

Enablers and Barriers of Research Engagement Among Clinician Researchers: Nursing, Allied Health and Medical Professionals

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Background: In response to the increasing involvement of nursing, allied health and medical professionals in research within clinical service roles, understanding the varying research capacities across public health institutions and professions is crucial. This study aims to explore the lived experiences of conducting research among nursing, allied health and medical health professionals within a tertiary public hospital setting in New South Wales (NSW). The focus is on identifying barriers and enablers to research engagement.

Methods: Research active health professionals across nursing, allied health and medical professions were invited to participate in a semi-structured interview to discuss enablers and barriers experienced whilst conducting research. All interviews were transcribed verbatim, conceptual and thematic analysis of the interviews was conducted.

Results: Nine allied health professionals, eight nurses/midwives and thirteen medical officers were interviewed. Key themes were categorised as barriers or enablers. The ethics regulatory process was identified as a strong barrier in all professions, other commonly identified barriers were lack of time to conduct research and lack of funding. Researchers reported difficulties knowing where to obtain assistance and support when required. Mentorship was the most common enabler identified by all three professions. In addition, a positive research culture and organisational support and assistance within the organisation were seen as strong enablers.

Conclusion: This research provides insight into the barriers and enablers for active clinician researchers across three professional groups. We have identified priority areas to increase research capacity within our health care organisation and will focus on training in the ethics regulatory process and mentorship along with infrastructure support to strengthen the positive research culture across all professions.

Plain Language Summary: Research by healthcare professionals employed in publicly funded health services is encouraged across nursing/midwifery, allied health and medical professionals. This study sought to identify barriers and enablers to undertaking research for these healthcare professionals. Interviews were conducted with representatives from each of the professions. Barriers identified across all professional groups were inconsistencies and difficulties with the ethical regulatory process. Enablers such as a positive research culture within the institutions were found meaningful by the professional groups. This study will allow health organisations to tailor training and infrastructure support to all researchers.

Keywords: research capacity, allied health, nursing, medical, research culture

Introduction

Nursing, allied health and medical professionals are increasingly undertaking clinical research that informs clinically appropriate decision making and ultimately results in improved patient outcomes based on evidence.¹⁻³ The healthcare landscape is constantly evolving, with an increasing emphasis on evidence-based practice and research-informed decision

making. In addition to the improved health outcomes for patients,^{4–6} there is also substantial benefit to health professionals who undertake research. Research stimulates critical thinking, and improves skill sets, job satisfaction and career advancement opportunities.^{7–9}

Research capacity across different healthcare professions has been extensively studied, especially in the allied health profession.^{9–12} Tools such as the Research Capacity and Culture Tool (RCCT) are well validated and have been used to assess research capacity in a variety of settings.^{13,14} We have previously demonstrated a disparity in research capacity between health professionals who completed the RCCT in a large metropolitan teaching hospital in Sydney, Australia.¹⁵ Our study highlighted that medical professionals were much more confident in their own research capacity (RCCT score 6.3/10) compared with allied health (RCCT score 5.3/10) and nursing (RCCT score 4.5/10) this was statistically significant difference (p value <0.001 after adjusting for age and gender). In Victoria, Australia a similar result was demonstrated with marked differences across professional groups.¹⁶ Raschke et al demonstrated differences in research capacity between metropolitan and non-metropolitan health districts, in a state-wide survey of NSW.¹⁷ More recently, an assessment of research capacity of allied health professionals in the private hospital sector performed by Rathi et al concluded that the barriers and enablers were the same as the public hospital system.¹⁸

A positive research culture within a healthcare service will lead to greater engagement in research within the organisation.¹⁹ Research engagement among healthcare professionals is essential for improving patient outcomes, developing new treatments, and enhancing healthcare services. However, research capacity and culture vary across different healthcare professions. Balasubramanian et al concluded that developing a positive research culture should involve all health disciplines; nursing, allied health and medicine, and ongoing research education would be essential.²⁰ Research training and education aimed at clinicians was also shown to be an enabler in the careers of allied health, nursing and medical professionals, both in undergraduates and as new graduates beginning their career in the health profession.^{21,22}

Nursing research capacity building has recently been investigated by Johnson et al in Australia, evaluating a local pathway to support research capacity building.²³ The researchers concluded that a loss of the dual role (clinician and researcher) had occurred in the nursing profession, whilst other health profession groups such as medicine and allied health had not experienced this loss to the same extent. They stress the importance of establishing clear career pathways across all professions to build research capacity and improve organisational research culture.

Qualitative research utilising interviews has been recommended to more fully understand the research experience of health researchers in different health professions and to refine our understanding of enablers and support for researchers to be developed.²⁴ This study sought to explore the lived experience of allied health, nursing and medical health professionals conducting research in a tertiary hospital setting in NSW using semi-structured interviews with a focus on barriers and enablers. The findings of this study have important implications for healthcare policy, practice, and education. By identifying the barriers and enablers of research engagement among healthcare professionals, this study can inform strategies for building research capacity. The need to develop a better understanding of the barriers and enablers across all three professions will allow institutions to better understand the needs of the workforce.

Methods

Study Population

Nursing, allied health and medical officers who had previously led a research project within the health care organisation, Western Sydney Local Health District (WSLHD) were invited to participate in an interview. WSLHD is a highly research active organisation with over 2000 current research studies in progress. To identify the population of research active staff an audit was conducted of all approved research studies at WSLHD during the period 2017–2020. Studies were grouped in to three categories according to the lead Principal Investigator (PI) profession: allied health, nursing or medical. For nursing and allied health categories, randomly selected PI's were sent an invitation via email to participate in a semi-structured interview. Due to the large number of medical officer led studies, key informants²⁵ were selected by approaching each department across the organisation and requesting one nominee as a research lead to be interviewed.

The participants were asked to complete a questionnaire which included demographic and employment details (such as age, gender, place of work, team role, highest education qualification), and general research information (such as number of studies they have been involved with, roles with research projects, number of publications and type, impact of research locally).

Semi Structured Interview

A semi structured interview was conducted with each participant. Interviews were conducted over an 18 month period (September 2021–March 2023) They were asked to describe their research journey and identify the enablers and barriers throughout a research study for which they were the PI. The interviewer (SL) used a series of interview prompts to encourage discussion around all aspects of the research (see **Box 1** for details about the interview prompts). If a researcher did not discuss one of the items in the interview prompts, they were prompted at the end of the interview by SL asking a question such as “you didn’t mention xxx, did you want to discuss that aspect of your journey as well”. At the conclusion of each interview all participants were asked to identify “the easiest part of their research journey”, “the hardest part of the research journey” and “in what area they would have liked to have had more support”. All interviews were conducted by SL whose role at the time of the interviews was Manager of the Clinical Research Support Unit. Participants were informed that this research was part of a higher research degree (SL) and none of the participants were current colleagues or under the management of SL. Video conferencing was utilized for interviews due to COVID-19 restrictions on face-to-face interviews.

All interviews were recorded and transcribed verbatim by the lead researcher (SL). A full transcript was then sent to each participant to check for accuracy and make corrections if required. When no new themes were emerging for two consecutive interviews it was considered that data saturation was reached, and no further interviews were conducted within that profession.

Data Preparation and Analysis

Conceptual analysis and thematically coding of the interviews was conducted using NVivo (NVivo12 Pro: QSR International Pty Ltd, Massachusetts, USA). The themes and subthemes were developed within the broad framework

Box 1 Interview Prompts

Initial idea for research project
Development of research questions and aims of the study
Protocol design and planning
Collaboration
Funding, resources required
Ethics application
Governance application
Initiation of the project
Conduct of the study
Data recording and data entry
Data analysis and interpretation
Preparation of manuscript/ policy
Reporting during the study to regulatory authorities
Impact of research
Time to complete the study

provided by the semi structured interview schedule. All interviews were initially thematically coded by one researcher, and these were discussed with all authors. Additional review of all coding was undertaken periodically by all authors to ensure themes were relevant and consistent. Analysis of the interviews was based on the six steps of reflexive thematic analysis outlined by Braun and Clarke:²⁶ familiarisation with the dataset, coding, generating initial themes, developing and reviewing themes, refining, defining and naming themes and producing the report. Field notes were used for reference during the coding and familiarisation with the dataset.

Ethical Considerations

Ethical approval for the study was obtained from the WSLHD Human Research Ethics Committee (Local Reference 2019/ETH01962 - 5842). Written informed consent was obtained from all participants prior to interview, all participants gave consent for anonymized data collected during interviews to be published. All interviews and transcriptions were de-identified and stored securely within WSLHD.

Results

Invitations to participate in an interview were sent to 21 allied health professionals, 30 nursing/midwifery professionals and 57 department heads who were asked to nominate a medical research lead. Overall, 30 interviews were conducted: nine allied health professionals, eight nurses/midwives and thirteen medical officers. Interviews ranged in length from 27–65 minutes (mean 44 minutes) for allied health, 19–51 minutes (mean 36 minutes) for nursing/midwifery, and 28–63 minutes (mean 41 minutes) for medical staff.

Sample Characteristics

The group characteristics are presented in Table 1. The groups differed by profession with more females in the nursing and allied health groups compared to the medical group.

Table 1 Group Demographics

	Allied Health (n=9)	Nursing (n=8)	Medical Officer (n=13)
Age (mean \pm SD), years	51 \pm 7	56.5 \pm 5	54.7 \pm 8.3
Gender	7 Females / 2 Males	8 Females	3 Females / 10 Males
Highest education	Bachelor = 2 Masters = 5 PhD = 2	Masters = 4 PhD = 4	FRACP = 4 PhD = 9
Number of research studies	<10 = 4 11–50 = 5 >50 = 0	<10 = 1 11–50 = 7 >50 = 0	<10 = 2 11–50 = 4 >50 = 7
Publications (journal articles)	0 = 3 1–10 = 3 11–50 = 3	0 = 0 1–10 = 5 11–50 = 3	0 = 0 1–10 = 3 11–50 = 3 51–100 = 3 >101 = 4
Research resulted in change of practice	Yes = 5 No = 2 Unsure = 2	Yes = 6 No = 0 Unsure = 2	Yes = 10 No = 2 Unsure = 1

Abbreviation: FRACP- Fellowship Royal Australia College of Physicians.

Findings

Barriers to Research -Researcher Perspectives

Six key themes on barriers were identified.

I - Ethics Regulatory Process

The majority of researchers reported frustration and difficulty locating information on the process, with responses highlighting difficulties faced seeking assistance, "...there is an intranet site, I do go on there to find documents that I might need, but sometimes I find it is not user friendly." (AH-02) and "... I went to get advice. And what I found frustrating at the time is that the advice can be quite vague, and in many ways, it makes things more complicated". (N-09). Frustration when seeking advice also highlighted the differences between Research Office staff and researchers. "... I think one of the biggest barriers I find is actually what the people in the Research Office see is different to what I see as a user". (MO-01).

The ethical review process was commonly found to be confusing, with significant delays. One researcher explaining the confusion faced,

...I would have to say at least nine months, it was going to and fro and we had no idea, we had put in ethics stuff before, and it would just go through or there'd be some wait... we actually felt like we were dealing with so many different people that it was confusing, and I needed someone to take me through the process. (AH-06)

One experienced researcher who has conducted greater than 14 research projects raised issues around the consistency of ethical review and feedback received from reviewers, "... For me, the biggest thing was the inconsistency, inconsistency between what I heard from different people within the office and what I heard from different people who've done similar things". (N-09). Another report from the medical profession

... So I think the lack of consistency I guess is a problem with the Ethics Committee. I mean, it could just be me and it could just be bad luck but knowing that other people had similar projects approved... really sort of reduces the motivation that you have and it's quite disappointing. (MO-012)

The ethics regulatory process often resulted in frustration which in turn led to reluctance to continue:

.... The other frustrating thing from my own experience is to get, you know ethics approval, you literally almost have to donate a body part to get things approved sometimes. It's so, so frustrating. (MO-06)

Furthermore, researchers often reported submission to another ethics committee at either a different LHD or through the University ethics review process was an enabler:

...more recently, I've been involved in projects that we've done ethics through the Uni's because it hasn't involved any patients. And that has been a breeze to get studies approved through the university ethics committees. (AH-07)

II - Lack of Time

Another common theme through all professional groups was lack of time to conduct research. Busy clinical workload and a lack of support from senior management was cited as a barrier. We identified this as a theme across all professions,

... We don't have research built into our clinical roles really, to be able to say I can do research for an hour today out of my 8 hours, it just doesn't happen. (AH-02) ... I think that depends on the person a lot, but I think the biggest barrier I hear is I don't have enough time on top of my role. (N-06)

And ... barriers to research really are the busy clinical workload that's the key one that everyone comes up with that really we don't have any time quarantined to do research. We have to do it out of hours, usually weekends and or somehow squeeze things in. (MO-03)

III - Support and Recognition

Management support for research was identified as a barrier more commonly in the nursing profession than allied health or medical. "... The other thing is, you know, having that support from your manager to let you have time to write lets

you have time to do the research, and that sort of stuff". (N-08). Hierarchical support for researchers, through rostering of quarantined research time would demonstrate recognition of the value of research.

Recognition was a barrier identified predominantly reported by allied health and nursing professionals.

...I absolutely think that I needed more nursing support ... you could feel very isolated doing this. And support from people who really understand the process would be nice. I had a few people who understood what was going on and that's really nice. But most people I think have no idea what the journey is like or even what the outcome of the journey is. And yeah, a little bit more showcasing of research, nursing research, I think would be good. (N-04)

and ...I think just recognition within a department level about the time that it takes to do research and there's a difference between this being an expectation and putting it on someone's job description, to then actually enabling that by dedicating time available for that. (AH-01)

IV – the Difficulty of Obtaining External Funding

All professions reported difficulty initiating research due to the lack of funding "...it just sort of fizzled and gone nowhere as there is no funding to support it". (AH-02). It was also noted specifically the difficulties faced by early career researchers,

...I haven't started this study because I do need the money, I cannot start without the money. It's really challenging to get the funds, especially NHMRC that is targeted at academic people who are already university people who have already received millions of dollars of funds. And there is very minimal opportunity for early or mid-career researchers. (N-02)

The difficulties faced by researchers to obtain funding has led to a degree of apathy with some researchers not even wanting to apply

...I've never written. That might sound weird, but I've really never written grant applications because I didn't see the point. Because as you know, the success rate is so low for the major funding organizations. (MO-02)

V - Collaboration

Researchers often expressed difficulties knowing who to collaborate with or how to locate collaborators. One medical officer reported,

...Within the LHD organization, finding the right people to talk to when you want to achieve something. You want to set up a research project with certain departments it's not always very clear who the go-to person is, and it's not always easy to find. (M-013)

Nursing also reporting difficulty contacting the right person to collaborate with

... I tried and emailed and humbly knocked on her Email box door about supervision and I wasn't sure how to contact this grand professor that I was told to contact. (N-03)

Even once a project is set up difficulty working with collaborators can be challenging

... It's complicated, collaborating with other people. It's really important to know who's responsible for what, and as a project coordinator it's a challenge sometimes delegating that task out and knowing who to delegate it to. (AH-04)

VI - Research Culture

When conducting research, a negative or poor research culture can influence the ability to conduct the research. For example, one of the nursing staff in the current study said

...I can talk about the nurses and the midwives, they really were not much into research, and they thought that research, it's something separated from their practice. And they didn't value and didn't appreciate the input from research into their practice, and they didn't appreciate that, what they do now for the patients is based on the research that has been done or is being done or will be done. (N-02)

A lack of interest in research was expressed with comments such as

...There's lots of people who are very positive, but some say 'I could help you, but I don't want to' there is no other reason. I just don't want to. That I find really difficult. (N-09)

Whilst there is overarching support of research being conducted, the translation of that concept into support for research is often lost "... It is really difficult when everyone does lip service and we say we are committed to research, but on the ground what does that mean". (AH-02)

Medical officers reported the issue of mentorship and difficulty being open to the concept of mentorship when they are already a staff specialist. One medical officer who is a research lead for a very research active department reported,

... So the main barrier is sort of the willingness from people to actually be mentored and ... probably the biggest driver of that is that, people seriously start doing academic work only when they are a consultant, so they feel quite senior already. And then actually, allowing yourself to be mentored from you know a sort of a starting level again. Can be quite hard so you really need a personality that that sort of allows you to do that. (MO-013)

Enablers to Research -Researcher Perspectives

Four key themes on enablers were identified.

I - Mentorship

One of the biggest enablers reported by the majority of researchers across all professions was having a mentor or working in a team with more experienced researchers. Allied health researchers reported setting up an internal mentorship programme within departments "... We are trying to set up researchers within our department to help mentor others who are keen on research. Internal mentorship". (AH-08) and

...The best thing is probably having a mentor, someone to sit with you all the way and take you through the whole process or the process you just outlined, have a mentor who can teach and take you all the way through the processes would be fantastic. (AH-08)

Both nursing and medical also reported the benefits of a mentorship programme

...it's really important in terms of linking them up early on with somebody so one of our researchers is working closely with them. So, it's looking at who can we link them up with in the beginning, what can we put around them to support them to move forward. (N-06)

and ...I think maybe demystifying it somehow by sort of showing or having, you know, people as sort of seen as leaders in the area that can actually help younger researchers. And so maybe that they could be done within each department. (MO-007)

II - Research Environment/ Research Culture

One of the strong themes across all three health professions highlighted the benefits of working and conducting research in an institution that has a reputation for quality research. This was especially evident in the medical profession

...the good thing about the (Western Sydney) local health district, is that there are, you know, there's a huge number of very accomplished, very renowned clinicians and researchers. (MO-012)

Indeed, it is seen as a strong enabler with comments such as

...So that's been the easy part because I think at the hospital, you know, everyone is I guess very pro research. So, it's a really good environment to do any type of research. (MO-012)

A positive research culture of collaboration was expressed by nursing staff

...I've found that collaborative process really enjoyable and very supportive and enthusiastic to have any nursing or midwifery staff who are who are interested in research and they're always mostly supportive and encouraging, and really give their time in a very generous manner. (N-01)

A common comment regarded the importance of finding researchers to work with "...I found the biggest enablers I can think of in the LHD for research has been the people connection, knowing the right people to ask the right question of, often sets off a chain." (AH-02)

Researchers report that finding researchers to work together with as a major enabler,

...I think that's been the part that I absolutely enjoyed the most. It's great working with people, once you find who your new research friends areand just realizing there's just so much rich knowledge out there to tap into, collaborating with people, partnering with people, Research and Education Network people and at the university. (AH-04)

Some participants reported a change in attitude towards research within the LHD and a positive shift in the research culture

...It's been good, as I said, that the research culture is improving. Lots of presentations, lots of in-services, and more awareness and more trainings, the staff are getting more open to research and to supporting research. (N-02)

III - Funding

One of the strongest enablers for all three professions was the availability of funding both from within the organisation or external. This allowed researchers to focus on their projects and be released from clinical workload, leading to completion of projects. Researchers reported the benefits of receiving funding to enable research

...Things like the Kickstarter grants is great because, unless you have funding, where you can quarantine time to do research, I think it's really difficult to actually find time to do it. (AH-07)

Nursing researchers explained the benefits of funding available to release them from clinical workload,

...I was able to work on my PhD away from the clinical area. So, one day a week initially, and then that increased to two days a week. And that was really helpful, because it helped to accelerate things as well and it helped with things like transcribing interviews, etc. And it allowed you to really get into your PhD. (N-04)

IV - Support/Assistance

Researchers reported that receiving support from management was an important element in the success of the research project. Allied health professionals reported that they felt privileged to be supported by management "...I'm very lucky that I work in a department where these types of ideas and projects are really encouraged." (AH-04). This was also reported in nursing "...I don't think I could have had more support to be honest, it was, I felt really well supported all the way through it, positive experience" (N-06).

Knowing where to find support or assistance for researchers was also a significant theme. The Research & Education Network (REN) has built up a network of support including: statistical, finance, grant applications, regulatory support and general research advice. REN have established mailing lists to improve communication with researchers and increased awareness of the supports available. This was well received by researchers with a strong theme identifying the positive assistance and support. Allied health reported utilising services of statistical support as an enabler ... to have that statistician support, because that's something I've definitely utilised a lot so that's great" (AH-07). Nursing professionals spoke about the connections and looping in with the right support,

... I think it's about being connected in some way so I know REN puts out lots of emails, they have an emailing list, so once you get onto that mailing list, you get lots of information but prior to being part of the research I wasn't part of any of that so I wouldn't have known that all of that existed. (N-06)

Simply ideas such as registering for an Email mailing list is seen as an enabler to ensure researchers remain up to date with support available. Nurses expressed that their research journey was difficult as they did not know what support was available

...I think my journey could have been a lot easier if there was infrastructure at the time and support here....somebody to actually look at it (protocol) and tell me I am on the right track. (N-09)

Medical professionals reported learning who to go to for assistance within the organisation was tremendously helpful,

... Thinking about our research projects for me, I had to learn to know people and learn to know the organisation and to be able to actually contact the right people. In terms of different departments and in terms of REN is easier because once you start talking to you people you know you get a lot of help, and a lot of direction in who to contact next. (MO-013)

Discussion

This study explored the lived experiences of experienced researchers across nursing, allied health and medical professionals, highlighting enablers and barriers for the conduct of research in a large teaching hospital in metropolitan Sydney, Australia. Western Sydney Local Health District is highly active research driven teaching hospital with over 2000 active research projects.

Six main barriers were expressed by researchers: ethics regulatory process, lack of time, support/recognition, funding, collaboration and research culture. The ethics regulatory process was the strongest theme emerging from the interviews, with this being raised as a barrier by the majority of researchers interviewed across all three professions. The process of ethical review has been raised by several studies previously,²⁷⁻²⁹ with authors highlighting inconsistencies and inadequate training for both ethics committees and researchers. Inconsistencies in the review process have also previously been identified as a barrier to the conduct of research.^{30,31} This corroborates findings from the current study: "The consistency seems to be not there, we can submit something of a similar topic. One can get rejected and one can get approved." (MO-009). National standards and training for ethics committees (over 200) in Australia is currently being addressed with an update to the National Statement on Ethical Conduct in Human Research.³² Whilst this may address inconsistencies in the review process, researcher training around the ethics regulatory process is currently lacking, especially for novice researchers. Researchers within this study often report difficulties in knowing where to go to obtain assistance and support.

Support and recognition for researchers within health was raised as an issue across both nursing and allied health professions, more so than medical officers. Medical officers often require active research participation as a mandatory part of their advanced trainee career pathway³³ and therefore may be better supported by Heads of Department compared with nursing and allied health. It is not until nursing or allied health professionals are appointed to more senior roles that research becomes part of the role responsibilities. Support/recognition and collaboration were barriers more commonly identified by nursing and allied health professionals compared with medical professionals. The enablers were identified equally by all three professions except for funding which was not identified by medical officers as an enabler, setting them apart from the other professions.

Not unexpectedly, lack of time to conduct research was a common theme across all three health professions. This theme has been repeatedly referenced in the existing literature and is not uncommon among clinician researchers globally.³⁴⁻³⁶ A recent publication exploring nursing and midwifery clinical researcher career pathways identified challenges for nurses and midwives in balancing a clinical and research role and the need for protected time.²³ This study also highlighted lack of time with researchers reportedly completing their research outside of rostered hours and on weekends.

The enablers identified in this study included: research culture, funding provided by the employing healthcare organisation or external, support/assistance and mentorship. A positive research culture within an organisation has been shown to improve organisational performance with higher levels of patient satisfaction, decreased mortality rates and reduced staff turnover.⁶ Organisations need to build research culture through research training and subsequent development of skills to increase the research capacity for all health professionals.

This study reported research culture as both an enabler and a barrier. This may be department or profession dependent. Another facet of a positive research culture is research infrastructure support, this can be used to assist and train researchers across all health professions, although this may need to be tailored to specific needs. Researchers also need to be aware of where to find the infrastructure support within their organisation. A recent study in Australia, identified capacity building as an enabler for nurses and midwives, this study proposed training on research processes was needed to build confidence in nurses and midwives.³⁷

Funding was also identified as both an enabler and a barrier. Obviously, funding was considered an enabler when awarded, allowing researchers to backfill clinical roles to free up time for research. Internal small grants provide novice researchers the support to complete early career research projects. This provides a scaffold for early career researcher capability and can progress research ideas to a stage where they can apply for competitive external grants. A barrier commonly reported to inhibit the conduct of research was lack of funding, this is not unique to this health district but indeed to researchers globally.

Mentorship for researchers can be beneficial for the novice researcher, the more experienced researcher and the institution, with the development of skills to ensure research standards are upheld and research integrity is maintained. Careful consideration to select appropriate mentors needs to be part of early career training for researchers. Institutions may choose to set criteria for mentors such as clinical knowledge in the area under study, minimum research skillset and, importantly, experience within the institution³⁸ Interdisciplinary collaboration has been reported as enhancing the entire research project and generates benefits beyond the specific project in a study involving over 150 dietitians.³⁹ The establishment of a mentor programme for researcher should consider the possible benefits of collaboration by linking mentors across professions.

Many studies have developed a framework for increasing and/or assessing research capacity and culture, these have been developed for use in research institutes⁴⁰ or in individual professions such as allied health⁴¹ and nursing/midwifery.⁴² Cook et al developed a framework for increasing research capacity, they identified six principles of research capacity building. One of the principles identified “appropriate infrastructures enhance research capacity” discussed the importance that infrastructure includes structures and processes that are set up to enable the smooth and effective running of research projects. The results of our study align with this principal and highlight the importance of both training and effective communication regarding research to all clinicians.

Luckson et al studied the research culture in nurses and allied health professionals and identified crucial communication issues were hampering the research culture, especially lack of skills and knowledge about research.⁴³ This infrastructure research support from institutions may be available, but not well communicated to all levels of employees especially novice researchers.

A strength of this study is that the interviews were conducted with mostly experienced clinician researchers who had conducted many previous research studies. Therefore, the majority of issues identified were for experienced researchers, but we would expect that they would be similar if not more so for novice researchers.

This study was conducted at one single health care organisation in Sydney, Australia; however, it is a major teaching hospital, and the results of this study are likely to be applicable to similar organisations in NSW. All interviews were conducted by one researcher (SL) to ensure a consistent approach to all interviews. Although SL may have been known to many of the research participants, none of them were colleagues or had worked directly with SL.

The inclusion of all three health professions in this study is considered a major strength since previous studies have examined individual professions. This study identified that many of the themes are common across all three professions. The themes identified can be address in cross-professional training and infrastructure support. A recent scoping review⁴⁴ concludes that research education is the cornerstone for research capacity building for nurses and allied health professionals. They suggest strategies targeted at the organisational level can be integrated into research education programs, assisting both individual researchers and the building of organisational research culture.

Organisations should consider regularly consulting with both experienced and early career researchers to understand the barriers and enablers they face. These barriers are likely to change over time for a variety of reasons such as changing systems or policies. Appointment of conjoint academic positions have been highly successful in increasing research capacity, along with research fellowships. A recent position statement from the Professors of Allied Health across Australia identified

a need for increased research training to enable allied health clinicians to integrate research into their clinical roles.⁴⁵ These points reiterate the need for improved communication and training within organisations. Organisations should orient clinicians to the research infrastructure supports available early during a clinician's employment.

Organisations could implement regular RCCT assessments for all clinicians and based on results adapt training to suit the changing needs of both individuals and teams. Regular consultation with researchers could further identify issues, this could be performed via a smaller organisational-based survey or face-to-face interviews such as this study.

Conclusion

To our knowledge this is the first qualitative research that has interviewed research active investigators across the three professions: nursing, allied health and medical. Previous studies have focussed on individual professions^{19,22} or senior management.^{36,46}

A major issue identified in this study is the lack of researcher training and availability of research infrastructure support. This will be the focus of future work within our organisation. To build on the findings from this study, we intend to develop an orientation training package to highlight resources available for all researchers within our organisation based on key barriers identified. We will assess baseline knowledge of resources available for new research staff appointed and then re-assess knowledge post orientation, in addition to a three month follow up to assess staff engagement with the support services on offer. With the aim to establish and promote a positive research culture, organisationally appropriate targeted training and resources should be available to both novice and established researchers.

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Disclosure

The authors report no conflicts of interest in this work.

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