Received: 25 February 2024 | Revised: 28 May 2024 | Accepted: 15 June 2024

DOI: 10.1111/jan.16307

EMPIRICAL RESEARCH QUALITATIVE

JAN Leading Global Nursing Research | WILEY

Pre-implementation context and implementation approach for a nursing and midwifery clinician researcher career pathway: A qualitative study

Maree Johnson[1,2] | Nicola Straiton[1,2] | Caleb Ferguson[3] | Elizabeth Mcinnes[1,2] | Anna Thornton[1,4] | Browyn Everett[5] | Karen Tuqiri[6] | Shahla Meedya[1] | Kate Hackett[6] | Marilyn Cruickshank[5,7] | Margaret Fry[5,8] | Lin Perry[5] | Suzanne Sheppard-Law[5,6] | Annmarie Hosie[4,9] | Sally Inglis[5] | Gemma Mcerlean[3,10] | Deborah Debono[5] | Ritin Fernandez[11] | Rochelle Wynne[12,13] | Josephine Chow[10] | Louise Hickman[3] | Gail Del Olmo[14] | Sandy Middleton[1,2] | on behalf of SPHERE Nursing and Midwifery Implementation Science Academy

[1]School of Nursing, Midwifery and Paramedicine, Australian Catholic University, Sydney, New South Wales, Australia

[2]Nursing Research Institute, St Vincent's Health Network Sydney, St. Vincent's Hospital Melbourne and Australian Catholic University, Sydney, New South Wales, Australia

[3]University of Wollongong, Wollongong, New South Wales, Australia

[4]St Vincent's Health Network Sydney, Sydney, New South Wales, Australia

[5]University of Technology Sydney, Sydney, New South Wales, Australia

[6]South Eastern Sydney Local Health District, Sydney, New South Wales, Australia

[7]Sydney Children's Hospital Network, Sydney, New South Wales, Australia

[8]North Sydney Local Health District, Sydney, New South Wales, Australia

[9]University of Notre Dame, Notre Dame, New South Wales, Australia

[10]South Western Sydney Local Health District, Sydney, New South Wales, Australia

[11]The University of Newcastle, Newcastle, New South Wales, Australia

[12]Western Sydney University, Sydney, New South Wales, Australia

Abstract

Aim: To describe the pre-implementation context and implementation approach, for a clinician researcher career pathway.

Background: Clinician researchers across all health disciplines are emerging to radically influence practice change and improve patient outcomes. Yet, to date, there are limited clinician researcher career pathways embedded in clinical practice for nurses and midwives.

Methods: A qualitative descriptive design was used.

Data Sources: Data were collected from four online focus groups and four interviews of health consumers, nursing and midwifery clinicians, and nursing unit managers ($N = 20$) between July 2022 and September 2023.

Results: Thematic and content analysis identified themes/categories relating to: Research in health professionals' roles and nursing and midwifery, and Research activity and culture (context); with implementation approaches within coherence, cognitive participation, collective action and reflexive monitoring (Normalization Process Theory).

Conclusions: The Pathway was perceived to meet organizational objectives with the potential to create significant cultural change in nursing and midwifery. Backfilling of protected research time was essential.

Implications for the Profession and/or Patient Care: The Pathway was seen as an instrument to empower staff, foster staff retention and extend research opportunities to every nurse and midwife, while improving patient experiences and outcomes.

Impact: Clinicians, consumers and managers fully supported the implementation of clinician researchers with this Pathway. The Pathway could engage all clinicians in

[13]School of Nursing & Midwifery, Deakin University, Geelong, Victoria, Australia

[14]New South Wales Ministry of Health, St Leonards, New South Wales, Australia

Correspondence
Sandy Middleton, Level 5, deLacy Building, St Vincent's Hospital Sydney, 390 Victoria Street, Darlinghurst, NSW 2010, Australia.
Email: sandy.middleton@acu.edu.au

evidence-based practice with a clinician researcher leader, effect practice change with colleagues and enhance patient outcomes.

Reporting Method: This study adheres to relevant EQUATOR guidelines using the COREG checklist.

Patient or Public Contribution: Health consumers involved in this research as participants, did not contribute to the design or conduct of the study, analysis or interpretation of the data, or in the preparation of the manuscript.

KEYWORDS
clinical academic, clinician researcher, clinician scientist, consumer, implementation, midwife, midwifery, nurse, nursing, professional pathway

1 | INTRODUCTION

Globally, clinician researchers (also referred to as clinical academics) across all health professions, are emerging and they are well-placed to accelerate the growth and development of evidence-informed practice to improve patient outcomes (Edelman et al., 2021; Newington et al., 2021). Clinician researchers are defined as: a clinician who 'conducts research and provides direct clinical services, in any setting, under a formal work arrangement, although not necessarily for the same organization' (NHMRC, 2021; p. 3). The creation of clinician researcher positions, within nursing and midwifery in Australia, is urgently needed to facilitate practice change, and potentially enhance staff recruitment and retention (Newington et al., 2021), while reducing health care costs (Eckert et al., 2022).

Although there has been academic-clinical collaboration at the senior professorial level in Australia, for 25 years, these positions remain small in number, with poor project funding and no supportive career pathway for early career researchers (Carrick-Sen et al., 2019). There is also continuing low research capacity and capability of nurses or midwives to conduct or translate research into practice; 7% of nurses and midwives were found to hold a research higher degree (Masters by Research or PhD) compared to 36% of medical staff (Lee et al., 2020). Low numbers of suitably prepared nurses and midwives, also contribute to the ongoing inequities in the allocation of national competitive research grants within Australia, with only 5% of NHMRC grants funded for clinical trials networks involving nursing or midwifery research (Eckert et al., 2022). To address these concerns, a career pathway has been developed as a first critical step to increase the number of clinician researchers within our health services (Edelman et al., 2021). This study sought to explore the next stage of this development, the pre-implementation context and implementation strategies required for the rapid adoption of Maridulu Budyari Gumal Sydney Partnership for Health, Education, Research and Enterprise (SPHERE) Nursing and Midwifery Clinician Researcher Career Pathway in Australian health services. Knowledge gained from this study may provide insights for international health service leaders, academics and policy makers, on important health consumer, clinician and manager perspectives on clinician researcher career pathways and how these clinician researchers could be sustainably embedded within health services.

What does this manuscript contribute to the wider global clinical community?

- Clinicians, health consumers and managers, examined the clinician researcher role and its challenges, emphasizing the need for research time for all clinicians and managers relative to their contribution to the research endeavour.
- A 'whole-of-unit' approach, to achieving research-informed practice change, including clinician researchers, other clinical staff and managers, is presented for consideration by health executives, unit managers and policy makers.
- Clinicians and managers provided key insights on how to manage protected research time within the clinical environment.

Health consumers confirmed the need to make nursing and midwifery research more visible with the promotion of studies within the clinician setting.

2 | BACKGROUND

Over the last decade, several clinician researcher pathways have been implemented within the United Kingdom (UK) (Henshall et al., 2021): clinical academic pathways focused on National Health Services research priorities (Westwood et al., 2018), Scotland's Clinical Academic Research Career (Upton et al., 2013) and Wales' Research Capability Building Collaboration and Knowledge Economy Skills Scholarships (Hiley et al., 2019), and The National Institute for Health Research (NIHR) sponsored 'Integrated Clinical Academic Programme' (ICAP) (Carrick-Sen et al., 2016). The most contemporary Australian clinician

researcher pathway—The SPHERE Nursing and Midwifery Clinician Researcher Career Pathway (Johnson et al., 2023) (referred to hereafter as the Pathway)—consists of three major components: *Support Programmes* (Internship, Transitions and Mentorship), *Training Opportunities* (Scholarships for Honours, Masters by Research and Doctoral Studies) and *Fellowships* (Level 1[early career researcher] to Level 4 [established researcher, Professorial Chair]) (Figure 1). The benefits of clinician researcher positions have been previously described (Johnson et al., 2023; Trusson et al., 2019).

A study of the acceptability of this Pathway found support from senior nursing executives and academic researchers for the intention of the Pathway (Johnson et al., 2023). Importantly, study participants perceived that if the Pathway was implemented, it could 're-integrate' the clinician researcher role by 'growing and establishing clinician researchers over a generation' (Johnson et al., 2023; p. 1). However, clinicians', unit managers' and health consumers' perspectives of the pathway, were needed.

Several evaluations of the UK programmes highlighted issues potentially affecting the implementation and sustainability of this pathway. Using a survey and interviews with nurses, midwives and allied health professionals, Trusson et al. (2019) found that older recipients (with mortgages and children) required fully funded doctoral support, noting they could not undertake further studies on a basic stipend (Trusson et al., 2019). Other researchers found doctoral respondents awarded a fellowship (79%) were more frequently engaged in research compared with unsuccessful applicants (65%) (Avery et al., 2021). There was also a considerable group of successful doctoral fellowship recipients subsequently employed within universities (post-doctoral [11; 52%] and doctoral [8; 33%]). Five doctoral respondents (20.8%) returned to their previous positions, often without any further research opportunities (Trusson et al., 2019). Difficulties with receiving protected research time were emphasized, with managers being unable or unwilling to provide release time, or not valuing research (Trusson et al., 2019). Given these difficulties identified by recipients, careful examination of the current context and identification of implementation approaches that could facilitate the adoption of the Pathway, and indirectly the acceptance of clinician researchers, were required.

Implementation science, which addresses the gap between research evidence and real-world implementation (Colditz & Emmons, 2018), provides an opportunity to drive the implementation approach for this pathway. As advocated by Murray (2010), use of an established framework such as the normalization process theory (NPT) is recommended to study the pre-implementation context and implementation processes prior to implementation (Murray, 2010). To our knowledge, no published study has been conducted with health consumers, clinicians and managers relating to the potential benefits and required organizational changes (pre-implementation context and implementation approach) to facilitate the integration of this pathway and the related clinician researcher positions, within health services.

3 | THE STUDY

Our study aimed to describe the pre-implementation context and implementation approach for this Pathway, from the viewpoint of potential beneficiaries and users (change actors) of the Pathway—health consumers, nurses and midwives, and nursing unit managers (NUMs), from Local Health Districts [LHDs].

Research questions addressed included:

1. What are the organizational and relational aspects of the pre-implementation context—existing research roles, current research activity and culture at the ward/unit level—from the perspective of health consumers, nurses and midwives, and nursing unit managers (NUMs)?
2. Do health consumers, nurses and midwives, and NUMs perceive the Pathway and the role of clinician researchers as beneficial to the profession, their practice, and likely to deliver better patient outcomes?
3. What are the implementation processes, required to support the early adoption and sustainability of clinician researchers, initiated from this Pathway?

4 | METHOD

4.1 | Design

A qualitative descriptive design was used in this research (Sandelowski, 2000).

4.2 | Theoretical orientation

Theoretical frameworks and theories, applied to implementation research, can facilitate the identification of critical elements of the implementation process that may be otherwise overlooked (Nilsen & Birken, 2020). As the Pathway is a complex change to professional practice, a theoretical orientation such as the normalization process theory (NPT) (May & Finch, 2009), which considers the sociocultural context of change—'organization context, structures, social norms, group processes and conventions' (Murray et al., 2010; p. 2.) was selected. There are four 'generative mechanisms' or implementation processes (May & Finch, 2009; p. 540), within NPT: Coherence ('meaning or sense making') Cognitive Participation ('commitment or engagement'), Collective Action ('work done to enable the intervention to happen') and Reflexive Monitoring ('formal and informal appraisal of the benefits and costs of the intervention') (Murray, 2010; p. 1–11). NPT implementation processes were considered within the selected interview questions and also applied to these data while acknowledging that these mechanisms interact within an implementation strategy (May et al., 2016). Generative mechanisms were used to structure the themes in the data relating to the implementation processes.

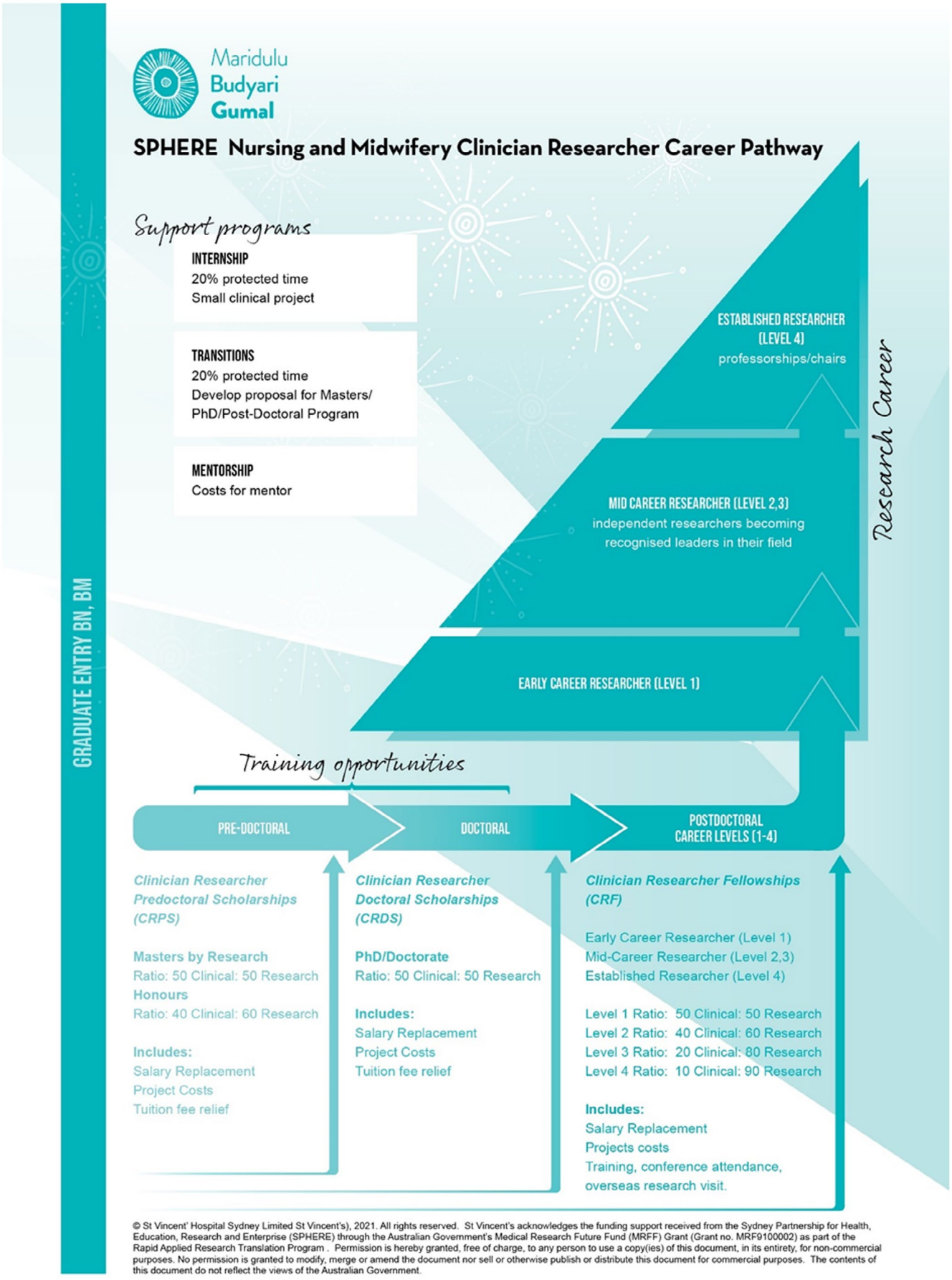

FIGURE 1 Maridulu Budyari Gumal SPHERE Nursing and Midwifery Clinician Researcher Career Pathway.

4.3 | Study setting and recruitment

Purposive sampling was used, as shown in Table 1, to include nurses and midwives who were engaged in research (leading studies or collecting data) as well as those who were not, and health consumers. Clinicians and health consumers were recruited through approved invitation materials—emails, participant information sheets and flyers. These materials were distributed through local health district communication channels (hospital emails and newsletters) for clinicians and by a key health consumer by email to known health consumers. By responding to the study invitation via email, implied consent was confirmed and a demographic survey was completed and focus groups/interviews arranged.

4.4 | Data collection

Data were collected at two time periods: heath consumers in July 2022, other participants in August and September 2023. Four online focus groups and four online semi-structured interviews, ranging from 34 to 52 min, were conducted by an experienced PhD-prepared qualitative researcher (MJ). Focus groups and interviews were digitally recorded and professionally transcribed. For nurse and midwife groups, the Pathway and a video were provided prior to and during the focus group (if required). This prompt, delivered by another investigator (NS), was a 5-min Youtube™ video known as 'Space4Research'. This presentation, developed by Newcastle Hospitals (UK), describes how patients would like to be cared for by nurses who are delivering the best research-informed care (https://www.youtube.com/watch?v=6omlMJfDDdc&app=desktop). For health consumers, the Pathway was given to participants prior to the focus group and the video was viewed during the focus group. In addition, three case studies of nurse and midwife-led research (Gawthorne et al., 2021; Kemp et al., 2011; Middleton et al., 2011), were presented during the interview to facilitate discussion. Topics covered within the interviews varied slightly and are detailed in Table 1.

For health consumers, data relating to age, gender, highest educational qualification and the origins of their perceptions of nurses were

TABLE 1 Focus groups and interviews: Participant groups, number, recruitment site and strategy, and topics.

Participant groups	No of participants focus group (FG) + interview	Recruitment	Topics for focus groups and interviews
Health consumers	4 (3 FG1 + 1 interview)	SPHERE Health Consumer Representative	Existing perceptions of the role of nurses and midwives in research relative to medical practitioners and allied health professionals Three Case Studies of clinical trials led by nurses and midwives Perceptions of how care would change if Clinician Researchers were available in units and wards How to best provide information to patients about nurse and midwife-led research
Clinical Nurse and Midwife Consultants, Clinical Nurse and Midwife Educators and Specialists Engaged in research activities[a]	7 (5 FG2 + 2 interviews)	Local facilitator and Research Fellow LHD 1, 2, 3 and 2 universities	The role of nurses and midwives in research relative to medical practitioners and allied health professionals Perceptions of the Pathway and how it is applied Challenges to the implementation of such a Pathway Workforce issues relating to Pathway implementation The Clinician Researcher working in the ward and unit
Registered Nurses and Midwives, Clinical Nurse and Midwife Specialist (not engaged[a] in research activities)	5 (FG3)	Local facilitator and Research Fellow LHD 1, 2, 3 and 2 universities	As above
Nursing and Midwifery Unit Managers	4 (3 FG4 + 1 interview)	Local facilitator and Research Fellow LHD 1, 2, 3	The role of nurses/and midwives in research relative to medical practitioners and allied health professionals Perceptions of the Pathway and how it is applied Challenges to the implementation of such a Pathway Workforce issues relating to Pathway implementation The Clinician Researcher working in the ward and unit Three scenarios relating to staff and managing protected research time

Note: The interview questions/topics were developed and reviewed by several other nurse researchers and co-investigators during proposal development. Questions were also cross-referenced in relation to their ability to capture data relating to the NPT generative mechanisms. Questions relating to health consumers were reviewed and refined with a health consumer expert, familiar with research and this project.

[a]Engaged in research activities refers to: leading a nursing and midwifery research project, part of team who are conducting a project related to nursing and midwifery practice or providing support (data collection) to other researchers who lead a project related to medicine or another health discipline.

sought. A short demographic survey was also completed by the nursing and midwifery participants recording age, gender, professional roles, post-registration experience and organizational affiliations.

4.5 | Data analysis

Content analysis was undertaken initially using an a-priori theory and set of constructs, derived from the NPT. Manifest content analysis was used, whereby what the participants actually said was presented (Bengtsson, 2016). Understanding or interpreting the meaning of the text using latent analysis was conducted (Bengtsson, 2016; Sandelowski, 2000). Initially two investigators read the transcripts and revisited the recordings several times. An initial summary was made by the facilitator after each interview. Open coding of meaningful text segments (words, groups of words or sentences), beyond theory constructs, was also undertaken. The two investigators manually coded (MJ, NS) the data separately; one, a nurse very familiar with the context and another less familiar. Consensus was reached with further clustering of codes to form more complex themes occurring (Hsieh and Shannon, 2005). Some minor themes were deleted. Final data coding was conducted using NVivo™v12 (QSR International, 2023). Coding trees were formed under the categories/constructs of the generative mechanisms (implementation processes) of the NPT.

4.6 | Ethical considerations

Ethical approval was obtained from St Vincent's Hospital Human Research Ethics Committee on 19 January 2022, Approval Number 2021/ETH12181. Implied consent of all participants was obtained prior to participation. Those recruited received an email informing them that submitting their email address to the facilitator would be considered formal consent to participate in the study.

4.7 | Rigour and reflexivity

Two coders reviewed the data, with major codes and the overall intention of the data from both coders being similar, although labelling and emphasis varied. Particular attention was given to reflexivity (coders mindful of their inherent biases) (Peddle, 2022), that is, checking codes and labels, reviewing the text for congruence with labels and consistency or divergence across participants. Several coding trees were produced and recorded, providing an audit trail (dependability) throughout the process.

Positionality was also considered as follows: the interviewer was a consultant (although familiar with health and university sectors), unknown to the participants. Nonetheless, the lead researcher, considered her own inherent bias, particularly absenting herself from the participant selection process. Similarly, during the interviewing of participants, every attempt was made to allow all positive or negative viewpoints of the Pathway to be heard, clarified and reported in these data. In addition, the two data coders (an experienced researcher and an early career researcher) openly discussed their individual biases when selecting data and themes and challenged each other on the positions taken (Soedirgo & Glas, 2020).

5 | FINDINGS

5.1 | Participant characteristics

5.1.1 | Health consumers

The participants had the age range of 35 to 75 (ranging from 35 and under [1], 36–45 [1] to 66–75 years [2]). Three participants identified as female (75%) and one as male. Educational qualifications ranged from Certificate to Graduate Diploma. All had developed their perceptions of registered nurses and midwives from having experienced illness or surgery that had led to hospitalization or extensive experience with registered nurses/midwives.

5.1.2 | Clinicians and managers

Fourteen registered nurses and two midwives participated in the focus groups or interviews. The age grouping was 35 and under (eight participants); with a further group 36–45 years (seven participants) to 56 to 65 years (one participant) of age. Nursing unit managers were relatively young (all within the 35 and under age grouping). Most participants were female (11/16; 69%) (see Table 2). The mean years of experience in nursing or midwifery was 8.96 (3.78 SD) years. The designations of the participants were varied (see Table 2). All were employed within a local health facility and 56% ($n=9$) had a role in research. Research roles varied from being part of a team conducting nursing and midwifery research ($n=5$) to a research support role (data collection) for medicine-led/other discipline-led research ($n=2$), with two participants leading nursing research projects ($n=2$). Highest qualifications attained was Masters by Coursework ($n=5$; 31%) (see Table 2).

5.2 | Categories and themes

In order to provide background to the Pathway implementation approach, the pre-implementation context (the role of research for all health professionals and contemporary research activity and culture within nursing and midwifery) is presented first.

5.2.1 | Pre-implementation context

Research in health professionals' role and nursing and midwifery

All participants believed that research was an essential part of all health professionals' roles,

> Research is absolutely essential in making sure that we're providing patients the best care. We are specialists in our own fields but we all deserve to be using evidence-based strategies
>
> (NUMs, Interview, Participant (P)16).

Health consumers perceived that undertaking research was directly related to having knowledge of and delivering the best care:

> They [nurses and midwives] would treat the patients' better and know what research is out there
>
> (FG 1, Health Consumers, P1).

Unlike medicine-led research, nursing and midwifery-led research was perceived by *some* nurses and midwives and consumers as being 'undefined' and/or 'invisible' (FG2, Research-Clinicians, P3), only *visible* when nurses were recruiting and collecting data for other health profession disciplines.

> ...when I talk with people about ... doing research in nursing they [public] will be like, what kind of research do you do, what is there to do? ... [it is]obvious for medical professionals... Allied health... less obvious ... [for nursing]. I had no idea why or how nurses would go about doing research until recently
>
> (Research-Clinicians, interview, P6).

This was qualified further with health consumers when given examples of nurse and midwife-led clinical trials, with one of the four participants believing that the examples of practice-focused research were not '*real research*' or '*invention, imagination and exploration*' (FG 1, Health Consumers, P3). In contrast, another consumer noted that practice-focused change was the purpose of research: ...

> [*There*] "is hardly any point in doing research if it doesn't transform into an action [practice] ...this [the nurse and midwife-led trials] is a great example of that"
>
> (FG 1, Health Consumers, P4).

Consumers also provided some advice on how to make nursing and midwifery research 'visible': promote research in the clinical setting, use examples appropriate for the consumer age and nature of the ward, and include a patient story demonstrating the benefit of the research and role differences.

> Stories about the importance of a nurse being involved in that research or leading that research.. understand the difference between nurse and doctor, being involved in the research
>
> (FG 1, Health Consumers, P2).

Some participants highlighted that for medicine, research was mandated as part of their professional standards and role

TABLE 2 Clinician and manager participant characteristics ($n = 16$).

Characteristic	Mean/Std. deviation	No. (*n*) %
Gender		
Female		(11) 69%
Male		(5) 31%
Age (years)		
35-under		(8) 50%
36–45		(7) 44%
56–65		(1) 6%
Experience in profession (years)	8.96 (3.78)	16
Designation		
Clinical Nurse Consultants		(5) 31%
Clinical Nurse Educator		(1) 6%
Clinical Nurse Specialist		(2) 12.5%
Clinical Midwife Specialist		(2) 12.5%
Nursing Unit Managers		(6) 38%
Research role (see note):		
Engaged in research[a] (yes)		(9) 56%
Engaged in research (no)		(7) 44%
Research activity		
Team member of a nursing and midwifery practice project		(5/9) 56%
Lead a research project in nursing and midwifery practice		(2/9) 22%
Provide support (data collection) to project led by medicine/other health discipline		(2/9) 22%
Highest qualification		
Bachelor (including Honours)		(4) 25%
Graduate Certificate		(5) 31%
Graduate Diploma		(2) 13%
Masters by Coursework		(5) 31%

[a]Engaged in research activities refers to: leading a nursing and midwifery research project, part of team who are conducting a project related to nursing and midwifery practice, or providing support (data collection) to other researchers who lead a project related to medicine or another health discipline.

(Research-Clinicians, interview, midwife, P11), implying this was different to nursing and midwifery. Other participants, confirmed this 'professional responsibility... It's in our standards of practice' (Research-Clinicians, interview, midwife, P11). Managers also noted:

> Each year we register ..and we say that we keep up with the best evidence-based practice, so ... all nurses should be doing research
>
> (FG4, NUMs, P13).

In contrast, some clinicians and managers reported that their colleagues did not perceive research as part of the nursing and

midwifery profession: 'it's not part of the profession… not part of being a midwife … not part of being a nurse.' (Research-Clinicians, interview, midwife, P11). While another participant noted that they [participant] 'cannot imagine how? any of our role is to be done without at least a small interest in research or wanting to advance our profession and our practice' (FG3, Non-Research-Clinicians, P9).

Further discussion of this group of nurses, highlighted the potential of a more acceptable way (research utilization) to deliver research:

> a nurse on the floor… they could probably access research if it's provided for them, if there was a role like you're describing on the ward [clinician researcher] that could synthesis it [research] for them
>
> (FG4, NUMs, P14).

Research activity and culture

Nine of the 16 participants had a role in the research; however, overall, clinician participants described limited nurse or midwife-led research being undertaken in the clinical settings in comparison to medical-led research. Nurses and midwives' roles were mainly recruiters and data collectors for medicine-led research:

> There's like a core group of probably about six midwives who at least 40 to 50 per cent work in midwifery research
>
> (FG3, Non-Research-Clinicians P9)

> I have seen the Clinical Nurse Consultants having their own research projects
>
> (FG3, Non-Research-Clinicians, P7).

> We probably have three or four [doctor-led] research [studies] running all at the same time
>
> (FG3, Non-Research-Clinicians, P8).

> They're [nurses/ midwives] not necessarily leading research projects, but definitely members of it and then actively in the distribution and carrying out and evaluation
>
> (FG3, Non-Research-Clinicians, P9).

A small group of clinicians were described as being *resistant* to research or being involved in research, although the reasons for this resistance were less clear:

> …it's hard to distinguish between people who genuinely don't want to be involved with research… versus people who might have an interest but because they're so busy with workloads … say, we don't have time. But they do have interest, they're not resistant or they're not against it, they're just not circumstantially [able]
>
> (Research-Clinicians, interview, P6).

Health consumers and some nurses and midwives perceived that there was no or limited research culture in nursing and midwifery, and that there were differences in opportunity evident between the health professional groups, particularly when compared to medical colleagues. Some of the issues impacting culture included: non-institutionalized research culture, limited support and resources, and perceived difficulties in time to leave face-to-face care.

> I'm not sure that allied health professionals and nurses have that same research ethos [compared with medicine] because it's never been encouraged
>
> (FG 1, Health Consumers, P4).

Medical practitioners were understood to have both time and resources within their clinical role ('being in a research milieu, they've got all the support', [FG 1, Health Consumers, P4]) with a clear directive that research is part of the clinical role of medicine.

Health consumer participants perceived that the role of the clinical nurses, placed at the bedside over the 24-h period, provided challenges and advantages for nurses and midwives to engage in the research and required support:

> The doctors … in a hospital setting check in…but the nurses are seeing those patients day in, day-out
>
> (FG 1, Health Consumers, P1).

After exploring the pre-implementation context, the NPT was used to direct the analysis of the potential implementation processes.

5.3 | Implementation approach and the NPT

The NPT main generative mechanisms (implementation processes)—coherence, cognitive participation, collective action and reflexive monitoring, formed the major categories/themes with subthemes (see Table 3).

5.3.1 | Coherence

Within the construct of *Coherence*, referring to how health consumers and nurses/midwives understand the Pathway, there were four major themes identified: (1) Natural organizational fit with health services strategy and the health professionals' role; (2) Relevant role and research; (3) Addresses barriers; and (4) Equitable, accessible, inclusive opportunity.

Natural organizational fit with health services strategy and the health professionals' role

Participants believed the Pathway was clear and consistent with the organizational objective to deliver evidence-based practice to all patients and health consumers.

TABLE 3 Implementation approach: Major themes/subthemes and categories using the normalization process theory.

Coherence	Cognitive participation	Collective action	Reflexive monitoring
Natural organizational fit with health services strategy and the health professionals' role Relevant role and research Addresses barriers An equitable, accessible, inclusive opportunity	Societal, organizational, professional and individual cultural mindset shift is needed Resourcing time and funding-the right balance	Planning, defining the role and staffing for research release time Leadership, communicating this new role and clinician's role in research	Change in research culture at organizational and ward level Empowered staff: initiating and leading change in practice within their clinical setting Evidence-based care delivery leading to more effective health care and improved consumer and patient outcomes

> I think it would just naturally fit into health services because research is a component of health service delivery, without research you can't really deliver good effective care, it is an essential component
>
> (Research-Clinicians, interview, P6).

Health consumers were also supportive:

> My current [medical practitioner] does research all the time and it really helps to know that he's completely up to date with what the current medications are, the treatments … I think that's really important for allied health workers and nurses, too
>
> (FG 1, Health Consumers, P1).

> I think that the research that you would produce having these types of professionals would be very valuable … If the project was about …a new practice, then that would improve my level of care, as a health consumer
>
> (Health Consumers, interview, P2).

Health consumers also believed that if the research was focused on key health service and practice questions, then this Pathway would represent 'good use of health service dollars' (FG Health Consumers, P1,2,3,4).

Relevant role and research

Clinicians and managers were positive about the Pathway and the opportunities it provided:

> I think the clinician researcher pathway is a great thing and I wish it was around and funded… you don't have to stop your clinical work to do a PhD
>
> (Research-Clinicians Interview, P6).

One important issue emphasized was how the Pathway managed the duality of the two roles of being a clinician or a researcher. Clinicians believed that the availability of a role where clinician and researcher coexisted in one role, was beneficial.

> You're either clinical or your research … So I've always thought, if you're research, then you'll lose your clinical, but if you stay in clinical, there's not really any time to do any research
>
> (FG3, Non-Research-Clinicians, P7).

Clinicians also perceived that incumbents of the Pathway would provide a more direct impact and bring the research endeavour and ideas for practice change to the bedside. The role and consequent research would be relevant and would directly link to the priorities of patients, staff and the clinical area.

> I think that's why this Pathway could be so good, because then people would be more in touch … with what's … happening clinically, and what's … feasible… building a solution that works, based on the research
>
> (Research-Clinicians, interview, midwife, P11).

The staged approach to research exposure—that is, from internship to full professor— while remaining in the clinical setting, was valued:

> You can introduce the internship, then the transition, it's structured. It also seems achievable … not hugely impactful on the job that you're doing
>
> (FG2, Research-Clinicians, P5).

> A good introduction to potentially exposing people who wouldn't have thought about … doing a masters
>
> (FG2 Research-Clinicians, P5).

> We actually want people to come in and think about a career and a profession … and push the profession forward
>
> (Research-Clinicians, Interview, P6).

Addresses barriers

Clinicians described how the Pathway *addresses almost all the barriers*, either individual or organizational: financial cost, of course, loss of income due to reduced working hours and being disconnected from the clinical area.

> they can get their time bought out, their tuition fees, it's so supported … I think it's an amazing opportunity
>
> (FG2, Research-Clinicians, P2).

An equitable, accessible, inclusive opportunity

Many clinicians reflected on the importance of the Pathway being 'open to everyone' and not just those 'already doing a little bit of research or associated with the universities' (Research-Clinicians, Interview, midwife, p11). Similarly, engaging nurses who may not have been interested in research, was emphasized. The Pathway was also viewed as an opportunity for undergraduates to consider their future in research.

> Everyone can apply.
> (FG3, Non-Research-Clinicians, P8).

> You can be the person who creates the evidence that people use in practice … inspire people to think about research early in their career
> (Research-Clinicians, Interview P6).

Others noted that the Pathway also gave opportunities to those not on the Pathway, to grow and develop through 'performing higher duties' and indirectly supporting succession planning:

> I think a natural step for RNs on the ward is looking at CNS [Clinical Nurse Specialist], but primarily CNC [Clinical Nurse Consultant] roles. I think for RNs to have more access to those roles, more opportunity to act in those roles [while CNS or CNC on Pathway] to work alongside or to cover with that nurse who's then doing the Pathway—I think there could be a really lovely 'knock-on' effect of this Pathway onto the rest of the workforce on the ward.
> (FG2 Research-Clinicians, P1).

5.3.2 | Cognitive participation

The second generative mechanism within the NPT theory, relates to the organization and staff 'investing time, energy and commitment' into enabling the new Pathway. Two major themes were identified within this construct:

A societal, organizational, professional and individual mindset shift needed

Reducing the dissonance between how healthcare professionals lead and conduct research and how to embed the Pathway into the clinical setting was identified as essential to achieving successful implementation of the role. Participants, both health consumers and clinicians, believed a change in perspectives at all levels was required for commitment and engagement.

Clinicians identified the tension between consumer awareness of evidence-based care, how it originates and how it is delivered:

> They [health consumers] obviously want the most up to date, best practice, but I think we need to look at that gap between how the patients see the nurses [versus how they] get to deliver that
> (FG2 Research-Clinicians, P5).

Similarly, to enact the Pathway would require senior management commitment as well as whole of organizational involvement and support. The majority of clinicians identified that support for the Pathway, needs to come from 'the top', meaning organizations and universities:

> Senior positions encouraging staff to go for it, protected time, role and responsibilities, plan in place how you would manage everything in your portfolio. All communication on the same page
> (NUMS, interview, p16).

Recognizing the level of cognitive buy-in for research-involved roles, can directly impact the perception of these roles, and the outcome of such initiatives:

> You want to sell it and be excited about it and provide that motivation to the staff member
> (FG4, NUMS, P15).

Then, more specific to the Pathway from an organizational level to an individual level:

> Getting people to buy-in to your recommendations of practice change. It has to come from the top, the executives to agree with you, the manager … the team leader… that's when you can disseminate the change of practice to people
> (Research-Clinicians, Interview, nurse, P6).

Resourcing, time and funding—The right balance

All participants believed achieving the right balance between resourcing, time and indirect funding was core to the Pathway's success and to enabling nurses and midwives to incorporate research as a principal part of their roles.

Dedicating part of a nurse or midwives' clinical role to research means that another comparable healthcare professional would need to be allocated these responsibilities ('as long as we still get that nurse on the floor' {FG4, NUMs, P15})or 'backfilled' as 'commonly called in clinical practice.

Health consumers were acutely aware of time being critical within a routine clinical day for nurses and midwives, expressing an awareness of the current full workload and time spent in direct contact with patients:

> You need time for research activities, ..It's got to be built into their daytime shift … time out to do it
> (FG1, Health Consumers, P4).

5.3.3 | Collective action

The third generative mechanism, collective action, relates to what needs to happen in the organization to enable the new Pathway. Two Themes were identified within this construct: (1) Defining, planning and staffing for research release time, and (2) Communicating and educating the new role and clinicians' research role.

Defining the role, planning and staffing for research release time

Many clinicians and managers referred to the importance of setting clear expectations and goals for clinician researchers. NUMs identified the need to negotiate these issues on an individual basis, although a generic job description would be anticipated to be available.

> Set expectations, regular catch ups, what improvements they would want to make and what support they need … setting expectations with each other of how it would work and what they were going to deliver
>
> (FG4, NUMS, P15).

Clinicians and managers were clear that considerable planning was required for a clinical area to be able to accommodate the potential for staff to receive 50% or less protected research time.

Ensuring adequate staffing to free up research time for the clinician researcher (including skilled staff), was considered a critical element. These positions would need to be funded beyond the allocated budget (FG 4 NUMs). Unit managers acknowledged that secondments currently occurred with some rostering challenges 'makes rostering trickier' (FG4, NUMs, P15), but they did not believe rostering to be an insurmountable issue.

> If it's one a day a week or 50 per cent of their time … If it was backfilled it would be fine. If it's four shifts off your roster, or if it's one person a month
>
> (FG4, NUMs, P15).

Any interruption to the delivery of patient care, was perceived as a looming threat, that would result in the loss of research time or affecting patient care, or other work would not get done or *what's happening with the other work* (FG2, Research-Clinicians, P4).

> That's really not going to sit well when the hospital's saying we can't staff the floor, but we can staff research
>
> (FG4, NUMs, P14).

Protected research time was perceived as manageable but would need to be planned for relative to the model of care of the clinician researcher, at least 3 months in advance (NUMs, interview, P16). One participant believed it was more achievable within a non-patient facing role, while others perceived that the issue was staffing rather than role. Ideas of job sharing, integration of clinical and research time, and selecting appropriate times for research were described.

Job sharing between two incumbents (clinician researchers 50% protected research time) was described as having potential, 'just to eliminate the gaps …that 50 per cent has to be accounted for' (FG2, Research-Clinicians, P5).

Although a separate view of undertaking research away from the clinical area (i.e. split in clinical and research activities), was evident in the discussion, several participants noted that their research activities were undertaken within their clinical face-to-face care (or vice-versa) (*integrated approach*):

> I see you [patient] for participation in the study, but you've got all these things happening I respond in my CNC clinical role, as opposed to my researcher role
>
> (FG2, Research-Clinicians, P5).

For one participant, protected research time was allocated but not necessarily available.

Another participant described a flexible approach or adaptability where research time can be taken when there is free time to do so, or a half-day research idea:

> .You can [have] one day off the floor… you're away for the whole day … it may be better to do a half day? Or.. adapt that time within that clinician researcher role to make it fit?

> I can find time within my time of not having the clinic. It would fit very well with the model of care that I currently work in
>
> (FG2 Research-Clinicians, P5).

Three participants were concerned that specialized or experienced staff may not be released or need work coverage in their absence.

> If you're a CNC and suddenly you're gone one day a week and nobody's backfilling you… don't think that would work.
>
> (FG2, Research-Clinicians, P2).

> Right now, we have new grads …if you have a little bit of experience, they [NUMs] want you to stay on the floor … to train new staff
>
> (FG3, Non-Research-Clinicians, P8).

Where nurses and midwives could undertake research in protected time was explored in detail, with managers and clinicians believing that flexibility and responsiveness to the clinician

researchers' needs were important, while acknowledging being in the clinical area easily led to being drawn into clinical work. Clinician researchers would need to consider where they locate themselves during protected research time carefully.

> .. working two days a week in the ward and doing their PhD research two or three days a week. They might want to change their environment so that they can think clearly and have new ideas. it depends on a case-by-case basis, flexibility
>
> (Research-Clinicians, Interview, P6).

Leadership, communicating this new role and clinicians' role in research. Participants believed that leadership just needed to 'get on board' with the Pathway as from their perspective, the benefits far outweighed the risks, including the important aspect of staff retention.

> If leadership decides that [this] is something that they want to support … and they want staff that is … not just junior, but the ones who are maybe not so junior anymore but have got plans to further their careers, they want to support that which would make sense. … with a potential fantastic outcome also in staff retention
>
> (FG3, Non-Research-Clinicians, midwife, P9).

Other participants believed that the leadership needed to drive the implementation of the Pathway, at all levels including senior executive level and stream-leader (NUMs, interview, P16).

From the narratives, it also emerged that for a whole of organization change to occur in relation to research culture, *research time should be considered for all staff relative to their role in research.* This varied depending on the role: Unit Managers, relatively research-literate, may benefit from time to explore how to facilitate the implementation of policies or changes to practice.

Clinicians with an interest in or limited research experience, or those who are resistant to research, may gain from research process training. The ability to support openness to research time for all, remains fundamental to the Pathway adoption.

> [For staff not on the Pathway] I think you need to do something more than … one hour in-service … like a whole day of [research] training where people can just get away from the work environment and do training
>
> (Research-Clinicians, interview, p6).

5.3.4 | Reflexive monitoring

This final generative mechanism within the NPT theory relates to how staff would potentially evaluate the benefits and costs of the Pathway. Participants were asked to consider the anticipated outcomes after 10 years of the Pathway being adopted. Three major themes emerged: (1) Changing research culture at an organizational and ward level; (2) Empowered staff: initiating and leading changes in practice; (3) Evidence-based care delivery, leading to more effective health care and improved patient outcomes.

Changing research culture at an organizational and ward level

There was a widespread belief that the Pathway would deliver cultural change at the organizational and ward level, with clinician researchers having a strong presence in the unit and working with other interested clinicians.

> This would actually change the culture of the whole department. If you've got multiple people who have completed or are somewhere through this process that's a lot of respect that's being given to research—seeing that things can be improved by nurses
>
> (Research-Clinicians, Interview, midwife, P11).

> By changing the culture, you increase familiarity with research, which means more people doing research, it means that care delivery is going to be improved
>
> (Research-Clinicians, Interview P6).

Empowered staff: Initiating and leading changes in practice

Participants often referred to the benefits of being able to change their own practice, which was felt to be beyond clinicians' grasp. This benefit was likely to be as profound for the clinician researchers as for their clinical colleagues and managers. This was described by nurses and midwives.

> it's incredibly empowering having a colleague, that peer-to-peer is always so important at enabling change. There's no point having this research if we can't get the influence and everything to get it out there as well. So I think it would be incredibly beneficial for clinicians, on the frontline seeing other clinicians doing this research
>
> (NUMs, interview, P16).

Evidence-based care delivery, leading to more effective health care and improved patient outcomes

All participants including health consumers, acknowledged the importance of evidence-based care, and clinician and managers perceived that clinician researchers could deliver changes to practice, that ultimately would deliver measurably improved patient outcomes. These changes could reduce '*busy doing*' and increase the use of evidence-based practice, reducing delays ('make it faster') in the implementation of research and evidence.

> It is so much better in the clinician-researcher world because they're at the bedside to begin with, and

they are impacting at the bedside at the same time. Generate the idea of the problem from their clinical practice, they do the research with women in your case[load], and then they're applying it to the practice of the midwives … benefitting their mothers

(Research-Clinicians, Interview, midwife, P11).

6 | DISCUSSION

This study examined the pre-implementation context and implementation approaches for this Pathway using the NPT, from the perspective of health consumers, nurses and midwives. The use of the NPT framed the implementation approach, supporting the value of this implementation theory (Nilsen & Birken, 2020) in cultural change interventions. The pre-implementation context was identified within the role of research, activity and culture, and this, with other aspects of context, was found to interact with the generative mechanisms or implementation processes.

6.1 | Pre-implementation context

6.1.1 | Nursing and midwifery role in research

Health consumers and all clinicians and managers agreed that research was an essential role for nursing and midwifery practice. Some clinicians and managers referred to clinicians who did not wish to engage in any way with research or questioned to what extent evidence-based practice occurred. Although professional standards for nurses and midwives mandate engagement in evidence-based practice (See Standard 1, Registered Nurse Standards for Practice [Nursing and Midwifery Board of Australia, 2016], Standard 1, Midwives Standards for Practice [Nursing and Midwifery Board of Australia, 2018]), the inclusiveness of all staff in meeting these standards at the clinical level may be somewhat futuristic. The Australian Academy of Health and Medical Sciences (AAHMS, 2022) advocate for nursing and midwifery to grow its clinician researcher workforce while also calling upon health services to recognize research activities within all health professionals' roles and provide appropriate time release for these activities (AAHMS, 2022). The chief nursing officer for England emphasized the need for 'embedding and valuing research at the heart of professional nursing practice' (NHS England and NHS Improvement, 2021, p. 17) and the need to move from only some clinicians being engaged in research to all nurses and midwives believing that research and providing evidence-based care is an essential and required part of their role: This Pathway could provide the impetus for this widespread cultural change.

Health consumers, rather than clinicians or managers, believed that both nurses and midwives, were disadvantaged in relation to research, because of a historic lack of research culture, or resources. In particular, the nurses/midwife's role of providing 24-h face-to-face care was considered a particular hurdle, that is, no time or space away from direct patient care to engage in the required research activities, while also representing a unique opportunity for the same reason. Health consumers and some clinicians believed there was minimal visibility or definition in nursing research, and that increased visibility—beyond solely recruitment for medicine-led research—was required at ward level or where patients received care. Promotion of current research activities and patients' stories of the benefits of their research are urgently needed to provide visible evidence of research conducted by nurses/midwives.

6.1.2 | Research activity and culture

Most clinicians and managers did perceive that there was research being conducted within the clinical areas, albeit dominated by medicine-led research. Clinicians and managers, emphasized clusters of midwifery research and CNC-led research. Although, this quantum might be less than ideal, it does represent an advancement since early discussions by Greenwood and Gray (1998), outlining the beginnings of nursing and midwifery clinical professorial positions. The nursing and midwifery research described here is more extensive, and focused at the ward/unit level. It is also heartening to hear clinical nurses and midwives themselves wishing to progress evidence-based practice, and research into their own professional practice.

6.2 | Implementation approaches for the pathway

How well consumers, managers and clinicians understand the potential of the Pathway (*Coherence*) remains critical to how well they are likely to engage or enable the Pathway. The participants strongly supported the view that the Pathway was meeting the strategic direction of their organizations or a *natural organizational fit*. The ability of the Pathway to address the duality of either being a clinician or a researcher, by providing a position that allowed nurses and midwives to be both, was seen as positive. The challenges of this new combined role are well-described in the literature (de Groot et al., 2021; Hay-Smith et al., 2016), and the need for support during identity transformation has also been demonstrated (Cowley et al., 2020). The creation of a new professional pathway for students and new graduates to follow which promotes research was also identified as having the potential to advance the profession.

Clinicians and managers identified that the Pathway was well-structured, from internships, transitions, to doctoral and post-doctoral experiences, delivering a *relevant role*, with time for research, a particular difficulty described in the UK experience (Trusson et al., 2019). Similarly, the ability of the Pathway to facilitate bringing the research to the bedside, that is, *relevant research* problems, with timely solutions to practice, was firmly supported. In addition, the Pathway was found to *meet known barriers* to undertaking higher research degrees, such as reduced working hours and tuition

fee costs. Both clinicians and managers, referred to the importance of the Pathway being an *equitable*, *accessible*, *inclusive opportunity*. Participants noted that this was a Pathway for everyone, including staff who may not wish to engage in the Pathway. These staff would benefit from opportunities for higher duties while providing succession planning for CNC/CNS positions.

The need for widespread commitment from all levels of staff, to enact the Pathway, was identified by most participants (*Cognitive Participation*). The participants suggested commitment from senior management, stream leaders, colleagues and individuals, other health professionals, and health consumers, would require considerable cultural change through education, over a sustained period. Enacting this Pathway, begins this process. The next important mechanism of the NPT was to identify what else needs to change in the organization to support Pathway adoption (*Collective Action*).

Communicating the introduction and continuance of this new role to other allied health and medical colleagues, was seen as an important part of the implementation process and prepared the way for Pathway incumbents. Education of all nurses and midwives would be required health-service wide; introducing this new role and emphasizing research in everyday practice. The auditability of research engagement, as defined within all job descriptions, may require further scrutiny to support cultural change across the health service. There would also need to be a clear *plan* in place, presented to staff by senior staff, with the articulation of financial and workload protected research time, and audible commitment encouraging staff to apply. Defining *clear expectations*, *goals*, and targets for the new role (number of positions available in each award for the facility) is required before calling for applications. This suggests some harmonizing, or modification of, existing job descriptions should be considered prior to requesting applications.

Adequate staffing required to meet patient needs and provide protected research release time for incumbents within the Pathway (up to 50% research time), was considered the major barrier to be overcome. Managers and clinicians believed that if funding were provided to back-fill these positions, then the Pathway would be feasible. This was also highlighted by Palmer et al. (2023) in a survey of 416 hospital clinical staff and university academics, with a lack of research time and the need for staff back-fill being emphasized. Similarly, opportunities for back-filling of more senior or experienced staff would need to be supported in the Pathway.

Protected research time should be delivered in flexible and adaptable approaches relative to the model of care. For some non-patient facing roles, this was relatively simple, as time could be found away from the clinical area. Alternate models, of job sharing between incumbents, integrated approaches (collecting data but also providing clinical care) and using opportunities within normal workflows, were outlined. Each clinician researcher would need to be considered within their clinical setting or model of care. Inextricably linked to the taking of protected research time, are when and where that time is taken. Again, a flexible approach that considers the incumbent's needs, and negotiated with the manager was key to finding a workable solution. One participant described not receiving their current protected time due to patient workload. Both clinicians and managers maintained that meeting clinical care needs was still the priority in their roles.

Although the term protected research time for clinician researchers was examined, a more inclusive view emerged. That is, for cultural change across an organization to occur, research time for all staff should be considered relative to contribution to the research endeavour. For example, clinicians with little experience or knowledge of research may gain from receiving training in the principles of evidence-based practice, research utilization and the steps in the research process. NUMs may also gain from training focused on prioritizing research ideas and projects, working with clinician researchers, and facilitating engagement in research for all clinicians. Investigators have found that clinician researchers require a supportive environment, managers and colleagues, as failure to do so has been attributed to loss of these staff to universities or industry (Trusson et al., 2019).

Anticipated benefits of the Pathway (*Reflexive Monitoring*) went beyond research cultural change within the organization, to the potential for empowered staff to initiate and lead changes in practice, proposing workforce retention and high ward morale as a likely consequence, as highlighted by others (Newington et al., 2021). Empowerment of staff as a consequence of this Pathway was a strong element in these discussions. Participants believed this Pathway, through its incumbents, had the potential to empower nurses and midwives, whether they were the creators of new knowledge, or participants in transforming practice. Key recommendations from the study are presented in Table 4.

6.2.1 | Strengths and limitations of the work

A strength of this study is that we have described the implementation approaches required to normalize the Pathway across LHDs

TABLE 4 Key implementation recommendations.

1. Nurses and midwives are ready to engage or enact the Pathway where there is widespread, visible and audible, senior management commitment, to funding and research-protected time delivered in a flexible manner and location, with back-fill, for a prolonged period
2. Communication of the whole of organization research-focused strategy and valuing of research within professional practice (including the new clinician researcher role), will ensure all health professionals, including nurses and midwives, are supported to participate in evidence-based practice, within or beyond the Pathway, as mandated in practice standards
3. Research time for all health professionals (including nurses and midwives) commensurate with their commitment to the research endeavour, should be enacted
4. Setting of clear targets for all programmes (Support, Training and Fellowships) within the Pathway, for each hospital or health facility (12 year period); and baseline and annual data collections, at ward, hospital or state level, of the number of nurses and midwives with research higher degrees, should be undertaken

using NPT generative mechanisms. The unique perspectives of health consumers, managers, and clinicians have informed these approaches. This study represents a small qualitative sample of mostly research-informed participants. Our findings may not be generalizable to other populations, such as allied health clinical researchers, but may be relevant to similar samples. Half of the participants were not active researchers, potentially limiting their insights into what is required to undertake research, although presenting insights into barriers to their participation in research. Although we encouraged participation from clinicians with no research interest, this did not occur, and their perspectives have not been captured. Health consumer participants ranged in age but were mainly female.

6.2.2 | Recommendations for further research

Future investigation of the impact of the Pathway on staff retention and morale, aspects of empowerment and the navigation of the dual role is required. Evaluation measures for the Pathway—policy changes, practice changes, degrees completed and patient outcomes—will be assessed throughout the duration of the overall programme.

6.2.3 | Implications for policy and practice

This Pathway, if implemented in its full design and with due consideration of key aspects of implementation strategy outlined in this study, has the potential to enable evidence-based practice and reshape the clinical setting, to address key patient-derived research priorities, expand roles of clinicians and bring practice change designed by clinicians to clinicians.

7 | CONCLUSIONS

All participants believed that nurses and midwives, with sufficient time and resources, should embed research into their practice and that this was necessary and likely to deliver better patient outcomes. Nurse and midwife-led research was identified, although it was less visible and nested within the medicine-led dominant research culture. The Pathway aligned with organizational strategy and was perceived to have the potential, through its clinician researchers, to create profound cultural change in the profession, empowering staff, supporting staff retention, bringing research opportunities to every nurse and midwife, and enhancing patient care and outcomes.

AUTHOR CONTRIBUTIONS

MJ: Conceptualization and design. MJ, NS: Acquisition of data, analysis and interpretation of data. MJ, NS, CF, SM: Writing original draft. SM, CF: Conceptualization, funding acquisition, supervision, investigation, resources. MJ, NS, CF, EMcI, AT, BE, KT, SM, KH, MC, MF, LP, SS-L, AH, SI, GmcE, DdeB, RF, RW, GDO, SM:Conceptualization, writing—reviewing and revising it critically for important intellectual content. MJ, NS, CF, EmcI, AT, BE, KT, SM, KH, MC, MF, LP, SS-L, AH, SI, GmcE, DdeB, RF, RW, GDO, SM Given final approval of the version to be submitted for publication. MJ, NS, CF, EMcI, AT, BE, KT, SM, KH, MC, MF, LP, SS-L, AH, SI, GMcE, DDeB, RF, RW, GDO, SM: Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

ACKNOWLEDGEMENTS

Open access publishing facilitated by Australian Catholic University, as part of the Wiley - Australian Catholic University agreement via the Council of Australian University Librarians.

FUNDING INFORMATION

This study was funded by Maridulu Budyari Gumal—Sydney Partnership for Health, Education, Research & Enterprise (SPHERE), Sydney, New South Wales, Australia. Sally C. Inglis is supported by a Heart Foundation Future Leader Fellowship from the Heart Foundation of Australia. Sandy Middleton and Caleb Ferguson are supported by National Health and Medical Research Council Investigator grants.

CONFLICT OF INTEREST

All authors report no conflict of interest related to this manuscript. No author was involved in the editorial management of this manuscript.

PEER REVIEW

The peer review history for this article is available at https://www.webofscience.com/api/gateway/wos/peer-review/10.1111/jan.16307.

DATA AVAILABILITY STATEMENT

Data available on request from the authors.

ORCID

Caleb Ferguson https://orcid.org/0000-0002-2417-2216
Marilyn Cruickshank https://orcid.org/0000-0001-9890-3141
Lin Perry https://orcid.org/0000-0002-8507-1283
Suzanne Sheppard-Law https://orcid.org/0000-0002-9971-9343
Josephine Chow https://orcid.org/0000-0002-8911-6856
Sandy Middleton https://orcid.org/0000-0002-7201-4394

REFERENCES

Australian Academy of Health and Medical Sciences. (2022). Research and Innovation as Core Functions in Transforming the Health System: A Vision for the Future of Health in Australia. Accessed 6 December, 2023 www.aahms.org

Avery, M., Westwood, G., & Richardson, A. (2021). Enablers and barriers to progressing a clinical academic career in nursing, midwifery and allied health professions: A cross-sectional survey. *Journal*

of Clinical Nursing, *31*, 406–416. https://doi.org/10.1111/jocn.15673

Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open*, *2*, 8–14. https://doi.org/10.1016/j.npls.2016.01.001

Carrick-Sen, D., Moore, A., Davidson, P., Gendong, H., & Jackson, D. (2019). International perspectives of nurses, midwives and allied health professionals clinical academic roles: Are we at tipping point? *International Journal of Practice-Based Learning in Health and Social Care*, *7*, 1–15. https://doi.org/10.18552/ijpblhsc.v7i2.639

Carrick-Sen, D., Richardson, A., Moore, A., & Dolan, S. (2016). *Transforming healthcare through clinical academic roles in nursing, midwifery and allied health professions: A practical resource for healthcare provider Organisations*. AUKUH.

Colditz, G. A., & Emmons, K. M. (2018). The promise and challenges of dissemination and implementation research. In R. C. Brownson, G. A. Colditz, & E. K. Proctor (Eds.), *Dissemination and implementation research in health* (2nd ed., pp. 1–18). Oxford University Press.

Cowley, A., Diver, C., Edgley, A., & Cooper, J. (2020). Capitalising on the transformational opportunities of early clinical academic career training for nurses, midwives and allied health professionals. *BMC Medical Education*, *20*, 418. https://doi.org/10.1186/s12909-020-02348-2

de Groot, E., Baggen, Y., Moolenaar, N., Steves, D., van Tartwiljk, J., Damoiseaux, R., & Kluijtmans, M. (2021). Clinician scientists in and between research and practice: How social identity shapes brokerage. *Minerva*, *59*, 123–137.

Eckert, M., Rickard, C. M., Forsythe, D., Baird, K., Finn, J., Gilkison, A., Gray, R., Homer, C. S., Middleton, S., Neville, S., Whitehead, L., Sharplin, G. R., & Keogh, S. (2022). Harnessing the nursing and midwifery workforce to boost Australia's clinical research impact. *Medical Journal of Australia*, *217*(10), 514–516. https://doi.org/10.5694/mja2.51758

Edelman, A., Gauld, R., Ovseiko, P. V., & Murray, R. B. (2021). Developing the multi-professional clinical academic workforce in Australia and New Zealand: A scoping review. *Evidence Base*, *2021*(1), 1–27. https://doi.org/10.21307/eb-2021-001

Gawthorne, J., Stevens, J., Faux, S. G., Leung, J., McInnes, E., Fasugba, O., McElduff, B., & Middleton, S. (2021). Can emergency nurses safely and effectively insert fascia iliaca blocks in patients with a fractured neck of femur? A prospective cohort study in an Australian emergency department. *Journal of Clinical Nursing*, *30*(23–24), 3611–3622. https://doi.org/10.1111/jocn.15883

Greenwood, J., & Gray, R. (1998). Developing a nursing research culture in the university and health sectors in Western Sydney, Australia. *Nurse Education Today*, *18*, 642–648.

Hay-Smith, E. J. C., Brown, M., Anderson, L., & Trehame, G. J. (2016). Once a clinician, always a clinician: A systematic review to develop a typology of clinician-researcher dual-role experiences in health research with patient-participants. *BMC Medical Research Methodology*, *16*(95), 1–17. https://doi.org/10.1186/s12874-016-0203-6

Henshall, C., Kozlowska, O., Walthall, H., Heinen, A., Smith, R., & Carding, P. (2021). Interventions and strategies aimed at clinical academic pathway development for nurses in the United Kingdom: A systematised review of the literature. *Journal of Clinical Nursing*, *30*(11–12), 1502–1518. https://doi.org/10.1111/jocn.15657

Hiley, J., Jerwood, J., Price, J., Thomas, S., & Kenkre, J. (2019). Combining a career in clinical practice and research: The benefits at junior career level. *International Journal of Practice-Based Learning in Health and Social Care*, *7*(2), 36–46. https://doi.org/10.18552/ijpblhsc.v7i2.638

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*(9), 1277–1288. https://doi.org/10.1177/1049732305276687

Johnson, M., Ferguson, C., Thornton, A., Israel, J., Cruickshank, M., Debono, D., Fernandez, R., Fry, M., Hickman, L. D., Hosie, A., Inglis, S. C., McErlean, G., McInnes, E., Perry, L., Sheppard-Law, S., Wynne, R., Parsons, M., & Middleton, S. (2023). Exploring the SPHERE nursing and midwifery clinician researcher career pathway: A qualitative study. *Collegian*, *30*(6), 795–804. https://doi.org/10.1016/j.colegn.2023.06.002

Kemp, L., Harris, E., McMahon, C., Matthey, S., Vimpani, G., Anderson, T., Schmied, V., Aslam, H., & Zapart, Z. (2011). Child and family outcomes of a long-term nurse home visitation programme: A randomised controlled trial. *Archives of Disease in Childhood*, *96*(6), 533–540. https://doi.org/10.1136/adc.2010.196279

Lee, S. A., Byth, K., Gifford, J. A., Balasubramanian, M., Fozzard, C. A., Skapetis, T., & Flood, V. M. (2020). Assessment of health research capacity in Western Sydney local Health District (WSLHD): A study on medical, nursing and allied health professionals. *Journal of Multidisciplinary Healthcare*, *13*, 153–163. https://doi.org/10.2147/JMDH.S222987

May, C., & Finch, T. (2009). Implementing, embedding, and integrating practices: An outline of normalization process theory. *Sociology*, *43*(3), 535–554. https://doi.org/10.1177/0038038509103208

May, C. R., Johnson, M., & Finch, T. (2016). Implementation, context and complexity. *Implementation Science*, *11*(1), 141. https://doi.org/10.1186/s13012-016-0506-3

Middleton, S., McElduff, P., Ward, J., Grimshaw, J. M., Dale, S., D'Este, C., Drury, P., Griffiths, R., Cheung, N. W., Quinn, C., Evans, M., Cadilhac, D., & Levi, C. (2011). Implementation of evidence-based treatment protocols to manage fever, hyperglycaemia, and swallowing dysfunction in acute stroke (QASC): A cluster randomised controlled trial. *Lancet*, *378*(9804), 1699–1706. https://doi.org/10.1016/s0140-6736(11)61485-2

Murray, E., Treweek, S., Pope, C., et al. (2010). Normalisation process theory: a framework for developing, evaluating and implementing complex interventions. *BMC Med*, *8*, 63. https://doi.org/10.1186/1741-7015-8-63

Newington, L., Wells, M., Adonis, A., Bolton, L., Bolton Saghdaoui, L., Coffey, M., Crow, J., Fadeeva Costa, O., Hughes, C., Savage, M., Shahabi, L., & Alexander, C. M. (2021). A qualitative systematic review and thematic synthesis exploring the impacts of clinical academic activity by healthcare professionals outside medicine. *BMC Health Services Research*, *21*(1), 400. https://doi.org/10.1186/s12913-021-06354-y

NHMRC. (2021). *Investigating Clinician Researcher Career Pathways: Summary Report to the NHMRC Chief Executive Officer*. Canberra: National Health and Medical Reserach Council.

NHS England and NHS Improvement. (2021). *Making research matter*. Chief Nursing Officer for England's strategic plan for research.

Nilsen, P., & Birken, S. A. (2020). *Handbook of implementation science*. Edward Elgar Publishing Limited.

Nursing and Midwifery Board of Australia. (2016). *Registered Nurse Standards for Practice*. Accessed 15th January 2024 https://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Professional-standards/registered-nurse-standards-for-practice.aspx

Nursing and Midwifery Board of Australia. (2018). *Midwife Standards for Practice*. Accessed January 15, 2024 https://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Professional-standards/Midwife-standards-for-practice.aspx#

Palmer, S., Coad, J., Gamble, J., Jones, C., Lees-Deutsch, L., McWilliams, D., Murphy, E., & Kneafsey, R. (2023). Nursing, midwifery, and allied health professions research capacities and cultures: A survey of staff within a university and acute healthcare organisation. *BMC Health Services Research*, *23*(1), 647. https://doi.org/10.1186/s12913-023-09612-3

Peddle, M. (2022). Maintaining reflexivity in qualitative nursing research. *Nursing Open*, *9*(6), 2908–2914. https://doi.org/10.1002/nop2.999

QSR International. (2023). *QSR International. NVivo software*. Accessed November 20, 2023 https://lumivero.com/products/nvivo/

Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, *23*(4), 334–340. https://doi.org/10.1002/1098-240x(200008)23:4<334::aid-nur9>3.0.co;2-g

Soedirgo, J., & Glas, A. (2020). Toward active reflexivity: Positionality and practice in the production of knowledge. *Political Science & Politics*, *53*(3), 527–531.

Trusson, D., Rowley, E., & Bramley, L. (2019). A mixed-methods study of challenges and benefits of clinical academic careers for nurses, midwives and allied health professionals. *BMJ Open*, *9*(10), e030595. https://doi.org/10.1136/bmjopen-2019-030595

Upton, D., Upton, P., Erol, L., & Penn, F. (2013). *Phase 1 Evaluation of the Lothian's Nursing Midwifery and Allied Health Professions (NMAHP) Clinical Academic Research Careers (CARC) Scheme*. Accessed May 20, 2024 https://eprints.worc.ac.uk/3563/

Westwood, G., Richardson, A., Latter, S., Macleod Clark, J., & Fader, M. (2018). Building clinical academic leadership capacity: Sustainability through partnership. *Journal of Research in Nursing*, *23*(4), 346–357. https://doi.org/10.1177/1744987117748348

How to cite this article: Johnson, M., Straiton, N., Ferguson, C., Mcinnes, E., Thornton, A., Everett, B., Tuqiri, K., Meedya, S., Hackett, K., Cruickshank, M., Fry, M., Perry, L., Sheppard-Law, S., Hosie, A., Inglis, S., Mcerlean, G., Debono, D., Fernandez, R., Wynne, R., … Middleton, S.; (2025). Pre-implementation context and implementation approach for a nursing and midwifery clinician researcher career pathway: A qualitative study. *Journal of Advanced Nursing*, *81*, 1052–1068. https://doi.org/10.1111/jan.16307

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.