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AUSTRALIA

Investigating clinician researcher career pathways

Summary Report to the NHMRC Chief Executive Officer

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Executive Summary

This report was instigated by the Health Translation Advisory Committee (HTAC) of NHMRC to advise the Chief Executive Officer on issues relating to the training and career pathways for clinician researchers in Australia. HTAC observed overseas initiatives to build clinician researcher capacity and wanted to know more about the situation in Australia.

HTAC has found limited data on the population of Australian clinician researchers, the settings they work in and their employment arrangements, which makes it difficult to understand the clinician researcher workforce and the best ways to support them.

Many organisations, including research funders and professional bodies, support and employ clinician researchers. NHMRC, as a major national research funding organisation, supports clinician researchers through many of its grant schemes. However, we do not know enough about how effective this support is. Importantly we do not know if NHMRC funding supports successful applicants to sustain careers as clinician researchers.

Research commissioned for this report shows that Australian clinician researchers follow many different career pathways, depending on their clinical field. People we surveyed reported a number of barriers to careers as clinician researchers, including difficulty obtaining research funding and lack of support in the workplace, particularly for protected research time. Clear career pathways, targeted funding, mentoring programs and advocacy are important ways that clinician researchers can be better supported in their careers.

Some countries have set targets for training clinician researchers, such as 5% of medical practitioners in the UK, and HTAC is aware of proposals to set such targets for Australia. HTAC's findings raise a number of important considerations about following this path. There is little evidence in the current Australian context that training a clinician researcher at the beginning of their career (through combined vocational and research training) is effective for the majority of clinician researchers; our research shows that most current clinician researchers become so later in their careers. There is also little evidence in the Australian context that clinician researcher programs designed for medical practitioners are suitable for nurses, allied health practitioners and midwives, who currently make up a significant number of Australian clinician researchers.

There are many parts of the health sector with a stake in clinician researchers. HTAC believes that these groups must be brought together to develop a national strategy so that we can develop and retain a competitive clinician researcher workforce which meets Australia's needs. The strategy must be supported by better data, clearly defined career pathways, equitable support for all health disciplines and specialties, and appropriate mentoring arrangements.

Above all HTAC believes that a major cultural shift will be required in those health services where clinician research is currently not valued, supported or encouraged.



Professor Sharon Lewin AO
Chair - Health Translation Advisory Committee

Summary of Recommendations

Better data on clinician researchers

1. NHMRC to ask the Department of Health and the Australian Health Practitioners Regulation Agency to standardise the annual survey for registered health professionals to capture and report data on relevant postgraduate research qualifications and the category of clinician researcher.
2. NHMRC to meet with National Alliance of Self Regulating Health Professions to assess the feasibility of their collecting the same data on the unregistered allied health workforce.
3. NHMRC to develop methods to identify and track clinician researcher career pathways through its Sapphire grant management system.

Promotion of the role of clinician researchers

4. Professional colleges to be encouraged to establish formal mentoring arrangements for their members considering a clinician researcher career.
5. NHMRC to seek the advice of the National Network for Aboriginal and Torres Strait Islander Health Researchers about the feasibility of a central information point for Aboriginal and Torres Strait Islander clinician researchers.
6. NHMRC to seek the advice of the National Network for Aboriginal and Torres Strait Islander Health Researchers to investigate the feasibility of establishing a national mentoring program for prospective and career Aboriginal and Torres Strait Islander clinician researchers.

Recognition of clinician researchers

7. NHMRC to encourage use of the term 'clinician researcher' to apply equally to people with medical, nursing or allied health qualifications.

National strategy for clinician researchers

8. NHMRC to contribute to a national round table led by the Australian Academy of Health and Medical Sciences with representatives of the education sector, medical research institutes, funders and professional bodies to determine appropriate training and core competencies for clinician researchers.

Career pathway options

9. NHMRC to work with professional bodies to develop career pathway models for nursing, midwifery and allied health fields.

1. Overview

1.1 Purpose of this report

The purpose of this report is to advise the NHMRC CEO on what we know about the career trajectory of clinician researchers who are working, or are eligible to work, in the Australian health system, and whether they believe that current funding opportunities sustain their active research careers.

1.2 Background

NHMRC's Health Translation Advisory Committee (HTAC) instigated this research project in 2017. One of HTAC's functions is to advise the Chief Executive Officer of NHMRC on strategies to promote research translation into practice and policy. HTAC has identified clinician researchers as playing a key strategic role in translation.

HTAC members wanted to know whether clinical researchers had adequate funding opportunities through existing funding models to sustain an active research career, and whether those who received funding continued as long-term researchers.

Despite their importance in comparable overseas health systems, comparatively little is known about clinician researchers in Australia.

We do not have a clear picture of how many clinician researchers there are in Australia, and the settings in which they work. In contrast to the United Kingdom, which has set targets for medical practitioner clinician researcher positions¹, we do not know how many medical, nursing, midwifery and allied health clinician researchers the Australian health system will need in the future and how they should be trained. Importantly, we do not know whether overseas models for training clinician researchers currently being proposed for use in Australia are suitable for the Australian context, particularly for the non-medical professions.²

We do not know what happens to clinician researchers if they are unsuccessful in securing grants – are they forever lost to the system or do they return?

We do not know whether obtaining a PhD qualification adequately equips and prepares a clinician for a clinician researcher career and, if it does, when is the optimal time to obtain it.

We do know that many organisations in Australia appear to be actively supporting, funding and promoting clinician researchers. Critically for NHMRC as a national funding body, the paucity of data means it is not clear that funding programs intended to support clinician researcher capacity are as effective as they should be.

To address some of these questions a research project was designed to identify the barriers to entering or maintaining a career as a clinician researcher in Australia. HTAC sought to understand whether targeted funding programs, including those run by NHMRC and other organisations, are effective in helping clinicians to launch and sustain careers as clinician researchers.

1 The Tenure Track: Clinician Scientist. The Academy of Medical Sciences (2000).

<https://acmedsci.ac.uk/file-download/34691-Clinic.pdf>

2 <https://go8.edu.au/strengthening-australian-clinical-research-group-of-eight-submission-to-the-medical-workforce-reform-advisory-committee>

1.3 What is a clinician researcher?

For this project, HTAC adopted the definition of clinician researcher as someone who undertakes research relevant to their clinical role, whether the research is basic or applied.

A clinician researcher:

- conducts research and provides direct clinical services, in any setting, under a formal work arrangement, although not necessarily for the same organisation
- is eligible to undertake clinical practice in Australia through registration with the Australian Health Practitioner Regulation Agency (AHPRA), the National Alliance of Self-Regulating Health Professionals (NASRHP), or an equivalent.

In adopting this definition, HTAC explicitly acknowledges that clinician researchers practise in any health care discipline and are not confined to medicine.

The term ‘clinician researcher’ is used throughout this report; however, clinician researchers are sometimes known by alternative titles such as clinical academic, clinician scientist and practitioner scientist.

1.4 Key questions

The project was designed to determine if Australian clinician researchers share common career pathways, and to assess what career supports and enablers exist for this group and how effective they are. Some key questions that underpin the research are:

Are there appropriately clear and supported career pathways available to clinician researchers in Australia?

What are the factors that enable clinicians to enter research?

What are the reasons for clinicians choosing not to enter research?

What are the barriers that clinician researchers have identified, and what can be done about them?

What supports and enablers are in place for someone following a career as a clinician researcher, and how effective are they?

To help answer these questions six discrete cohorts were identified for the survey:

- current clinician researchers
- former clinician researchers now engaged in research work
- former clinician researchers now engaged in clinical work
- current clinicians interested in a career as a clinician researcher
- current researchers interested in a career as a clinician researcher
- prospective clinician researchers (including students).

The survey method is described in detail in section 4 and the survey report is at Appendix 4.1.

2. Context

What do we know about the Australian clinician researcher workforce?

Health workforce data obtained from the Department of Health website (hwd.health.gov.au) offers a snapshot of registered Australian health professionals who self-identified as researchers in the 2019 annual workforce surveys administered by the Australian Health Practitioner Regulation Agency (AHPRA).

These data can be used as a proxy for clinician researchers with some important caveats. They are drawn from opt-in surveys and the survey tools differ slightly for each of the 15 professional groups registered through AHPRA. The survey asks respondents to self-select their primary job role based on what they did in the preceding week, asking respondents to choose only one of five roles: clinician, teacher, administrator, researcher and 'other.'

Importantly the survey instrument does not define 'researcher' and makes no distinction between 'researcher' and 'clinician researcher.' It does not differentiate between investigator driven research and research conducted under employment arrangements, so the category 'researcher' could capture both NHMRC funded investigators and salaried research assistants.

We have attempted to identify researchers who do concurrent clinical work through the process described below. Because of the limitation of the survey instrument which allows only one choice of role, the survey data do not allow us to reverse this and identify people who self-nominated as clinicians who also did research in the preceding week.

To extrapolate the number of self-nominated researchers who may be clinician researchers (reflected in table 1 below) the category 'researcher' in each profession group was cross-referenced against the survey response to number of clinical hours worked in the preceding week (table 1, column 4). This determines a cohort that self-identified as working primarily as researchers, but who also undertook clinical hours in the preceding week.

For example, of the medical practitioner cohort who nominated themselves as researchers based on their job role in the preceding week, 371 (30%) performed no clinical hours in that week. Of the cohort that did perform clinical duties 653 (52%) did 1-19 hours, 149 (11%) did 20-34 hours, 64 (5%) did more than 35 hours and 12 did unspecified hours.

Using the NHMRC definition of clinician researcher as someone who both conducts research and provides direct clinical services, the current (2019) cohort of medical practitioner clinician researchers is calculated to be 878.

The method described above was used to calculate the total number of clinician researchers in all the AHPRA registered professions, again based on 2019 survey responses. The results are listed in table 1.

With the exception of psychologists, the proportion of health professionals who nominate as researchers is low, at less than 1.5% of all registrations.

Table 1: Clinician researchers - researcher workforce data 2019

Registered profession	Total researchers	Researchers as a % of total registered professionals	Researchers with clinical hours	Clinician researcher as % of total researchers
Aboriginal health workers	3	<1%	3	100%
Chinese medicine practitioners	64	1.3%	51	79%
Chiropractors	21	<1%	16	76%
Dentists	49	<1%	27	55%
Medical practitioners	1249	1%	878	70%
Medical radiation	63	<1%	43	68%
Midwives	341	<1%	214	63%
Nurses	2685	<1%	1021	38%
Occupational therapists	233	<1%	86	36%
Optometrists	65	1%	43	67%
Osteopaths	4	<1%	4	100%
Paramedics	29	<1%	5	17%
Pharmacists	350	1%	105	30%
Physiotherapists	469	1.3%	234	50%
Podiatrists	42	<1%	25	59%
Psychologists	972	2.6%	486	50%
TOTAL	6639		3241	

2.1 Attrition

In addition to calculating the current number of clinician researchers, we tried to predict the number planning to leave the workforce; one of the AHPRA survey questions explicitly asks respondents about their future work intentions and this provides useful data for workforce planning.

The future work intentions of all people who nominated as researchers (clinician researchers and non-clinician researchers combined) was calculated for all registered professions. For each cohort the number of respondents planning to stop working in zero to five years was combined (table 2).

The data predict a high attrition rate among researchers with almost a quarter of medical practitioner researchers, a third of midwifery and psychologist researchers and almost a fifth of physiotherapist researchers expressing an intention to leave the workforce at some point within the coming five years. This underscores the importance of understanding what attracts and retains researchers in each profession so that the effect of attrition can be addressed.

Table 2: Clinician researchers - researcher workforce data 2019

Profession	Researchers planning to cease work \leq 5 years	% of researcher workforce
Aboriginal health workers	3	100%
Chinese medicine practitioners	6	9%
Chiropractors	6	29%
Dentists	6	12%
Medical practitioners	312	24%
Medical radiation	12	19%
Midwives	118	34%
Nurses	747	27%
Occupational therapists	31	13%
Optometrists	11	16%
Osteopaths	0	-
Pharmacists	62	18%
Physiotherapists	89	19%
Podiatrists	12	29%
Psychologists	324	33%

2.2 Age and gender

Health workforce data suggests that the Australian researcher workforce is aging, with 14% of psychologists, 19% of medical practitioners and 30% of nurses currently aged between 55 and 64. Of note is the proportion (12-13%) of registered medical and psychology researchers who continue to work beyond age 65 (table 3).

The 2019 data show 5022 female registered health professionals nominated themselves as researchers, of whom more than half were nurses and midwives. Of the female cohort, 2282 (45%) performed clinical hours in the previous week; 393 of these were medical practitioners.

Table 3: Age of researcher - researcher workforce data 2019

Profession	Female n (%)	Age 20-34	35-44	45-54	55-64	65-74	75-99
Aboriginal health workers	3 (100%)	-	-	100%	-	-	-
Chinese medicine practitioners	36 (56%)	11%	20%	37%	22%	8%	-
Chiropractors	10 (47%)	24%	32%	14%	14%	14%	-
Dentists	20 (40%)	24.5%	16.5%	16.5%	28.5%	-	10%
Medical practitioners	551 (44%)	20%	25%	15.5%	19%	12.5%	<1%
Medical radiation	39 (62%)	22%	43%	22%	12%	-	-
Midwives	339 (99%)	9%	12%	29%	40%	9%	<1%
Nurses	2458 (91%)	9%	21%	28%	31%	7%	<1%
Occupational therapists	220 (94%)	30%	32%	23%	12%	2%	-
Optometrists	36 (55%)	37%	28%	17%	12%	-	-
Osteopaths	unclear	50%	50%	-	-	-	-
Paramedicine	12 (41%)	17%	41%	17%	17%	-	-
Pharmacists	258 (74%)	40%	31%	13%	11%	5%	-
Physiotherapists	347 (74%)	31%	30%	19%	16%	4%	-
Podiatrists	22 (42%)	48%	26%	17%	7%	-	-
Psychologists	710 (73%)	19%	33%	21%	14%	10%	2%

2.3 Interpretation

These data suggest that clinician researcher numbers in registered Australian health professions are lower than expected and that many of those currently working in the health system as researchers are likely to be lost by 2024. Some of these researchers may represent potential lost mentors to new and emerging researchers.

While the data capture nominated researchers who do clinical hours, it is highly likely that there is an additional cohort of self-nominated clinicians who have also worked research hours in the preceding week, and may also meet the criteria for clinician researcher. It is important to get more information on the size of this cohort.

The data presented here represent health professionals who fall under the national registration and accreditation scheme. It is probable that clinician researchers practise in the many self-regulating allied health professions such as dietetics, audiology, speech pathology, exercise and sports science, genetic counselling, orthotics and prosthetics. Comparable survey data are not available for these professions, but again it is important to get information on this cohort.

From the data we have, we do not know the extent to which people self-selecting as researchers have appropriate training. In the case of medical practitioners for example, extensive health workforce data are collected on vocational qualifications and training, but not on research qualifications. We cannot identify health professionals who hold or are studying for a PhD (a qualification which many would consider to be a prerequisite for a career in academic health care), or who hold relevant postgraduate qualifications, from existing national workforce datasets or AHPRA's health practitioner registers.

2.4 Recommendations

It is important that the national workforce data set allows for better identification and tracking of clinical researchers across all clinical disciplines, including public health. The following recommendations will support any national initiatives to identify and track the career trajectories of clinician researchers.

1. NHMRC to ask the Department of Health and the Australian Health Practitioners Regulation Agency to standardise the annual survey for registered health professionals to capture and report data on relevant postgraduate research qualifications and the category of clinician researcher.
2. NHMRC to meet with the National Alliance of Self Regulating Health Professions to assess the feasibility of their collecting the same data on the unregistered allied health workforce.
3. NHMRC to develop methods to identify and track clinician researcher career pathways through its Sapphire grant management system.

3. Investigating clinician researchers career pathways project

3.1 Summary of methods

A research project to survey Australian clinician researchers was developed and delivered between 2018 and 2020. The 'Investigating Clinician Researchers Career Pathways Project' was comprised of multiple components (see figure 1) with each stage overseen by HTAC as the project sponsor. Project components include;

- Development and implementation of a pilot survey, with the survey method based on intelligence gathering and interviews with key informants
- A large survey of self-selected current, former and non-clinician researchers conducted by a contracted research organisation
- In-depth telephone interviews of two representative cohorts: a subset of the second survey respondents and a new cohort of Indigenous clinician researchers
- Desktop analysis, surveying the Australian and international landscape for information on funding programs for clinician researchers.

The following is a summary of what we did and what we found. Detailed reports of the key data collection stages of the project are at Appendices 5.1 – 5.3.

Figure 1: Key phases and dates of the 'Investigating Clinician Researchers Career Pathways Project'



3.2 Intelligence gathering and pilot survey

The first stage of the project aimed to gather intelligence on the broad career experiences of clinician researchers, with responses informing subsequent project stages.

Method

A pilot survey was developed with input from HTAC Members and sent to a representative group of 15 current clinician researchers in June 2018. The survey asked about the respondent's career pathway to date and sought their views on the adequacy of funding available for clinician researchers in Australia. The survey also asked about specific career stages where more support might be needed, and on respondent's observations of the effect of interrupted funding on promising research careers.

Key findings

The pilot survey confirmed that a traditional career pathway does exist, particularly for the medical profession, where medical training is followed by completion of a PhD and research work, and a transition into a clinician researcher career.

Participants reported that funding is not adequate and is more competitive at the senior researcher level. They also noted that funding for grant programs is targeted to clinicians who also work in research (clinician researchers), rather than researchers who also work in clinical roles (researcher clinicians). Participants suggested changes to funding programs to support all types of clinician researcher, in all fields, and so assist clinician researchers in moving between roles.

Table 4: Summary of pilot survey responses

What has your career pathway been as a clinician researcher to date?
I. Traditional medical training → part time research
II. Integrated research into medical training
III. Completed PhD → integrated research into career
In your opinion is the funding available for clinician researchers in Australia adequate?
IV. Funding is not adequate, and is more competitive at senior career level
V. Funding is geared to “clinician researchers” not “researcher clinicians”
If not, are there specific career stages where funding support could be improved?
VI. Funding to cover clinical workload when completing research work or attending conference
VII. Introduce model like National Institute for Health Research (NIHR) fellowships in United Kingdom
In your opinion do clinician researchers have appropriate career pathway support?
VIII. No, it is not easy to transition between jobs
IX. Your career pathway may be dictated by your employer
What effect on promising careers have you seen from the loss or interruption of research funding?
X. People leave research work to focus on clinical work
XI. It is difficult to apply for funding without support people

3.3 Survey of researchers

The second stage of the project built on the findings of the pilot survey, with a revised survey developed for distribution to the wider sector.

Sensitivities

In designing the survey of clinician researchers NHMRC was aware of the need to safeguard the privacy of participants and to ensure that they would not be identifiable in their responses. NHMRC was particularly concerned to protect the identity of people who may have lost or were unsuccessful in gaining NHMRC funding. To ensure this, a third party research organisation was contracted to manage the survey and subsequent interviews.

ORIMA Research, a data analytics and research organisation, prepared, conducted and analysed results of a survey of researchers. It prepared and submitted an ethics application to the ORIMA Research Human Research Ethics Committee (HREC) in September 2018. The application encompassed project stages 2-5 including the telephone interviews with researchers and was approved by the ORIMA Research HREC (approval number: 0072018).

Method

ORIMA worked with NHMRC to develop a:

- research protocol
- data analysis strategy
- contact list of potential participants to invite to complete the survey.

NHMRC sent letters to organisations inviting their staff to participate in the survey of researchers. A total of 258 organisations were invited to participate in the research, with 75 (29%) subsequently confirming their participation and agreeing to distribute the survey to their membership. The organisations consisted of medical research institutes, professional colleges, societies and related organisations, hospitals and universities, and all of them employed, trained or professionally represented clinician researchers.

The survey was open between December 2018 and February 2019, with 901 completed responses returned to ORIMA Research.

ORIMA Research analysed data from the survey responses and prepared a final report (Appendix 4.1).

Survey respondents

The survey drew responses from 363 medical practitioners, 340 allied health practitioners, 100 nurses and midwives, 20 from other professions such as dentistry, and 78 respondents who did not state their profession. More than half (58%) identified as current clinician researchers, and just under half (48%) considered themselves as early career researchers.

Key findings

Career pathway

When asked to categorise their career pathways most active clinician researchers (67%) described obtaining a clinical qualification followed by a period of clinical practice, and then returning to study for a full- or part-time degree.

A small number (3%) obtained a clinical qualification and a degree without completing a period of clinical practice first.

The survey identified a high level of dissatisfaction with 76% of respondents reporting that they found it difficult to pursue their desired research career pathway.

Career support

Advice or career support was made available to 67% of respondents who were planning or developing a research career, yet less than half found the advice or support highly or extremely helpful. A quarter (26%) of respondents had taken part in a professional mentoring program as a mentee, and 30% had participated as a mentor.

Career interruption

Of respondents who had taken a break from research one in five cited loss of funding as the primary cause for the break. Respondents were more likely to take a break from research to focus on clinical work or to leave research altogether because of a perceived lack of job opportunities.

Interpretation

The survey represents a snapshot of former, prospective and active clinician researchers in Australia and is one of the first to compare and contrast career pathways for the three broad professional streams that make up the Australian health workforce.

Despite the clear importance of clinician researchers to most of the organisations we approached only a relatively small number agreed to participate. Of the 258 organisations that were approached, 183 organisations either did not respond or refused to participate, while some would only do so for a fee. While extensive cross-posting means that many clinician researchers in organisations that did not take part contributed to the survey through other means, it is hoped that any future attempts to survey this population will gain more support.

The survey shows that only 3% of respondents followed the career path advocated in the proposed Group of Eight Australian Integrated Clinician Researcher Pathway model, while most (67%) practised as clinicians before retraining as clinician researchers. This underscores the importance of any future change to clinician researcher training in Australia being able to flexibly accommodate people who enter the clinician researcher workforce late in their careers, and not lock people in or out through an early career pathway.

The survey reveals that many clinician researchers have access to career support and advice, yet many do not find this advice helpful, suggesting that a more structured approach to formal advice services and mentoring may be beneficial.

One of the surprising findings of the survey was that loss of grant or research funding was the primary reason for a career break for only one in five of the respondents who had taken a break, with most making a deliberate choice to prioritise clinical work or having a career break because of lack of job opportunities. Again this reinforces the need to ensure that clinician researcher career pathways are clearly defined with exit and re-entry points throughout a person's career.

3.4 Telephone interviews

Following the survey of researchers, a series of telephone interviews was conducted to delve more deeply into some of the issues raised in the survey. The full report can be found at Appendix 4.2.

Method

ORIMA collated and provided to NHMRC a list of 100 randomly selected names of people who were representative of the Stage 2 survey sample. NHMRC invited all 100 people via email to participate and the first 50 respondents proceeded to interview. The interview booking and scheduling process was managed by NHMRC and all participants completed and returned a participant information and consent form prior to their interview.

Interviews were conducted by ORIMA consultants experienced in conducting qualitative research, between June and July 2019. Most participants provided verbal consent to their interview being recorded before the interview commenced and each interview took up to 30 minutes to complete.

Participants were provided with an opportunity to review a draft of their interview transcript, which was prepared by ORIMA. Finalised de-identified transcripts were sent to NHMRC via a secure web portal in September 2019.

Key Findings

No clear career path for clinician researchers

The majority (86%) of participants reported that there is not a clear and supported career pathway for clinician researchers in Australia. While some participants from medical disciplines felt a clear pathway was available to them many felt unsupported to follow that path. Non-medical participants, particularly those working in nursing, reported that there was no clear career path for clinician researchers. All participants highlighted the need for a clear career path for clinician researchers in all disciplines.

Increased value and duration of funding

Interview participants were vocal about the need for increased value and duration of research funding. Long-term funding was reported as the most desirable type of funding; however, smaller grants and one-off grants were also identified as still being helpful in supporting clinician researcher careers. Many participants reported moving from grant to grant without gaps. However, where funding was not obtained, their work paused or stopped completely.

Organisational support

Support from senior managers and executive staff was reported to be a key “make or break” enabler for conducting research in the clinical setting. The importance of organisational support to promote the value and legitimacy of clinician researchers in the workplace was a widely reported career enabler and an important factor in building professional networks.

Protected research and clinical time

Protected clinical and research time was identified as a necessity. Protected time and administrative support to complete core tasks, such as writing grant applications, and basic infrastructure like a desk and office space were identified as important enablers to pursue a research career. Some proposed building formal support for research work into employment contracts and key employee performance indicators as an added protection.

3.5 Telephone interviews with Indigenous clinician researchers

NHMRC’s Principal Committee Indigenous Caucus expressed concern about the small number of Aboriginal and Torres Strait Islander people who participated in the survey of researchers. In response, it initiated an additional series of telephone interviews of Aboriginal and Torres Strait Islander clinician researchers and prospective clinician researchers.

Sensitivities

Due to the relatively small final sample size (n=11), caution should be taken when generalising the research findings to the broader population of Aboriginal and Torres Strait Islander clinician researchers. However, due to the amount and depth of data extracted from the interviews, as well as the consistency in the research findings between participants, we feel that this project provides valid and important research findings.

Method

ORIMA Research was contracted to prepare an ethics application and conduct the telephone interviews with Aboriginal and Torres Strait Islander clinician researchers. ORIMA engaged its First Nations Field Force to advise on culturally appropriate research methods. NHMRC engaged its Aboriginal and Torres Strait Islander Advice section to provide support in preparing a contact list of potential telephone interview participants.

ORIMA prepared a potential contact list of 120 relevant organisations. NHMRC sent an email letter co-signed by the NHMRC CEO and Chair of PCIC inviting Aboriginal and Torres Strait Islander clinician researchers to participate in the telephone interviews. The recruitment period was extended due to challenges recruiting the intended target of 30 participants.

Key Findings

Participants suggested a variety of supports that would address or mitigate many of the barriers they experienced in a clinician researcher career.

Centralised information

Participants felt that there was a need for one clear centralised source of information on clinician researcher careers, including specific information for Aboriginal and Torres Strait Islander clinician researchers. Many participants felt that the NHMRC website would be an appropriate place for this information.

A national network of Aboriginal and Torres Strait Islander clinician researchers

Participants reported that having the opportunity to join a network would help to raise their awareness of, and connections with, other Aboriginal and Torres Strait Islander clinician researchers.

Flexibility in work and study arrangements

Participants reported that this would help to facilitate an appropriate work / life balance, and reduce the disruption to study and career pathways caused by significant life events such as having children.

Scholarships

Aboriginal and Torres Strait Islander-specific scholarships to complete PhDs and to offset clinical income lost when undertaking this study were felt to be important.

3.6 Analysis of Australian and international funding opportunities and career pathways for clinician researchers

Background

A gap in knowledge this project sought to address is whether clinical researchers had adequate opportunities through existing funding models to sustain an active research career. In addition to surveying clinician researchers, a desktop analysis of Australian and international funding opportunities and organisations targeting clinician researchers was undertaken. This was done to gain a better picture of the funding programs that may be available to replace, or enhance, NHMRC, Australian Research Council (ARC) and Medical Research Future Fund (MRFF) funding.

While not intended to be exhaustive, overall findings of the analysis indicate that clinician researchers in Australia are eligible for a wide range of grants that vary in value and duration. Funding amounts ranged significantly from single grants valued around \$1000 to grants valued at over \$1 million over a number of years.

Most grants and funding opportunities were offered to early to mid-career researchers that were within five years of completing their PhD. Very few grant opportunities are targeted to senior researchers, with many schemes actively disqualifying this cohort from applying.

There is some evidence that clinician researchers are approaching smaller funding organisations and philanthropic donations to enter into a research career or maintain research projects long term.

Over 57 organisations were identified that provide funding for clinician research. Some of the organisation types that offer funding opportunities relevant to clinician researchers in Australia are:

- hospitals (e.g. The Royal Melbourne Hospital – The RMH Allan Watt and Chris Geyer Oncology Fellowship, The RMH DW Keir Fellowship in Medical Research)
- not-for-profit organisations (e.g. MS Research Australia – MS Research Australia Translational Research Grants)
- universities (e.g. University of Melbourne – CR Roper Fellowship, David Bickhart Clinician Research Fellowship, Winter and Glover Fellowship)
- membership based organisations (e.g. The Royal Australian College of Psychiatrists – Aboriginal and Torres Strait Islander Congress Grants)
- medical research institutes (e.g. [ANZAC Research Institute – Summer Research Scholarships](#))
- philanthropic groups (e.g. The CASS Foundation – Medicine/ Science grants)
- state governments (e.g. Queensland Health – Health Practitioner Research scheme).

We also looked at a number of funding schemes from international sources and found that while there is predictable variation in the career pathways for clinician researchers internationally, there are a number of components of success that various jurisdictions have identified when it comes to training and career pathway models – many of which have been highlighted as gaps in this research project. These components are outlined in Table 5.

Table 5: Common components of success in international training and career pathway models in clinician research

Components	Focus
Establish long-term mentoring program early in study and training	Mentoring
Implement supports to assist workplaces in supporting clinician researcher roles (research and clinical workplace)	Organisational support
Provide clear and centralised information on training programs and career pathway options	Central information point
Establish research skills and research opportunities early in training	Research skill development
Advocate for clinician researchers within clinical and research workplace	Advocacy
Implement protected research time during training and throughout career	Protected research time

3.7 Recommendations

In response to the issues raised in Section four of this report HTAC makes the following recommendations.

1. Professional colleges to be encouraged to establish formal mentoring arrangements for their members considering a clinician researcher career.
2. NHMRC to seek the advice of the National Network for Aboriginal and Torres Strait Islander Health Researchers about the feasibility of a central information point for Aboriginal and Torres Strait Islander clinician researchers.
3. NHMRC to seek the advice of the National Network for Aboriginal and Torres Strait Islander Health Researchers to investigate the feasibility of establishing a national mentoring program for prospective and career Aboriginal and Torres Strait Islander clinician researchers.
4. NHMRC to encourage use of the term 'clinician researcher' to apply equally to people with medical, nursing or allied health qualifications.
5. NHMRC to contribute to a national round table led by the Australian Academy of Health and Medical Sciences with representatives of the education sector, medical research institutes, funders and professional bodies to determine appropriate training and core competencies for clinician researchers.
6. NHMRC to work with professional bodies to develop career pathway models for nursing, midwifery and allied health fields.

4. Appendices

4.1 Survey of Clinician Researchers, Survey Findings Report, July 2021

4.2 Telephone interviews report, July 2021

4.3 Aboriginal and Torres Strait Islander telephone interviews report, July 2021

