key elements of the pathway draw on the literature and findings from this feasibility study. This includes:

- Engaging with rural school students to see health as a career and in particular dental or oral health. Rural Health Club members and students on rural placement can offer this near to peer exposure as can engaging Aboriginal and Torres Strait Islander students and other role models
- Identifying and selecting students from a rural background and/or interest in rural health into dental or oral health courses
- Offering rural exposures during university training
- Selecting students with an interest in rural health for long rural immersions in the later part of their course
- Vocational planning to identify locations and training opportunities to meet their rural and/or academic career aspirations
- As an early career practitioner, undertaking a graduate program that includes clinical placements, rotations, mentoring and professional development to develop clinical skills and confidence, foundational to becoming a supervisor
- Continue a program of professional and extended skills development that aligns with a supervision capacity building framework and undertake near to peer supervision with guidance and support from senior supervisors
- The endpoint of the pathway is a rural dentist with clinical skills and confidence to supervise students and junior dentists.

The "component" strategies of the pathway are described for consideration by the Department and the (proposed) National Dental Leadership Group. The strategies have emerged through our consultations and grounded in evidence from other professions to mitigate rural workforce supply, distribution and training challenges facing the dental and oral health professions.

Fundamental differences have been noted between dental, medicine, allied health and nursing. In particular, the current absence of national policy enablers to address dental and oral health workforce issues and lack of focus on this workforce by Rural Workforce Agencies and Primary Health Networks. This study offers the opportunity to leverage the Commonwealth's interest in progressing rural dental and oral health workforce development and, engage the Office of the National Rural Health Commissioner together with the jurisdictions and universities to develop a cohesive workforce pathway, with Rural Workforce Agencies and Primary Health Networks extending their workforce support to these professions.

#### Table 4-1 Workforce Development Strategies within the Training Pathway

Element	Pre- Uni	University	Early Career	Establishing Career
Attraction & Selection	Market and promote rural dental and oral health careers Describe role and service environment Rural health club visits to schools <b>(S6, S7)</b>			
	Promot rural in Strait Is	e and preference rural origin/ nterest, Aboriginal and Torres lander students <b>(S2)</b>		
Training pipeline ( <u>supported</u> by UDRH and RCS infrastructure)		Multiple rural exposures Long rural immersion Service learning Cultural support and mentoring Cultural safety and responsiveness Pastoral support Interprofessional exposure Curriculum scaffolds rural health <b>(S2, S6, S7)</b>	Clinical skills consolidation Clinical rotations Professional education <b>(S3)</b>	Extended skills development and consolidation CPD Community of practice <b>(S7)</b>
Mentoring, <u>supervision</u> and support		Career planning Case management to transition to rural <b>(S2, S6, S7)</b>	Rural graduate an program <b>(S3)</b> Supervision capao • Clinical ro • Graded su experience • Adjunct a	d early career ity building: itations upervision ie and training ppointments <b>(S4)</b>
Academic capacity development			Joint appointment for teaching and r Research linkages (S5)	ts workplace and uni research s with UDRH and RCS
Underpinned by:	Nationa Aborigin leading Islander	al Rural Dental and Oral Health Wo nal and Torres Strait Islander denta implementation of strategies und r Workforce Strategic Framework (	rkforce and Trainin al and oral health w ler National Aborig 2021-2031) <b>(58)</b>	g strategy <b>(S1)</b> orkforce peak bodies inal and Torres Strait

\* Numbers refer to Strategies detailed below

## 4.2 Guiding Principles

Principles underpinning the development of a rural and remote dental and oral health workforce and training strategy include:

- Contribute to the rural dental and oral health workforce through high quality training and facilitating student engagement with communities to influence rural career choices
- Developing an evidence base for the efficacy of rural dental and oral health training
- Supporting rural dental and oral health professionals to improve Aboriginal and Torres Strait Islander health

- Increasing the number of rural origin and Aboriginal and Torres Strait Islander dental and oral health graduates
- Full and ongoing participation by Aboriginal and Torres Strait Islanders people and organisations to improve equity and access and strengthen cultural safety and community responsiveness of the strategy
- A training strategy that complements and does not duplicate other rural health workforce and education programs that may operate at a Commonwealth, state and local level
- A focus on longitudinal orientation towards building rural careers
- A commitment to community investment and contribution to the social capital of communities
- A strongly supported high-quality education and training program that focuses on developing rurally capable graduates
- Supporting opportunities for training and retention particularly in communities in MM 3-7
- Supporting innovation and collaboration locally, regionally and nationally
- Regular and transparent performance monitoring, review and evaluation.

## 4.3 Strategy 1: National rural and remote dental and oral health workforce and training summit

This strategy proposes a national summit to engage leaders and stakeholders in rural health education and training, dental and oral health education and training, rural and remote workforce development and rural service delivery to:

- Raise the profile of the poor status of rural and remote oral health and need for a national approach to developing the rural and remote dental and oral health workforce
- Review the workforce development strategies outlined in this study and provide advice on mechanisms to progress these strategies in the short to medium term
- Develop an overarching vision and identify key components required for a national rural and remote dental and oral health workforce and training strategy.

This summit could be led by the Office of the National Rural Health Commissioner. Through the summit a national leadership group would be identified to meet for a time-limited period to:

- Oversee progress in implementation of the workforce development strategies outlined in this feasibility study
- Progress the design of a National Rural Dental and Oral Health Workforce and Training Strategy providing a tangible document to advocate for policy development and/or redesign to grow and sustain this workforce.

It is noted that dental and oral is outside the current remit of the Office of the Rural Health Commissioner. However, the office would be well placed to lead discussions and policy development in this area if sufficiently and appropriately resourced to expand the current scope. AS highlighted elsewhere in this report, oral health is integral to overall health and there are similar challenges in dental and oral health workforce as with other health professions. Therefore, there are natural synergies between the existing work of the Rural Health Commissioner and the proposed expansion into dental and oral health.

## Considerations for the summit:

- Invitations to the summit would be extended to a wide range of stakeholders including (but not limited to) the university sector, local health services, Aboriginal and Torres Strait Islander workforce peak bodies and health services, students, rural community leaders, professional associations and government. It was noted during the consultations and the RHMT program evaluation that much of the innovative practice that has occurred in medical training has been seeded by people from diverse backgrounds and experience collaborating to bring about change.
- Use the opportunity to establish a collaborative forum for the dental and oral health schools with a focus on rural training, similar to FRAME or ARHEN. If supported by the dental and oral health schools, the forum could be an ongoing mechanism for supporting collaboration and shared learning across the sector.

While funding of the summit would be outside the direct remit of the RHMT program, it is anticipated that it and the development of a National Rural Dental and Oral Health Workforce and Training Strategy would bring significant benefit to the RHMT program including increased collaboration and innovation.

# 4.4 Strategy 2: Requirements for dental and oral health training aligned with evidence for rural practice

There is a good evidence base to inform the design of university education and training to improve rural workforce outcomes (Appendix 1). As outlined in Table 1-8 and summarised here this includes:

- Student factors rural origin students are 2-3 times more likely to work rurally
- Rural exposure multiple exposures during undergraduate training result in more rural work
- Longer duration rural placements result in students being 2 times more likely to work rurally
- Location of placement –students are 1.3 times more likely to work rurally when placement is in MM2-3 increasing to 1.8 times in MM 4-7
- Placement setting rural work is 3 times more likely where placement setting is reflective of rural practice
- First job/internship in a rural location nearly 4 times more likely to work rurally.

In addition, learnings from the RHMT program evaluation have identified the quality elements of rural placements to support rural work intent.

While DTERP is a specific funding stream under the RHMT program, this proposed strategy applies across the whole RHMT program. It is noted that James Cook University, Charles Sturt University, La Trobe University and Curtin University are not in receipt of DTERP funding, however they do receive funding under the RHMT program for UDRH and/or RCS activities.

Central Queensland University is the only university offering Oral Health Therapy in Queensland but is not a recipient of RHMT program funding.

It should also be noted that under the rules of the RHMT program, funding should not be directed to supporting international students on rural placements.

Therefore, universities participating in the RHMT program should demonstrate:

### Student and curriculum

- Student selection and admissions process to identify and increase the intake of rural students to meet or exceed rural origin targets
- Student selection and admissions process to identify and increase the intake of Aboriginal and Torres Strait Islander students
- Educational and support strategies available to, and accessed by Aboriginal and Torres Strait Islander students studying dental or oral health therapy to assist them to complete their degree
- How/where rural and remote health and Aboriginal and Torres Strait Islander health is scaffolded into the curriculum in a strengths based and culturally responsive way
- Option(s) available for rural exposure for students prior to the final year
- EOI processes for the selection of rural origin students or those with a *demonstrated interest* in rural, remote or Aboriginal and Torres Strait Islander health for rural and remote placements (*note that this means not all students have or should have a rural placement*)
- Rural placement length of a minimum of 12 weeks for dental students to ensure students complete a clinical cycle of care, with planning to extend placements for dental students to full semester or longer where they have opportunities to develop professional skills in alternate settings and/or more remote locations
- Rural placement length of a minimum of 8 weeks for oral health students to ensure students complete a cycle of care and have opportunities to develop professional skills in alternate settings
- Active engagement with UDRHs and/or RCSs to link dental and oral health students to cultural, social and pastoral supports
- Develop and update written and online pre-placement information for students about patient cohort and community, accommodation, transport options to community, clinical and professional skills they will develop
- Ensure a level of subsidised accommodation and travel for students on rural placements, including specific strategies to support disadvantaged students

# Supervisor engagement and capacity development (external and internal)

- Develop and update a supervision manual to ensure supervisors are familiar with curriculum and assessment requirements
- Development and delivery (face to face and online) of training for supervisors e.g., Teaching On The Run, giving feedback
- Recognition of supervisors e.g., through adjunct appointments, library access
- Engagement with supervisors and on-site staff at least annually
- Cultural training for supervisors
- Supervisor mentoring and networking opportunities with other supervisors
- At commencement of student placement provision of individualised information about student competencies and areas for skill development while on placement
- Ongoing program of continuing professional development
- Joint appointments and adjunct positions with the relevant universities

It is acknowledged that universities receiving RHMT program funding are at different stages of being able to meet these requirements for dental and oral health students and that the funding provided through DTERP is relatively small, in comparison with other strands of the RHMT program.

Therefore, it is likely the Department will need to take a collaborative approach with universities to realign rural placement design and delivery, and supervision support with available evidence for rural workforce outcomes.

## Implementing change

The Department could take a number of approaches to ensuring universities improve performance against the requirements outlined above, either with or without additional funding for program modification. New contracts should build in more robust performance monitoring and reporting against the requirements outlined in the placement and supervisor capacity development rubrics (above) irrespective of changes to funding. Graduate workforce outcome reporting is an existing requirement of the RHMT program and ongoing monitoring of graduate destination should be highlighted in the new contract.

Consideration needs to be given to how Central Queensland University students are actively supported to access RHMT funded placements, for example by requiring Queensland UDRHs to facilitate a certain number of placements for CQU students.

Option	Advantages	Disadvantages
Amendments to next RHMT program contract with all universities	No funding required	Placement and supervision support delayed until next contract period commencement
		No leverage with Central Queensland University
	Retains universities with active commitment to rural training	Some universities may choose to disengage from rural training which may be more disadvantageous to clinical activity in some jurisdictions
Provide an increase in recurrent funding to all DTERP funded universities for specific activities related to these requirements.	Acknowledges limitations of existing DTERP funding	Potential for funding to be consolidated with no discernible improvement in performance
	Potential incentive for universities to improve performance	Excludes universities not funded for DTERP
		Focussed only on dental not oral health
Provide incentive funding for universities to improve their performance in relation to the specified requirements, based on an application process and with a clear performance monitoring mechanism to assess progress annually.	Open to all universities providing dental and oral health training (not just DTERP)	Some universities may choose to disengage from rural training
	Focus on both dental and oral health	
	Encourages universities to be proactive in	

	meeting program requirements
	Acknowledges limited funding currently available through DTERP

Table 4-2 Options for funding enhancement

## 4.5 Strategy 3: Rural Graduate and Early Career Program

There is now good evidence to show that a key predictor of longer-term rural practice is a rural medical internship, or for nursing and allied health professionals, their first job in a rural location. Furthermore, professional factors that influence a dental graduate's decision to work rurally includes job availability, access to mentoring and clinical training and experience on offer. Supporting the transition of medical students to rural and regional prevocational and vocational training pathways is also a feature of the RHMT program through the establishment of Regional Training Hubs with a focus on supporting development of new training capacity; developing linkages and partnerships to promote development of rural training pathways and supporting medical students and junior doctors into regional training.

This strategy describes a rural graduate program targeting new or recent dental and oral health graduates that have undertaken extended rural placement(s) during their undergraduate course.

The Department of Health has previously supported a Voluntary Dental Graduate Year program (VDGYP) (AICG, 2016) which supported 50 graduates working in the public sector to undertake a structured integrated enhanced practice and professional development program and enabled access to mentoring support. The Department of Health paid the graduate's salary and a financial bonus for successful completion of the program. In addition, service providers hosting graduates could access dental infrastructure grants. The VDGYP operated for 3 years with the aim of increasing recruitment into the public sector.

This strategy draws on elements of the VDGYP and Regional Training Hubs with modifications to target the graduate program to rural, remote and regional locations with an extension of the time period to three years to:

- Provide sufficient length of time for an early career practitioner to become embedded in a rural community and rural service
- Complete a structured clinical skills and professional development program for enhanced rural practice providing a strong foundation toward becoming a supervisor for ongoing dental and oral health workforce training and development
- Provide mentoring, vocational planning and career guidance.

This longitudinal rural graduate program would form part of the rural dental and oral health pathway.

The Rural Graduate and Early Career Program would be a partnership between the Australian Government, Department of Health and state and territory governments. The state or territory government would contribute the graduate's salary, with the Department of Health providing funding to offset the graduate's non-clinical time for mentoring and participation in clinical rotations and

professional development activities. The Department of Health would also fund clinical mentoring, travel and accommodation expenses for graduates to attend clinical placements.

The graduate would work in public dental clinic(s) located in MMM 3-7 under the supervision of one or more local discipline specific senior practitioners.

An overview of the type of clinical rotations dental graduates may undertake across the program is outlined in the Graduate Supervision Capacity Building Framework. Clinical rotations for oral health graduates would be informed in consultation with industry.

In postgraduate year (PGY) 1 it is recognised that graduates are still developing and consolidating clinical skills and professional skills. In PGY 1 the program would allow for each graduate to have 10 days for clinical rotation/ training in a clinical area identified by their supervisor and themself as an area for further development, as well as quarantined time for weekly mentoring.

In PGY 2 and 3 the graduate would undertake a series of rotations to obtain a breadth of skills in areas relevant to rural clinical practice and meet local service needs, completes a structured professional development program and participates in a regular mentoring program. A total of 20 days per annum would be available to the graduate for these activities.

The Rural Graduate and Early Career program could also be applied under a hybrid employment model where the early career dentist or oral health therapist is employed part-time in a rural public dental service and part-time in rural private practice. Early career dental graduates working across both settings will have the experience of working with more complex patients more commonly seen in public clinics and opportunities to perform a broader range of treatments available in private practice. The clinical rotations would be reflective of the skills needed in both settings.

Enrolment in relevant post-graduate study e.g., graduate certificate in health or tracking toward fellowship of the Royal Australian College of Dental Surgeons could be additional benefits to participation as well as encourage longer term engagement in the program and retention in rural practice.

There would be advantages where graduate programs for dentists and oral health therapists are run simultaneously in a rural service to promote collaborative practice models.

## Implementing the Strategy

In 2022, South Australia Dental Service commenced a one year Recent Graduate Dentistry Program (5 participants) and Tasmanian Dental Service is establishing a graduate program for dental and oral health therapists in 2023 (6 dentists and 5 oral health therapists).

The Rural Graduate and Early Career Program would seek to augment (not duplicate) these programs and offer potential to trial the program over a longer timeframe. Furthermore, the state programs can provide advice on priority clinical rotations, CPD topics and design and delivery of mentoring.

While it is recognised that early career health professionals can be highly mobile to develop the learning opportunities for career progression, this strategy seeks to meet these training and experience requirements. By employment with a LHN, it is anticipated that there could be portability of the training support whilst the graduate/early career practitioner continued to work in the public

sector in MM 3-7. Portability arrangements under the hybrid employment model requires investigation.

If this strategy were to be adopted by the Department further work with the industry would be required to identify key rotations, content of professional development program and structure of mentoring arrangements tailored to early career dental and oral health therapy practitioners

## 4.6 Strategy 4: Supervision Capacity Building

Supervision capacity has emerged as a key challenge to sustain or expand rural training. There is shared responsibility and shared benefit for the universities to partner with the Local Health Networks/ public sector dental services as well as private and ACCHO providers to develop supervision capability and capacity.

A supervision capacity building framework is put forward to provide a structure for consideration and adaptation by the universities, state dental services and the wider profession. Supervision frameworks for other professions could also be identified, reviewed and adapted.

The development of a framework could be progressed by the leadership group that is identified at the national summit (Strategy 1). Alternatively, one or more universities could nominate to undertake development of the framework in conjunction with their relevant jurisdiction or LHN. The Department could consider supporting this work with a grant through the RHMT program.

As outlined above, the Rural Graduate and Early Career Program is embedded within the Supervision Capacity Building Framework. Within the framework, the early career practitioner develops the breadth of clinical skills required for supervision and accesses opportunities with a university dental or oral health school to tutor and teach in Simulation Labs progressing to student supervision in university clinics or under buddy arrangements with senior dentists for students on rural placement.

Components of the Graduate Supervision Capacity Building Framework are under the remit of the RHMT program. As outlined in Strategy 2, universities have a responsibility to develop and support external supervisors who supervise dental and oral health students on rural placement. This includes development and provision of supervision resources such as a supervision handbook, providing training sessions to supervisors on teaching and feedback techniques and mentoring new supervisors, including cultural mentoring. In addition, it is important to recognise the contribution of external supervisors to student teaching through adjunct appointments and continuing professional development opportunities.

Partnering with LHNs to offer joint appointments to supervisors offers a broader range of professional work such as teaching, tutoring or research which can contribute to recruitment and/or retention.

The supervision capacity building framework also identifies an entry mechanism for private dentists or oral health professionals to become supervisors recognising that extended time in private practice may limit exposure to complex patients and some upskilling may be required to join the supervision roster for graduate dentists working in the public sector.

#### Table 4-3 Graduate Supervision Capacity Building Framework

	Clinical experience	Supervision experience		Private practitioner entry	Supervisor training	Employment Remuneration
PGY		Uni clinic	Remote site			
1	Core clinical and professional skills consolidation relevant to rural practice					1 FTE LHN
2	<ul> <li>Rural public clinics and rotations through:</li> <li>head and neck clinics,</li> <li>special needs clinics, prison/ youth detention,</li> <li>theatre and general anaesthetic</li> </ul>	Supervise students in Sim lab or Yr 2 students student clinic (sessional basis)	Short supervision intensive at uni clinic once or twice year	Disconnection	Access to supervision resources Teaching on the run Giving feedback	Joint appointment dependent on supervision time e.g., 0.8 LHN and 0.2 FTE Plus: - Adjunct
3	<ul> <li>shadow visiting specialists when in region</li> <li>intensives to develop oral surgery skills</li> <li>manage medical emergencies</li> <li>exposure to geriatrics</li> <li>Management of Aboriginal and Torres Strait Islanders patients</li> </ul>	Supervise Yr 3 and 4 students in clinic	Buddy with senior dentist to supervise students on placement	Placement or sessional work in uni clinic/public clinic to assess skills to manage complex patients Intensive for skill development Join supervision roster at appropriate level	Mentoring	appointment - access to uni library University provides CPD program to external supervisors
4	Supervise final year students with senior available (6/12) Independent supervisor			ievei		

## 4.7 Strategy 5: Academic and Research Capacity Building

Developing academic capacity is a priority for dental and oral health schools and is particularly challenging in regional areas. Medical general practice has established GP registrar academic positions through the Australian General Practice Training Program where a GP registrar has a half time appointment with a university to progress a research study and trains half time in a usual general practice. Charles Sturt University dental program has previously had an intern program where the graduate dentist worked half time in a teaching capacity with dental students and half time in the public dental system.

Academic capacity building could be a pathway within the supervision capacity building framework where a graduate has a joint appointment between the university and the public dental service. Within

the university component the graduate could pursue a teaching strand or combined teaching and research.

Rural dental and oral health academic capacity building can be strengthened through research collaborations with UDRHs and RCSs.

## Resource implications

To build rural dental and oral health academic capacity within the RHMT program, the Department of Health could provide funding for half-time early career academics on a rolling basis. Each position would be for a two-year timeframe to enable the development and implementation of a research project and/or completion of postgraduate course.

Two positions could be allocated per annum for each dental or oral health school, with the positions located in a regional, rural or remote location and linked with a UDRH or RCS.

## 4.8 Strategy 6: Embedding oral health in University Departments of Rural Health

This strategy utilises the existing UDRH network and their intrinsic capabilities in developing effective service learning placements to increase rural training and service opportunities for oral health and dental students.

Under this option, UDRHs would be resourced to employ an oral health therapist or dentist academic to work in a way similar to other UDRH academics i.e., pharmacy, nursing etc. Their role would be to: identify and develop placement opportunities in various service settings such as aged care, child care, schools, public dental clinics and ACCHOs; develop rural dental networks; provide orientation of students to rural communities; provide supervision and guidance as required; undertake research; work as part of a rural multidisciplinary team and provide student support. UDRHs already have capacity and capability to coordinate placements, manage students on placements (from multiple universities) and develop placements that align with the learning objectives of different universities across a range of professions. In addition, they provide students with structured and locally contextualised cultural orientation, interprofessional learning and teaching relevant to rural practice and rural and remote health. UDRHs also have experience in developing academic capacity within the local health professional workforce. Many of the teaching and research academics working with UDRHs live in a rural community and have been developed "in-situ", which is a requirement of the RHMT program.

The intent of the oral health service-learning placements would be to enable students to develop skills across their full scope of practice and hence include health promotion, oral health behaviour modification as well as clinical skills. Where dental placements were developed, the emphasis would be on clinical skills development, with activity in alternate settings and additional experience in health promotion where appropriate. Intra-professional learning through pairing of dental, oral health and other allied health students would be a valuable feature of these placements.

## Expected resourcing requirement

The key resourcing requirements for this option include a Clinical Educator (oral health or dental) with oncosts and possibly accommodation allowance, contribution to placement coordination and management administration costs, additional resourcing for vehicle and travel within the UDRH footprint, infrastructure funds to support the purchase of portable dental equipment or re-purposing/

upgrading dental chairs or equipment and allocation to "purchase" supervision capacity to support placements. These appointments could be joint between the university and local public or private dentists. Adjunct status with the feeder university could be an incentive for participation by private practices.

UDRHs own and/or manage accommodation, however additional accommodation may be required.

## Implementation options

Funding should be for a minimum of 3 years to enable UDRHs to demonstrate success in increasing quantity and quality of oral health and dental placements and to embed these into their ongoing operations.

The Department could consider funding all UDRHs or to fund a limited number based on a competitive application process.

UDRHs would need to demonstrate:

- Capacity and capability to deliver high quality, culturally safe placements
- Formal partnerships with health services (public, private, community controlled) to provide appropriate supervision for students on placement
- Supervision capacity and capability building
- Availability of placements in more rural areas (MM3-7)
- Interprofessional learning opportunities available for students on placement

	Advantages	Disadvantages	
Funding for ALL UDRHs	Open to all RHMT universities	Does not differentiate between high and low performing universities	
	Focus on both dental and oral health	More funding required (than competitive application process)	
	Builds on existing infrastructure and expertise	May require funding for additional accommodation in order to expand placement capacity	
Competitive funding application process	Open to all RHMT universities	May require funding for additional accommodation in order to expand placement capacity	
	Incentivises universities to demonstrate good performance against quality placement and supervision requirements		
	Focus on both dental and oral health		
	Builds on existing infrastructure and expertise		

#### Table 4-4 Options for funding of clinical educators in UDRHs

## 4.9 Strategy 7: Rural Dental and Oral Health Clinical School

The intent of this strategy is to build on the concept of the medical Rural Clinical School, where possible using existing RCS human capital infrastructure, to develop a rural clinical and teaching dental and oral health hub that would build clinical, teaching, supervision and research capacity and capability to supports placements and service delivery to smaller "spoke" communities. The key elements of the strategy are to:

- Establish and support longitudinal rural immersion (semester to full year placements)
- Establish a dental and oral health community of practice inclusive of local practitioners working in public and private sectors – utilising structured supervision capacity building strategies (supervision capacity building framework), CPD, networking and mentoring among other mechanisms. This offers an opportunity to engage private practitioners in professional development, teaching or shadowing placements and develop "pool" for teaching and supervision recognising there will be varying levels of flexibility to support students in clinics in the hub and spoke communities
- Utilise existing RCS infrastructure and resources where available (note that there is congruence with established university dental clinics and LHN dental facilities in many RCS locations across jurisdictions). This may include teaching facilities, libraries, placement coordination and support staff, research staff and academics
- In conjunction with LHN and/or ACCHOs, identify opportunities to develop student-led clinics in rural spoke communities where there are under-utilised chairs and draw on pool of supervisors to oversee and supervise students. The supervisor pool could include private practitioners working on a part-time or sessional basis with the university to travel to sites to supervise students and provide clinical services
- Students participating in the long placements could transition to the graduate/early career program within the "hub and spoke" catchment
- In determining where Rural Dental and Oral Health Clinical Schools would be progressed, key considerations would include:
  - Dental and oral health workforce need
  - Oral health needs of the catchment population
  - Partnerships between Universities, LHNs and other providers including ACCHOs and private practitioners to develop and sustain training capacity.

In progressing one or more Rural Dental and Oral Health Clinical Schools, it is likely that universities will need to collaborate in order to attract and select a sustainable cohort of students, particularly in the development of this concept. Applications to participate in the program would need to demonstrate capacity to fill student placements, noting that this could be from both their own university and others. In doing so participating universities would need formal agreements about appropriate experience and assessment to meet the requirements of their individual degrees. It is noted that, while assessment criteria may currently differ between universities, there is considerable congruence between the clinical placement experience of final year students across dental schools.

# Expected resourcing requirements

Indicative resourcing requirements to establish the Hub and spoke model to support 10 students and build the local community of practice includes:

## Hub level

- Dental academic (1.5 FTE)
- Potentially dental infrastructure (5 chairs and equipment) mostly exists
- 2 Dental assistants
- Student accommodation (10 beds)
- Contribution to placement coordination, administration and teaching

## Spoke site

- Supervisor 1 FTE
- Dental assistant 1 FTE
- Vehicle and travel
- Accommodation costs for students and supervisor

## Implementation

The establishment of a dental and oral health clinical school should be trialled in at least two sites. The purpose of the trial would be to test the concept, highlight challenges and enablers and to assist in the development of guidelines for expansion to additional sites, if appropriate. Sufficient time (at least 3 years) should be allowed prior to assessing the success of the trial, given there will be a considerable start up period during which the school will need to be established. Trialling in two sites would enable different approaches based on the local context and service environment and would provide the opportunity for the new schools to collaborate and share their learning.

Assessment of funding applications should consider:

- Community need for oral health services
- Strong partnership model with the existing RCS (or UDRH) demonstrating how dental and oral health students and supervisors will be integrated into the operating model
- Written partnership agreements with local health services including, where appropriate, ACCHOs and private practices with commitment to support sustainable student placements
- Governance arrangements
- Quality of proposed placement experiences (as described in the placement quality rubric)
- Availability and sustainability of supervision
- Support for supervisors
- Student selection processes (i.e., preferencing rural origin students and those with demonstrated rural intent and Aboriginal and Torres Strait Islander students)
- Rurality of placement experiences (favouring more rural and remote placements)
- Written agreements with partner universities (where appropriate)
- Opportunities for academic and joint appointments

# 4.10 Strategy 8: Leadership to grow the Aboriginal and Torres Strait Islanders Dental and Oral Health Workforce

The strategic directions and implementation strategies identified in *The National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan (2021-2031)* provide mechanisms to grow the Aboriginal and Torres Strait Islander dental and oral health workforce using a pathway approach from school students to tertiary qualified practitioners.

However, the focus on the dental and oral health workforce is not as obvious as it is for medicine, nursing, allied health and Aboriginal and Torres Strait Islander Health workers and practitioners which is largely driven by the Aboriginal and Torres Strait Islander Professional Organisations i.e., Australian Indigenous Doctors Association (AIDA), CATSINaM, IAHA and National and Torres Strait Islander Health Workers and Practitioners (NATSIHWP). Key priorities for these organisations relate to:

- Improving cultural safety
- Supporting professional development and mentoring
- Developing leadership
- Enhancing student engagement and support.

The Commonwealth could consider investment in the IDAA as a workforce peak body to provide leadership and support for the implementation of the *National Aboriginal and Torres Strait Islander Health Workforce Framework* for dental and oral health.

In recognition of the small number of Aboriginal Torres Strait Islander dental and oral health practitioners and the recency of incorporation of IDAA, the Department could discuss options for IDAA to initially link with another AIHPO for a time-limited period while it establishes its membership base and develops organisation capacity. It is noted that IAHA has a formal partnership agreement with IDAA (to be renewed in 2022) and that currently much of the existing Aboriginal and Torres Strait Islander dental and oral health workforce are members of IAHA.
## REFERENCES

Ahpra Dental Board. Guidelines for Scope of Practice. <u>Dental Board of Australia - Guidelines for scope</u> of practice

Ahpra Dental Board. Registration. Dental Board of Australia - Registration

Australian Continuous Improvement Group (2016). Voluntary Dental Graduate Year Program. Program Evaluation: Final Report.

Australian Government, Department of Health. Child Dental Benefit Schedule. <u>Child Dental Benefits</u> <u>Schedule | Australian Government Department of Health</u>

Australian Government, Department of Health (2015). <u>Healthy mouths, healthy lives – Australia's</u> <u>National Oral Health Plan 2015–2024 | Australian Government Department of Health</u>

Australian Government, Department of Health. *National Aboriginal and Torres Strait Islander Health Plan 2021-2031.* Canberra: Australian Government, Department of Health. <u>National Aboriginal and</u> <u>Torres Strait Islander Health Plan 2021–2031</u> | <u>Australian Government Department of Health</u>

Australian Government, Department of Health. *National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan (2021-2031).* Canberra: Australian Government, Department of Health. <u>National Aboriginal and Torres Strait Islander Health Plan 2021–</u> <u>2031</u> <u>Australian Government Department of Health</u>

Australian Institute of Health and Welfare (2019). National Health Workforce Dataset, Canberra: Australian Institute of Health and Welfare (AIHW)

Australian Institute of Health and Welfare (2022). Oral health and dental care in Australia. <u>Oral health</u> and dental care in Australia, Summary - Australian Institute of Health and Welfare (aihw.gov.au)

Australian Institute of Health and Welfare (2022). Oral health and dental care in Australia – Dental Workforce. <u>Oral health and dental care in Australia, Dental workforce - Australian Institute of Health and Welfare (aihw.gov.au)</u>

Australian Medical Association (2019). AMA Report Card on Indigenous Health. No More Decay: Addressing the oral health care needs of Aboriginal and Torres Strait Islander people. 2019 AMA Report Card on Indigenous Health 0.pdf

Australian Prudential Regulation Authority (2021) <u>Quarterly Private Health Insurance Benefit Trends</u> <u>September 2021</u>

Beauchamp, A., et al., (2020), Nursing and Allied Health Graduate Outcomes Tracking (NAHGOT) Study. Methods and Preliminary Findings. Rural and Remote Health Scientific Symposium 2020

Playford D., Moran M., and 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).

Johnson G, Wright FC, Foster K, Blinkhorn A (2018) Rural placement experiences in dental education and the impact on professional intentions and employment outcomes – A systematic review. *Eur J Den Educ. (22) e364-e378* 

Johnson G, Byun R, Foster K, Wright F, Blinkhorn A. (2019a) A longitudinal workforce analysis of a Rural Clinical Placement Program for final year dental students. *Australian Dental Journal* 64(2):181-192.

Johnson G, Foster K, Blinkhorn A, Wright FAC. (2019b) Exploration of the factors that influence new Australian dental graduates to work rurally and their perspectives of rural versus metropolitan employment. *Eur J Den Educ.* 23:437-447

Johnson G, Blinkhorn A, Byun R, Foster K, Wright FAC. (2020) The workforce outcomes of dental graduates from a metropolitan school 'Rural Clinical Placement Program' versus a 'Rural Clinical School'. *International Dental Journal Epub* 2021 Jan 27. PMID: 33497576

Johnson G, Foster K, Blinkhorn A, Wright FAC. (2020) Rural clinical school dental graduates' views on rural and metropolitan employment. *European Journal of Dental Education*. 24(4):741-752

KBC Australia (2020). Independent evaluation of the Rural Health Multidisciplinary Training Program. Canberra: Australian Government, Department of Health. <u>KBC Australia. (2020) Independent Evaluation</u> of the Rural Health Multidisciplinary Training Program

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.S, Kondalsamy-Chennakesavan S., Ranmuthugala G., Toombs M., Nicholson G. (2017). The rural pipeline to longer-term rural practice: General practitioners and specialists. PLoS ONE 12(7):e0180394 <u>http://doi.org/10.1371/journal.pone.0180394</u>

Lalloo R, Massey W. (2013) Simple cost analysis of a rural dental training facility in Australia. *Aust. J Rural Health* 21, 158-162

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. *Rural and Remote Health*, 19 (1), 4971-4980

National Advisory Council on Dental Health. (2012) Final Report of the National Advisory Council on Dental 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.

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.

Tchia K, Lim L, See N, Parikh S, Corker F, Woolley T. (2019) Do rurally focussed dental programs produce regional and rural dentist? An exploratory cross-sectional survey examining Australian dental graduates of 2015. *Australian Journal of Rural health* (27) 574-576

Thomas, J. M., Butler, S., Battye, K., Sefton, C., Smith, J., Skinner, I., Springer S & Callander, E. (2021). Rural placements during undergraduate training promote future rural work by nurses, midwives and allied health professionals. *Australian Journal of Rural Health*, *29*(2), 253-258.

Woolley, T., Sen Gupta, T., Murray, R., & Hays, R. (2014). Predictors of rural practice location for James Cook University MBBS graduates at postgraduate year 5. *Australian Journal of Rural Health*, *22*(4), 165-171.

Wong G, Irving M. (2020) The changing face of dental practice: emerging models of team care in Australia. *British Dental Journal* 228:767-772

## APPENDIX 1

	Odds Ratio	
Predictor	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)

## APPENDIX 2

## DFS - Full List of Interviewed Stakeholders (n.180)

Organisation	Name	Role
University of Sydney	Prof. Woosung Sohn	Chair of Population Oral Health, The University of Sydney School of Dentistry
University of Sydney	Sindu Bhavanam	Placements Coordinator, Rural Placements, Sydney Dental School
University of Sydney	Prof. Janet Wallace	Director, Oral Health
University of Sydney	Prof. Catherine Hawke	Deputy Head of School, Co-Chair of the Western NSW Health Research Network
University of Sydney	Dr. Delyse Leadbeatter	Director Academic Education, Sydney Dental School
University of Sydney	Dr. Nidhi Medara	DMD Clinical Co-ordinator, School of Dentistry, Faculty of Medicine and Health (FMH)
University of Sydney	Adelewa Idowu	Student and Sydney University Dental Association (SUDA), Rural representative
University of Sydney	Yasmin Hamd	Student and Sydney University Dental Association (SUDA), Rural representative
Western NSW LHN	Dr. Heather Cameron	Orange Health Service
Western NSW LHN, Oral Health Service, Orange Community Dental Clinic	Dr. Ellen Clark	Senior Dental Officer
Western NSW LHN, Oral Health Service, Orange Community Dental Clinic	Dr. Kalyani Heyshankaran	Supervising Dentist
Western NSW LHN, Oral Health Service, Orange Community Dental Clinic	Students x4	Sydney Uni students
University of Newcastle	Prof. Liz Sullivan	Pro Vice-Chancellor, College of Health Medicine and Wellbeing
University of Newcastle	Prof. Alan Nimmo	Head of Discipline, Oral Health, University of Newcastle
University of Newcastle	Prof. Deborah Cockrell	Academic and Private practice principal
University of Melbourne	Prof. Julie Satur	VP, Strategy and Culture, University of Melbourne
University of Melbourne	Caroline Koedyk	Lecturer/Coordinator – Rural Dental Program
University of Melbourne	Prof. Alastair Sloan	Head, Melbourne Dental School
University of Melbourne	Roshine Linus	Student
University of Melbourne	Dimitrios Parascos	Student

University of	Andrew He	Student
Melbourne		
University of Melbourne	Joanna Chiem	Student
University of Melbourne	Christine (?)	Student
La Trobe Community Health	Anita Pither	Assistant Manager Dental
La Trobe Community Health	Debra Brighton	Clinical lead/student supervisor
La Trobe Community Health	Chrissy Wallace	Dental Assistant
Echuca Regional Health	Dr. Anjali Ragade	Senior Dentist/supervisor
Echuca Regional Health	Carmel Beck	Clinic Manager
Rumbalara Aboriginal	Eliza Collins	Oral health therapist
Rumbalara Aboriginal	Tracey Hearn	Dental clinic manager
Co-operative	indeey nearin	
Goulburn Valley Health	Dr. Scott Freeman	Clinical director and senior dentist
University of Melbourne	Denise	Academic coordinator 4 <sup>th</sup> year dental
LaTrobe Community Health	Alison Lewis	BOH supervisor
James Cook University (JCU), Townsville	Prof. Richard Murray	Deputy Vice Chancellor, Division of Tropical Health and Medicine
James Cook University (JCU), Townsville	Prof. Sarah Larkin	Dean, College of Medicine and Dentistry
James Cook University (JCU), Cairns	Prof. Peter Thomson	Head of Dentistry, Prof of Oral and Maxillofacial Sciences, College of medicine and Dentistry
James Cook University (JCU), Cairns	Prof. Geoff Booth	Yr 5 Coordinator, Deputy Head of Dentistry
James Cook University (JCU), Townsville	Prof. Rebecca Sealey	Director Academic Quality and Strategy
James Cook University (JCU), Townsville	Marcelle Crawford	Manager, College Operations
James Cook University (JCU), Townsville	Tara Evans	Manager, Partnerships and Project Development
James Cook University (JCU)	Dr. Felicity Croker	Previous Yr 5 coordinator, developed DV subject/course
James Cook University (JCU)	Prof. Catrina Felton- Busch	Director Murtunpuni Centre (MICCRH)

James Cook University (JCU)	Melitta ??	Clinical Manager, CAHS, NT (and 2014 graduate)
James Cook University (JCU), Townsville clinic	Dr. Richard Coward	JCU, TSV Senior Clinician Manager
Kirwan, THHS	Dr. Angie Nilsson	Clinical Director Dental Townsville HHS
Kirwan, THHA	Dr. Tara Paul	JCU Coordinator
Cairns, CHHHS	Dr. Harry Robertson	Director Oral Health, Cairns HHHS
Cairns HHS, Mareeba	Dr. Phillip Boxsell	Principal Dentist, Mareeba, CHHS, Student supervisor (and 2013 graduate)
Cairns HHS, Mareeba	Dr. Melina Jablonski	Supervisor, 2017 Graduate
Cairns HHS, Mareeba	Students x4	
Mulungu Aboriginal Corporation Primary Healthcare Services	Dr. Ed Tucker	Chief Dental Officer and supervisor
Mulungu Aboriginal Corporation Primary Healthcare Services	Dr. Laura ??	Dentist and supervisor, Graduate JCU, 2017
James Cook University (JCU)	Dr. Nicholas Emtage	Business Insight Analyst
James Cook University (JCU)	Prof. Ian Wronski	Deputy Vice Chancellor of the Division of Tropical Health and Medicine
University of Adelaide	Prof. Richard Logan	Dean and Head of School
University of Adelaide	Prof. Lucie Walters	Director, RCS
University of Adelaide	Dr. Alan Broughton	Undergraduate Learning and Teaching Lead
University of Adelaide	Dr. Jennifer Gray	Undergraduate B of OH program Yr3
Whyalla Oral Health Clinic	Merridy Dunn	Whyalla District Manager
Adelaide Dental Hospital, SA Dental	Dr. BJ Cai	Acting General Manager, Adelaide Dental Hospital, Substantive position – Clinical Director, General practice clinic – ADH
State-wide dental services SA Dental	Sharyn Collette	Director Clinical Ops Statewide Dental Services
State-wide Dental Services (SA Dental)	Dr. Stuart Marshall	Chief Dental Officer
SA Dental Services	Dr. Paulina Lee	Manager, SA Dental services
Whyalla Oral Health Clinic and Adelaide Dental Hospital/ Uni of Adelaide	Dr. John Berkita	Supervisor + RFDS Dentist
University of Adelaide	Brendan	Dental Student, Y5
University of Adelaide	Vincent	Dental Student, Y5
University of Adelaide	Huu	Dental Student, Y5

University of Adelaide	Nick	Dental Student, Y5
Central QLD University	Prof. Carol Tran	Head of Course, Oral Health
Charles Sturt University (CSU)	Prof. Andrew Flatau	Dean, Centre for Rural Dentistry and Oral Health
Charles Sturt University (CSU)	Judy Stone	Workplace Learning Officer, Centre for Rural Dentistry and Oral Health
Charles Sturt University (CSU)	Dr. Jake Ball	BDsc Yr 5 Coordinator
Charles Sturt University (CSU)	Prof. Alex Jones	CSU Clinical Director
Curtin University	Natasha Lethorn	Course Coordinator, Oral Health Therapy
Curtin University	Prof. Helen McCutcheon	Deputy Pro Vice Chancellor of the Faculty of Health Sciences
University of WA	Prof. Hien Ngo	Dean and Head of School of Dentistry; Director of OHCWA
University of WA	Dr. Jilen Patel	Specialist Paediatric Dentist, Senior Lecturer in Clinical Dentistry, UWA Dental School. Director of the Kimberley Dental Team (volunteer service)
Goondir Health	Floyd Leedie	CEO, Dalby Goondir (ACCHO)
Service, Dalby		
University of QLD - St	Maddie Worboys	Dental Assistant Coordinator, St George Clinic
George	Dr. Bruce Kidd	Supervisor St George Clinic
George	Dr. Druce Ridu	
University of QLD - St George	Students x4	Dental students year 5
University of QLD	Prof. Bruce Abernethy	Executive Dean FHBS
University of QLD	Prof. Pauline Ford	Associate Dean FHBS
University of QLD	Prof. Saso Ivanovski	Head of School, Dentistry
University of QLD	Sarah Robinson	School Manager Dentistry
La Trobe	Dr. Mike Angove	Head, Department of Rural Clinical Sciences
La Trobe	Dr. Elizabeth Sari	Senior Lecturer Dentistry
La Trobe	Jenny Cooper	Placement Coordinator
La Trobe	Prof. Mel Bish	Deputy and Assoc Dean, Academic Partnerships
La Trobe	Dr. Ron Knevel	Discipline lead OH and Dental
La Trobe	Joan Harkin	Student
La Trobe	Wan Ying Chia	Student
La Trobe	Hao-Qian Leung	Student
Ballarat Health Service	Jacqui Nolan	Dental Manager
Griffith Uni Gold Coast	Prof. Robert Love	Dean of Dentistry and ACODS Chair
Griffith Uni Gold Coast	Dr. Megan Gray	Placements academic
Griffith University	Prof. Menaka Abuzar	Program Director, Discipline Lead Prosthodontics, School of Medicine and Dentistry, Prof Dentistry

Kingaroy Qld Health	Dr. Sam Zahedi	Principal dentist - Supervisor - Kingaroy
Kingaroy Qld Health	Dr. Robert Foster	Senior dentist
Kingaroy Qld Health	Dr. Jason Xu	Dentist and supervisor
Griffith University	Dr. Nickolas Teo	Supervising dentist -Warwick
Qld Health	Karen	Admin
Qld Health	Stacy	Dental assistant (DA)
<b>Griffith University</b>	Students x 9	Year 5 students - Warwick
Griffith University	Students x 2 (representing all 10 students)	Year 5 students - Kingaroy
Warwick Dental	Bec	DA - Warwick
State Jurisdictional Directors, QLD	Dr. Mark Brown	Chief Dental Officer, Department of Health, Queensland Government
State Jurisdictional Directors, NT	Dr. Kate Raymond	Chief Dental Officer Sector and System Leadership, Department of Health, Northern Territory Government
State Jurisdictional Directors, TAS	Dr. Ioan Jones	Clinical Director, Oral Health Services Tasmania
State Jurisdictional Directors, WA	Dr. Soniya Nanda	Chief Dental Officer, Office of the Chief Dental Officer, Health WA
State Jurisdictional Directors, NSW	Graeme Liston	Director, Centre for Oral Health Strategy, NSW
State Jurisdictional Directors, VIC	Kerryn Dejussing	A/Manager, Dental Health Primary and Community Health, Department of Health and Human Services, Victoria
State Jurisdictional Directors, VIC	Denise Laughlin	Director, Primary, Community and Oral Health
State Jurisdictional Directors, VIC	Mark Sullivan	Executive, Dental Health Services Victoria
Australian Government Department of Health	Melissa Crampton	Director - Dental Section, Allied Health and Service Integration Branch, Primary Care Division
Australian Dental and Oral Health Therapists Association (ADOHTA)	Dr. Nicole Stormon	President
Australian Dental Association (ADA) NSW	Dr. Michael Jonas	President ADA NSW and Private practice principal
Australian Dental Association (ADA) NSW	Dr. Tim McAnulty	Director ADA NSW and Private practice principal
Australian Dental Council (ADC)	Narelle Mills	Chief Executive Officer
Australian Dental Council (ADC)	Philippa Davis	Director, Accreditation Policy and Research
Dental Hygienists Association of Australia (DHAA)	Bill Suen	Chief Executive Officer

Dental Hygienists	Lvn Carman	Rural and Remote Chair
Association of	-,	
Australia (DHAA)		
Indigenous Allied	Paul Gibson	Director of Policy and Research
Health Australia		
(IAHA)		
Indigenous Allied	Kylie Stothers	Director of Workforce Development
Health Australia	Ryne ototnero	
(IAHA)		
Indigenous Allied	Donna Murray	Chief Executive Officer
Health Australia	20111011101104	
(IAHA)		
Australian Rural	Joanne Hutchinson	National Director
Health Education		
Network (ARHEN)		
Australian Rural	Board (16 members)	Board
Health Education	· · · · ·	
Network (ARHEN)		
National Rural Health	Prof. Ruth Stewart	National Rural Health Commissioner
Commissioner (NHRC)		
Australian Dental	John Do	President
Students Association		
(ADSA)		
Australian Dental	Jim Rae	2nd year student (written response)
Students Association		
(ADSA)	<b>.</b>	
Indigenous Dentists	Dr. Gari Watson	President
Association of		
Australia (IDAA)		
National Aboriginal	Nadine Blair	Director of Policy
Controlled		
Organisation		
National Aboriginal	Dr. Kate Armstrong	Medical Advisor
Community		
Controlled		
Organisation		
(NACCHO)		
Royal Flying Doctors	Dr. Vaibhav "Vai"	Senior Dentist & Manager Oral Health Program
Service (RFDS)	Garg	
Orange Aboriginal	Dr. Jamie Newman	CEO
Medical Service		
(OAMS)		
Orange Aboriginal	Michael Newman	Operations Manager
Medical Service		
(OAMS)		
Orange Aboriginal	Fiona Clark	Dental Coordinator
Medical Service		
(OAMS)		

Orange Aboriginal Medical Service (OAMS)	Christie Cain	Practice Manager
Orange Aboriginal Medical Service (OAMS)	Billy Wong	Finance Manager
Jeanie Global	Dr. Cindy Dennis	Founder/ Director - Rural Dentist and Strategic thinker
Anson Street Dental Orange	Dr. Sabrina Manickam	Practice principal
WA Centre for Rural Health UDRH	Prof. Sandy Thompson	Director, UDRH
Three Rivers UDRH	Christine Howard	Director, UDRH
Whyalla UDRH – Uni of SA	Prof. Martin Jones	Director, UDRH
Emerald URDH	Prof. Sabina Knight	Director, UDRH
SQRH - Toowoomba UDRH	Prof. Geoff Argus	Director, UDRH
La Trobe University	Prof. Tim Skinner	Director, UDRH