

The experiences of clinical academic nurses: a meta-aggregation.

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Title: The experiences of clinical academic nurses: A meta-aggregation

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Abstract

Objective: Historically, clinical academic careers were only available for dental and medical professions. The title of a clinical academic nurse is recognised as a role that concurrently engages in both clinical practice and research. This systematic review aimed to synthesis qualitative evidence to understand the experiences of clinical academic nurses.

Data sources: A meta-aggregation systematic review was conducted. Key search terms were used in CINAHL and MEDLINE. The review has been reported according to ENTREQ checklist. This meta-aggregation review followed the principles from Joanna Briggs Institute (JBI) and the reviewers conducted a methodological quality assessment on all included studies. Qualitative studies which explored experiences of clinical academic nurses were included.

Conclusion: 2202 articles identified five studies met the inclusion criteria. Five synthesized findings from the included qualitative studies, related to, 1) clinical academic preparation, 2) challenges, 3) enablers, 4) clinical practice and 5) role expectation of clinical academic nursing roles. The meta-aggregation has identified that while there are numerous clinical academic nursing discussion papers, commentaries and editorials on the topic area, few empirical studies have explored the perceptions and experiences of clinical academic roles in nursing.

Implications for Nursing Practice: This systematic review has highlighted the variety of reported experiences of clinical academic nursing, in relation to implications for practice, research and leadership. Clinical academic roles are being developed across the nursing professions outside of medicine, and effective leadership it is important to support sustainable career pathways and curricula, and to enable the evaluation of these roles. This review has made an important contribution to the literature by highlighting several issues to consider in developing and safeguarding the progress already made in clinical academic nursing career pathways.

Key words: clinical academic; nursing; experience; perceptions; meta-aggregation; systematic review, research

Introduction

Healthcare disciplines of medicine and dentistry have a well-established career pathway that supports clinical academic roles allowing these professionals to pursue academic research while maintaining their clinical practice roles ^{1,2}. Nursing has historically struggled to have such a well-defined pathway but since the early 2000's there has been an increased focus on the support and development of clinical academic nurses ³⁻⁵. The title of a clinical academic nurse is recognised as a role that concurrently engages in both clinical practice and research ^{6,7}, including roles in oncology nursing ⁸. Previous research has identified that clinical academics are well placed to conduct research that is grounded in clinical practice issues and address questions that are relevant to service delivery and patients ^{9,10}. The social, political and economic challenges in health care make it critical for leadership capabilities of the role to ensure individuals are equipped to respond to these ever-changing challenges, not only today but into the future.

The development and sustainability of clinical academic nurses has had various traction internationally. For example, in the United Kingdom (UK), there is an agreed definition on the role of a clinical academic nurse ⁶, supported by a number of national policy documents ^{3,6,9} and available funding infrastructure ¹¹. In Australia, the role of the clinical academic nurse is recognised widely as a Clinical Professor ¹². However, there are no formal clinical academic pathways to support nurses in Australia and often only senior roles exist which are conjointly funded by HEIs and a healthcare provider. Similarly in New Zealand, there are no formal clinical academic pathways with attempts to develop academic careers limited to early career nurses ¹³. Within the context of the United States of America (USA) the value of clinical academic nurses is widely recognised, particularly through the MAGNET framework ¹⁴. Generally, MAGNET accredited hospitals embed research activity into every-day practice through existing clinical governance structures. Thus MAGNET hospitals have a strong body of evidence which has been linked to improved nursing care and patient outcomes ^{15,16}. Elsewhere in China and other European countries, there is support of clinical academic nursing roles but as of yet, no structures or funding models exist to support this particular career pathway ¹⁷.

Several authors ^{7,10,18-22} have identified the need for sustained support in the development of clinical academic nursing roles by strategic investment through the development of

partnerships between academic institutions and health care providers. In the context of this review, a clinical academic nurse is considered to be a role that concurrently engages with research and clinical practice, providing nursing leadership to develop scholarship, innovation, and excellence for evidenced-based practice⁹. Furthermore, these tasks are carried out in joint roles across clinical services and higher education institutions^{9,17}. Through combining clinical and academic duties in nursing it is likely that the research conducted will have clear relevance to clinical practice issues for translational impact²². Thus, clinical academic nurses in oncology have the potential to make an important contribution to the development, conduct and implementation of evidence that aims to improve health services and patient care. Fundamentally, clinical academics enables the individual to coalesce their research and clinical progression together, rather than being forced to choose between either clinical or academic pathways in the nursing profession^{6,9,14,20,21}.

Given the emergence of clinical academic roles in nursing across different international perspectives, this systematic review aimed to take stock of all empirical qualitative evidence to understand the experience and perceptions of clinical academic nurses. This meta-aggregation review addressed the following research question:

- What are the experiences of clinical academic nurses?

Method

This meta-aggregation has been presented in keeping with the Enhancing Transparency in Reporting of the Synthesis of Qualitative Research (ENTREQ)²³, see supplementary Table 1. The Joanna Briggs method for meta-aggregation was followed.

Search Methods

The Medical Literature Analysis and Retrieval (MEDLINE) and Cumulative Index of Nursing and Allied Health Literature (CINAHL) databases were searched for all relevant publications (earliest date available to November 2020) published in English language. The search strategies included the use of truncations, adjacency search parameters as well as Boolean operators. A combination of MeSH, EmTree and APA vocabularies as well as keywords were used to develop the search strategy and included keyword searches such as: “evidence-based practice” or “nursing research”, “clinical nursing research” or “nursing

research culture” or “role” or “nurs* role” or “perception” or “clinical” or “clinical academic” or “nurs*” and “qualitative”.

Pre-defined eligibility criteria

Types of studies

Inclusion criteria

- Given the meta-aggregation methodology only qualitative studies published in the English language were assessed for inclusion.

Exclusion criteria

- Commentaries, editorials and discussion papers were excluded.

Types of participants

Inclusion

- Clinical academic nurses who role concurrently engages with research and clinical practice, providing nursing leadership to develop scholarship, innovation, and excellence for evidenced-based practice^{9,17}. Furthermore, these tasks are carried out in joint roles across clinical services and higher education institutions.

Types of outcomes

Inclusion

- The primary outcome of this review was related to the experiences of holding a clinical academic nursing role.

Study Selection

All references were uploaded to EndNote™ and then exported to Covidence™ (Covidence systematic review software), where duplicates were removed. Covidence™ was used to complete the title and abstract screening based on the pre-determined inclusion and exclusion criteria. Titles and abstracts were screened independently by two reviewers. Relevant titles and abstracts meeting the inclusion criteria were moved to full text review screening. Full text publications were reviewed by two reviewers, and any disagreements resolved through discussion.

Assessment of Methodological Quality

Methodological quality assessment was performed on all studies which met the PICO (participant, phenomenon of interest, context) inclusion criteria. The JBI Critical Appraisal Checklist for Qualitative Research was used. This qualitative 10-item checklist provided an assessment of congruity between the theoretical/ philosophical underpinning adopted in the study, methodology, methods, the research question, the representation of the data, and the interpretation of the findings of each of the selected studies. The item ratings of each appraisal were consolidated and represented in a final quality appraisal table as agreed by two reviewers.

Data Extraction

The data extracted across the included studies capture information about the population, context, geographical location, study methods and the phenomena of interest relevant to the research question. Qualitative themes as highlighted by the study authors of the included studies provided textual findings to provide representability of the original study. The findings were extracted directly from the studies and illustrative quotations were extracted to illustrate each finding. Importantly, the reviewers extracted the findings as reported by the researchers of each included study, without interpreting the actual data. The findings (subthemes) of the studies were extracted (see Supplementary Table 2).

Data synthesis

Qualitative research findings (subthemes and illustrative quotes) across the included studies were synthesized using a thematic analysis approach. Specifically, the synthesis of findings enabled the generation of a set of statements that represented similar findings which were categorized based on the commonality of meaning²⁴. The data synthesis involved three steps in this process:

- 1) Step 1: The data extraction (findings and illustrative quotes) from the main findings of the original studies were extracted in tabular format.
- 2) Step 2: The findings and associated illustrative quotes were group together based on similar meaning.
- 3) Step 3: The final step in the meta-aggregation synthesis involved the generation of categories and the final synthesized findings.

This process in the data synthesis was carried out by one reviewer and quality checked by a second reviewer. Any disagreements were resolved by discussion.

Findings

Of the 2202 articles identified from the electronic database search five studies met the inclusion criteria, see **Figure 1**. The studies were conducted in Canada, New Zealand, the United Kingdom, and the Netherlands. See **Table 1** for the summary of characteristics of the included studies. Methodological quality appraisal was undertaken, and the results presented in **Table 2**). Overall, the body of evidence is an emerging evidence base underscoring that there is growing attention of the importance of clinical academic nursing roles.

Following the meta-aggregation methods the findings were synthesized into categories and then finally to synthesized findings. Supplementary Table 2 provides an overview of the primary data extraction with findings and illustrations. There were five categories and synthesized findings related to clinical academic preparation, challenges, enablers, clinical practice, and role expectation (**Table 3**).

Synthesized Finding 1: Clinical and Academic Preparation

This synthesized finding related to the individual preparation of clinical academic nurses which varied across counties and organizations²⁵⁻²⁷. Participants reported that academic preparation in research training was important to them to fulfill their roles. In some studies, it was acknowledged that nurses are expected to secure a clinical role to establish clinical expertise before they were championed to progress on a clinical academic pathway^{26,27}.

“I think you have to have an eye for research and understand how to obtain research, understand research, how to disseminate it, and as well, how to put it into the context that matters for the people you are serving” p251,25

All of the included studies reported that research qualifications in a clinical academic role was important²⁵. The participants across the included studies had a master level or doctoral level degree qualification²⁵⁻²⁹.

Synthesized Finding 2: Challenges

This finding related to the distinct challenges that clinical academic nurses experienced in their roles. There was acknowledgement that clinical academic nurses were a minority compared to their medical counterparts which made access to support more difficult^{26,28}. Several studies^{26,28,29} identified challenges with organizational culture because direct care of

patients was the fundamental focus and priority in the health care setting for nurses and nurse managers, which implied education and research were not²⁸:

“Nurses sitting behind a desk the entire day will be appreciated differently than nurses standing beside a bed uselessly chatting with the patient because someone takes care of the patient. Nurses appreciate research less because in their opinion it does not have a direct impact on an individual patient” p4979, 28

“Managers focus on financials and direct patient care, while they see research as a hobby” p4980, 28

Other problems included financial difficulties in progressing clinical academic pathways²⁶. It was noted that once nurses reached a senior clinical level in their specialty, they reported financial challenges to opt for research fellowships due to limited offerings of the basic stipends in progressing a clinical academic track^{26,28}. In addition, when nurses achieved their PhDs many expressed anxieties about their future careers with a lack of development frameworks and scarce opportunities to progress to postdoctoral positions and beyond to clinical professors. Some stated that they had to set aside their clinical development to advance their academic progression, as opposed to being supported to develop their research and clinical development in tandem²⁶.

Synthesized Finding 3: Enablers

One of the main drivers of clinical academic career trajectories was the nurses' own determination and ambition^{26,27}. Nurses reported increased job satisfaction, research experience, with enriched skills a feeling of achievement when they were being supported in a clinical academic nursing role²⁶⁻²⁸. Clinical academic nurses were able to champion pathways by the encouragement and support by key individuals within their organizations at the senior level:

“I have a very supportive divisional head nurse and have been appointed into a trailblazer post; we haven't got anything similar in the organization. So there's a real potential to forge out new innovative ways in which clinical academics can fulfil that remit of working in clinical practice and undertaking research, but to also pave the way of others that want to come up too” p6,26

There was also a political driver for the international “*kudos*” that comes with being associated with a research active health care organization²⁹. Research intensive organizations recognized that they have better patient outcomes, enhanced attraction and retention of staff which also helped them contribute toward Magnet status in their respective institutions²³:

“At the hospital they want to get this Magnet status. The three domains are good clinical outcomes, patient experience and staff experience and part of (that) is having well qualified nurses. They really want to increase the academic underpinnings of nurses and have research leaders ... what I am doing really ticks the boxes of Magnet.” p7,26

“Of course, it will improve your image as an interesting employer for nurses. That part of a hospital’s image is very interesting because we prefer to attract talented and more highly educated nurses.” p4978, 28

Synthesized Finding 4: Clinical Practice

Across the studies there was a collective appreciation from the participants that maintaining clinical expertise was a fundamental aspect of the clinical academic role in nursing²⁶⁻²⁹. Most nurses articulated that in addition to their educational preparation, demonstrating that they were clinical experts in their respective fields to meet the needs of their patients, drive research to provide clinical credibility with their teams²⁵. Clinical academics nurses also enabled collegiality and collaboration with multi-disciplinary colleagues to build stronger relationships with practice and research:

“... in the real world of practice and the issues that confronts us everyday ... a position that works practically with us on practical things” p135, 29

“... because your clinical expert practice often reveals areas for practice development which then requires research, you then educate people about the research you have done and because you do that, you are leading them ... it all just interweaves” p850, 27

Maintaining clinical expertise enabled clinical academic nurses to act as conduits for translational change in practice and to identify real-world issues and unmet patient needs²⁶.

Many of the clinical academic nurses worked at advanced clinical levels of skill and were involved in nurse-led services. Yet, there were also challenges in juggling the practicality and complexity of the clinical academic nursing role as illuminated by this illustration:

“The promotion is massive, and the PhD is hugely important. You’ve got to somehow survive with the work and academia all at once and not fall down the rabbit hole and get lost. Yeah that’s a big challenge” p⁵, ²⁶

Synthesized Finding 5: Role expectations

This synthesized finding related to the expectations of the clinical academic nurse and broadly encompassed the four pillars of nursing, which included: facilitating learning, clinical practice, leadership and research/evidence-based practice²⁶⁻²⁹. Clinical academic nurses required clear communication at multiple levels across their organizations. It was consistently reported that senior roles, such as clinical professors in nursing, would improve the organizational research culture and the professionalism in nursing²⁶⁻²⁹. It was stated that to ensure the success of these roles it was essential to set clear role expectations, extensive collaboration and sound leadership:

“My expectations were that it [the role Clinical Chair] would raise the professionalism of nurses within the organization ... raise our status in the national scheme of things and [change] the research culture in the organization” p¹³⁴, ²⁹

“I’m going to a meeting up in London, um, to discuss um, basically what the priority network research areas are for cancer patients ... its looking at it nationally across nursing” p⁸⁴⁸, ²⁷

What is also clear from these illustrative quotes is that the senior leadership and vision provided by the senior clinical academics such as the clinical chairs allowed the to have a strategic overview of the research priorities of the organization that are grounded in the needs of the patients.

Discussion

This meta-aggregation explored the experience and perceptions of clinical academic roles in nursing across different international communities. Five qualitative studies were included in

this meta-aggregation which identifies that this is an emergent area focus. The findings led to five synthesized themes focused on clinical academic preparation, challenges, enablers, clinical practice, and role expectations. As with the tradition of the medical and dental professions, there is now recognition that nurses are ideally placed to develop innovative solutions to real world clinical issues that they observe directly from clinical practice^{3,6,9}.

The meta-aggregation has identified that while there are numerous clinical academic nursing discussion papers, commentaries, and editorials on the topic area, very few empirical studies have explored the experiences and perceptions of clinical academic roles in nursing. This review has made an important contribution to the literature by highlighting several issues to consider in developing and safeguarding the progress already made in clinical academic nursing career pathways¹⁷ that is relevant to oncology nursing. It is acknowledged that a major barrier to the implementation of research in healthcare organisations is the time lag and incapability of research to inform decision making¹⁰. Therefore, transformational leadership capabilities in clinical teams and a strong commitment from academic and clinical partners is necessary to bridge the evidence translation gap.

The main driver to fostering clinical academic positions has been the growth of a research culture in health organizations. Patients expect that the care and treatment provided to them is evidence-based. Thus, developing capacity and capability in the nursing workforce to demonstrate this evidence is paramount³⁰. Arguably, for many nurse academics internationally they remain out of practice and consequently a distinct clinician academic divide continues to grow. Prominent nursing academics globally are in strong leadership positions to advocate for more clinical academic roles and providing opportunities to research skills development. This gap will require a fundamental shift in the nursing profession to support clinical academic careers to enable and facilitate evidence-based health in a timely manner given the unique insights gained from this review.

This review has highlighted the positive influence of support on career advancement and the effect that the workplace environment may have on trainee clinical academics to remain motivated to stay in clinical practice. Another important facilitator of clinical academic nursing role is funding and organizational support from senior organizational management. In the development of future clinical academic nursing roles clearly articulating and

communicating the vision from organizational managers and outlining the significant impacts that the role aims to achieve is fundamental.

The findings identified in this review illuminated mutual benefits of combining clinical and academic career pathways in nursing, with an emphasis for the growing need for additional clinical academic nursing posts in the profession. However, it was also identified that the nursing culture can hamper nurses from combining clinical and academic activities^{21,28}.

Existing evidence has identified that clinical academic nurses facilitates knowledge transfer and implementation of evidence-based practice and cost-effective care delivery³¹.

Supporting such nursing career pathways leverages an increase in educational and research activities in the clinical setting while simultaneously delivering high-quality and safe care to patients⁹.

Recommendations for practice and research

The continual emergence of such roles opens opportunities for qualified nurses with academic talent to combine research, teaching and practice simultaneously. Career pathways require infrastructure with resources to help sustain such pathways in the future. This review has highlighted a pervasive anti-academic culture towards and within nursing which poses a significant challenge. Nursing research provides a unique contribution in healthcare, for example patient experiences, holistic care and patient reported outcomes which are relevant to nursing practice. Future research should continue to explore the contribution of oncology clinical academic nurses to improving patient outcomes and care delivery in an authentic and meaningful way to further develop and sustain research activity within the healthcare setting.

Limitations

This review enabled the collection of qualitative experiences to understand clinical academic nursing. This review has some limitations. Given the small number of included studies it may reduce the scope of the transferability of the findings. Finally, in keeping with the meta-aggregation approach the reviewers cannot synthesize actual data drawn from the reported studies because this method relies on the individual researchers' own accounts and interpretations of the data.

Conclusion

Developing transparent clinical academic career pathways are likely to enhance both clinical and academic expertise to be harnessed for the benefit of patients and healthcare organizations. Nursing leaders must advocate for the importance of clinical academic careers for nursing to continue to build a readiness for research in an evidence-based culture globally.

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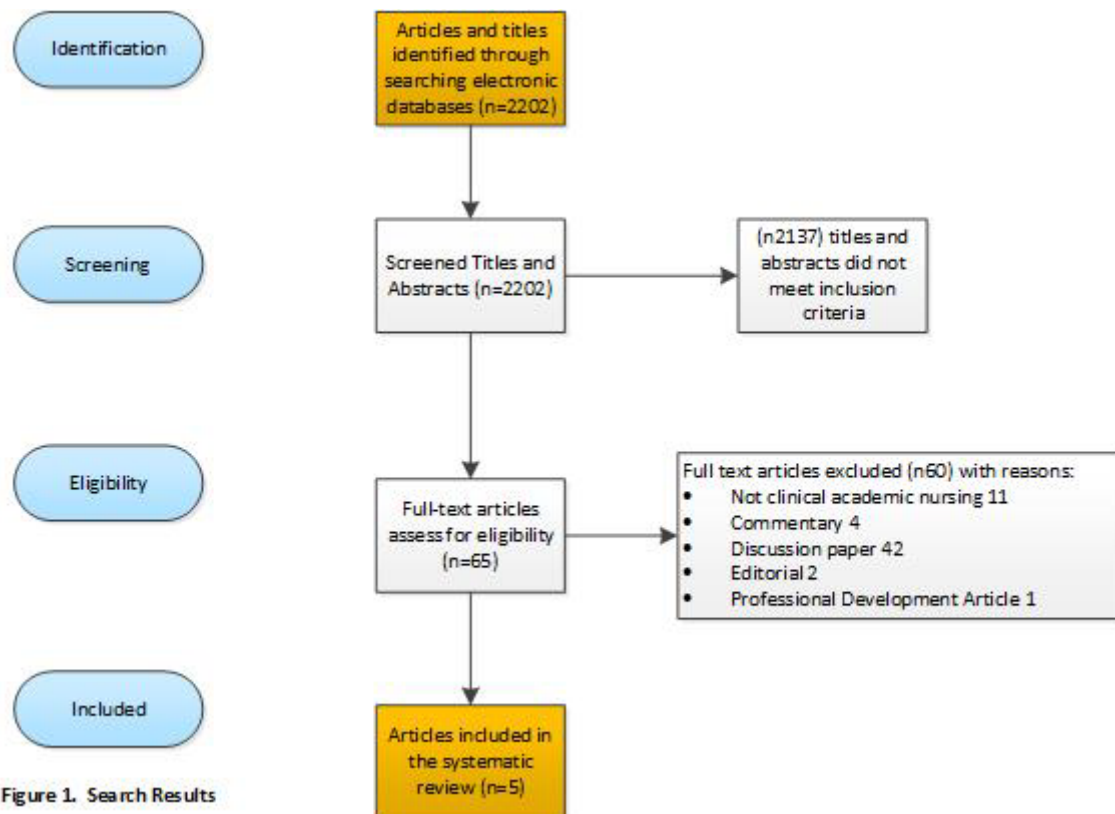


Figure 1. Search Results

Table 1: Characteristics of the Included Studies

Study	Methods for data collection and analysis	Country	Phenomena of interest	Setting/context/culture	Participant characteristics and sample size	Description of main results
Campbell et al., 2013	Data Collection: Face to face interviews recorded and transcribed with guiding questions. Analysis: Interpretive description and thematic summary	Canada	Experiences of challenges around the implementation of evidence-based practice and knowledge and skills needed.	Clinical Nurse Specialist educated with master's or PhD.	24 telephone questionnaires and 11 face to face interviews.	Three broad themes related to role strain, lack of support and resources and role ambiguity. The skills and attributes required include graduate preparation, clinical expertise and people/communication skills.
Duke et al., 2009	Data Collection: Face to face interviews recorded and transcribed with guiding questions. Analysis: thematic summary	New Zealand	Experiences related to working with Clinical Chairs	Two health service partners	8 senior staff employed by 2 health service partners.	Four main themes related to understanding the role of the clinical chair, their expectations of the role, achievements of the role, and future expectations.
Trusson et al., 2019	Data Collection: Face to face interviews recorded and transcribed with guiding questions. Analysis: thematic summary	United Kingdom	To explore challenges of combining clinical and academic and the impact on patient outcomes.	Eight acute trusts, five mental health trusts, 1 ambulance service and 17 clinical commissioning groups	16 interviews	Three themes were identified which included embarking on a clinical academic career, overcoming barriers and benefits of clinical academic research.
van Oostveen et al., 2017	Data Collection: interviews and focus groups recorded and transcribed with guiding questions. Analysis: thematic summary	Netherlands	Perceptions of the importance, facilitators and barriers in nurses combined clinical and academic work.	Two Dutch university hospitals	24 interviews and two focus groups (with 14 participants)	Three themes related to the perceived importance, barriers and facilitators, culture, leadership and infrastructure.
Woodward et al., 2005	Data Collection: Face to face interviews recorded and transcribed with guiding questions. Analysis: Framework analysis and latent content analysis	UK	To explore the work of nurse consultants from their perspectives and with a reference to research in practice.	Five NHS trusts in one region of England	10 interviews	Four major themes were identified including characteristics of the post holder, role achievements, support systems and NHS influences.

Table 2 Quality appraisal of primary studies

Qualitative Study										
	1	2	3	4	5	6	7	8	9	10
Campbell et al., 2013	1	1	1	1	1	3	3	1	1	1
Duke et al., 2009	1	1	1	1	1	3	3	1	1	1
Trusson et al., 2019	1	1	1	1	3	3	3	1	1	1
Van Oostveen et al., 2017	1	1	1	1	1	1	1	1	1	1
Woodward et al., 2005	1	1	1	1	1	3	3	1	1	1

Item number check list key*: 1 Is there congruity between the stated philosophical perspective and the research methodology?; 2 Is there congruity between the research methodology and the research question or objectives?; 3 Is there congruity between the research methodology and the methods used to collect data?; 4 Is there congruity between the research methodology and the representation and analysis of data?; 5 Is there congruity between the research methodology and the interpretation of results?; 6 Is there a statement locating the researcher culturally or theoretically?; 7 Is the influence of the researcher on the research, and vice-versa, addressed?; 8 Are participants, and their voices, adequately represented?; 9 Is the research ethical according to current criteria for recent studies, and is there evidence of ethical approval by an appropriate body?; 10 Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?

1	Yes
2	No
3	Unclear

Table 3. Study finding linked to categories and synthesised findings

Findings	Categories	Synthesized finding
Educational Preparation Embarking on a clinical academic career Non-integration	Clinical academic preparation	Clinical academic nurses recognised the importance of academic preparation in their combined roles. This included understanding research methodologies, execution of research projects, dissemination and translation of research findings into practice for the benefits of patients and their colleagues to promote evidence-based practice.
Understanding the role of a Clinical Chair Overcoming barriers Culture Leadership Limited Career Ladder	Challenges	There were several challenges that faced clinical academics including under representations of clinical academic nurses compared to their medical counterparts. Issues related to organisational culture, financial difficulties with a lack of clear clinical academic progression frameworks.
Benefit and Impact Perceived importance Collaboration for success Determination	Enablers	One of the main drivers to support clinical academics was the individual's own determination, robust collaborative networks and the kudos status in which clinical academics brought to organisations, and includes hospital aiming to achieve Magnet status.
Clinical Expertise or Not? Achievement of the Role Role models credibility Role development Models of working Managing the clinical role	Clinical Practice	There was a collective appreciation that maintaining clinical expertise was a fundamental aspect to the clinical academic role. Maintaining clinical expertise enabled post holders to act as an agent for change, identify real world practice issues to inform research, and worked at advanced clinical skill levels or delivered nurse-

		led services. It was also noted that juggling clinical practice with research was complex and having a supportive manager was essential.
Communication/People Skills Expectations of the Clinical Chair Role Characteristics of post holder Future Expectations Empowerment Leadership Collaboration	Role Expectations	There were several key aspects in the role expectation of clinical academic nurses. Expectations includes that post holders would deliver the four pillars of research, teaching, practice, and leadership. There was the expectation that senior positions such as clinical chairs in nursing would transform the organisational culture and professionalism of nurses as a whole.

Supplementary Table 1. ENTREQ checklist (Enhancing transparency in reporting the synthesis of qualitative research)

No. Item	Guide Questions/Description	Reported on Page
1. Aim	A meta-aggregation was conducted to explore the following research question “What are the perceptions and the experiences of clinical academic nurses?”	Page 4
2. Synthesis methodology	Identify the synthesis methodology or theoretical framework which underpins the synthesis, and describe the rationale for choice of methodology (e.g. meta-ethnography, thematic synthesis, critical interpretive synthesis, grounded theory synthesis, realist synthesis, meta aggregation, meta-study, framework synthesis)	Page 4-5
3. Approach to searching	The search was pre-planned. Comprehensive search strategies were undertaken to seek all available studies.	Page 4
4. Inclusion criteria	<p>Inclusion criteria</p> <ul style="list-style-type: none"> All published studies exploring participants’ perceptions and experiences of clinical academic nursing were eligible for inclusion. Only original qualitative studies published in English in peer-reviewed journals from the earliest date available to May 2020 were assessed. <p>Exclusion criteria</p> <ul style="list-style-type: none"> Commentaries, editorials and discussion papers were excluded. 	Page 4-5
5. Data sources	The Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medical Literature Analysis and Retrieval (MEDLINE) databases were searched for all relevant publications (earliest date available to June 2020) published in English language. The literature search was conducted using the search terms “evidence-based practice” or “nursing research”, “clinical nursing research” or “nursing research culture” or “role” or “nurs* role” or “perception” or “clinical” or “clinical academic” or “nurs*” and “qualitative”.	Page 4
6. Electronic search strategy	The Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medical Literature Analysis and Retrieval (MEDLINE) databases were searched for all relevant publications (earliest date available to June 2020) published in English language.	Page 4

7. Study screening methods	Following the search, all identified citations were collated and uploaded into EndNote X8.2 (Clarivate Analytics, PA, USA). Titles and abstracts were screened for assessment against the inclusion criteria for the review. Studies that potentially met the inclusion criteria were retrieved in full. The full texts of selected studies were retrieved and assessed in detail against the inclusion criteria by two reviewers. Full-text studies that did not meet the inclusion criteria were excluded, and reasons for exclusion are provided.	Page 5
8. Study characteristics	Table 1 presents the characteristics of the included studies (author(s), year of publication, country, population, number of participants, data collection, methodology, analysis and limitation of the studies).	Table 1
9. Study selection results	A flow diagram using PRISMA guidelines for reporting of systematic reviews is presented in Figure 1 in reporting of the selection process and results.	Figure 1 Page 6
10. Rational for appraisal	All studies meeting the PICO (participant, phenomenon of interest, context) inclusion criteria were assessed using the JBI Critical Appraisal Checklist for Qualitative Research. The 10-item, Critical Appraisal Checklist instrument assesses congruity between the philosophical/theoretical position adopted in the study, study methodology, study methods, the research question, the representation of the data, and the interpretation of the findings of each of the selected studies. The item ratings of each appraisal were consolidated and represented in a final quality appraisal table as agreed by two reviewers.	Page 5
11. Appraisal Items	Appraisal Checklist for Qualitative Research. The 10-item, Critical Appraisal Checklist instrument assesses congruity between the philosophical/theoretical position adopted in the study, study methodology, study methods, the research question, the representation of the data, and the interpretation of the findings of each of the selected studies.	Page 5 Table 2
12. Appraisal Process	Appraisal was conducted independently by two independent reviewers. The two reviewers discussed if consensus was required.	Page 5
13. Appraisal Results	Appraisal Results presented in Table 2.	Table 2
14. Data extraction	Indicate which sections of the primary studies were analysed and how were the data extracted from the primary studies?	Page 5
15. Software	State the software used.	Page 5

16. Number of reviewers	Identify who was involved in coding and analysis.	Page 4-6
17. Coding	Describe the process for coding of data	Page 5-6
18. Study comparison	Describe how were comparisons made within and across studies	Page 5-6
19. Derivation of themes	Explain whether the process of deriving the themes	Page 5-6
20. Quotations	Provide quotations from the primary studies to illustrate themes/constructs, and identify whether the quotations were participant quotations of the author's interpretation.	Supplementary Table 2 Page 5-6
21. Synthesis output	Present rich, compelling and useful results that go beyond a summary of the primary studies	Table 3 Pages 6-10

Supplementary Table 2: Study Findings with Illustrations

Study: Campbell and Profetto-McGrath 2013	
Finding	Educational Preparation
Illustration	“I think you have to have an eye for research and understand how to obtain research, understand research, how to disseminate it, and as well, how to put it into the context that matters for the people you are serving” p251
Finding	Clinical Expertise or Not?
Illustration	“I do think a CNS needs to be an expert in a clinical field she has chosen, and you can’t do that straight out of school. I think you do need to be in the practice setting and that also really helps in, you know, you’re going to an agent of change ...” p251
Finding	Communication/People Skills
Illustration	“You always have to communicate ... if you’re not a communicator ... that is going to be your downfall” p251
Study: Duke et al. 2014	
Finding	Understanding the role of a Clinical Chair
Illustration	“We have a lot of medical professors, and yes, it was probably well overdue that we would have a nursing professor” p133
Finding	Expectations of the Clinical Chair Role
Illustration	“My expectations were that it [the role Clinical Chair] would raise the professionalism of nurses within the organisation ...raise our status in the national scheme of things and [change] the research culture in the organisation” p134
Finding	Achievement of the Role
Illustration	“... in the real world of practice and the issues that confronts us everyday ... a position that works practically with us on practical things” p135
Finding	Future Expectations
Illustration	<p>“The reason that the professor role has been a success is that we have a very easy and supportive relationship with [the] university. We were really clear from the start ... what we both wanted from the role ... we set these boundaries quite early ... If you’ve got a mature, supported trusting relationship it allows the [Clinical Professor] the freedom within their role to actually ... produce the goods, and at the end of the day that’s what it is about” p136</p> <p>“My expectations would be that concrete outcomes start occurring clinically that improve nursing, improves nurses’ practice and improve the outcomes for patients that are concrete and tangible” p137</p>
Study: Trusson et al., 2019	
Finding	Embarking on a clinical academic career
Illustration	“Clinical academics are part of the solution. We can innovate and generate the solutions for these age-old problems that we are seeing, having a robust methodological approach to understanding and exploring phenomena. But also developing and testing interventions to address these problems” p4
Finding	Overcoming barriers

Illustration	“Clearly I think an obstacle is when you get to that high clinical level and you’ve got mortgages and things, it makes it very difficult to do it on a basic stipend” p 4
Finding	Managing the clinical role
Illustration	<p>“The promotion is massive, and the PhD is hugely important. You’ve got to somehow survive with the work and academia all at once and not fall down the rabbit hole and get lost. Yeah that’s a big challenge” p5</p> <p>“I have a very supportive divisional head nurse and have been appointed into a trailblazer post; we haven’t got anything similar in the organisation. So there’s a real potential to forge out new innovative ways in which clinical academics can fulfil that remit of working in clinical practice and undertaking research, but to also pave the way of others that want to come up too” p6</p>
Finding	Benefit and Impact
Illustration	“At the hospital they want to get this Magnet status. The three domains are good clinical outcomes, patient experience and staff experience and part of (that) is having well qualified nurses. They really want to increase the academic underpinnings of nurses and have research leaders ... what I am doing really ticks the boxes of Magnet” p7
Study: van Oostveen et al., 2017	
Finding	Perceived importance
Illustration	“Of course, it will improve your image as an interesting employer for nurses. That part of a hospital’s image is very interesting because we prefer to attract talented and more highly educated nurses” p4978
Finding	Culture
Illustration	“Nurses sitting behind a desk the entire day will be appreciated differently than nurses standing beside a bed uselessly chatting with the patient because someone takes care of the patient. Nurses appreciate research less because in their opinion it has not direct impact on an individual patient” p4979
Finding	Leadership
Illustration	“Managers focus on financials and direct patient care, while they see research as a hobby” p4980
Finding	Role models credibility
Illustration	“To me, it seems nurses have a goal not to wear their uniforms, and with that they subvert the whole system. If I ask, “why don’t you want to work 1 day in direct care? They look at me if I said something very dirty” p4980
Finding	Limited Career Ladder
Illustration	“Do you really want this ...work an evening shift and start your research day at 8am the next morning. Combining practice and education is even harder because of those rostering schemes are very static” p4980
Finding	Collaboration for success
Illustration	“Well I think there’s a very strong medical infrastructure with a lot of know-how. It would be stupid to build your own nursing silo. So take advantage of all the know-how that is already in place” p4981
Study: Woodward et al., 2005	
Finding	Characteristics of post holder

Illustration	"I have done research ... I did a phenomenology study not so long ago looking at parents' perceptions of living through their child's suffering" p848
Finding	Leadership
Illustration	"I'm going to a meeting up in London, um, to discuss um, basically what the priority network research areas are for cancer patients ... Its looking at it nationally across nursing" p849
Finding	Empowerment
Illustration	"The intention was that probably I would sit in the clinic somewhere with a team and see patient after patient, but actually I didn't think that was the most empowering or indeed the best way to do it so I started doing work with practice nurses in surgeries" p849
Finding	Determination
Illustration	"I met the director of the British Heart Foundation ...it was Professor Sir or Sir Professor somebody and, um, very nice chap but I asked him specifically, "so when is the British Heart Foundation going to be sponsoring some nursing research them?" and he was very defensive" p849
Finding	Collaboration
Illustration	"I cover seven acute trusts and twelve primary care trusts and um have links with higher education and workforce confederations" p849
Finding	Role development
Illustration	"... because your clinical expert practice often reveals areas for practice development which then require research, you then educate people about the research you have done and because you do that, you are leading them ...it all just interweaves" p850
Finding	Non-integration
Illustration	"I'll drip feed them pieces of research when they are there and I'll make them look at articles and journals" p850
Finding	Models of working
Illustration	"We do light therapy, we do topicals, we do cryotherapy ...and they're all nurse-led" p 851