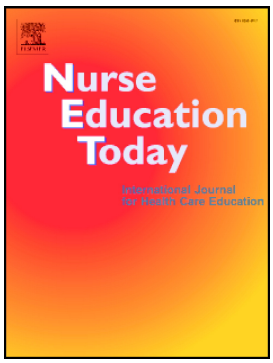

Education pathways for graduate entry registered nurses to transition to advanced practice roles: A realist review

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Title

Education pathways for graduate entry registered nurses to transition to advanced practice roles: A realist review

Subtitle

Education pathways to advanced practice roles

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The authors confirm that the data supporting the findings of this study are available within the article and supplementary materials.

ABSTRACT

Objective: Explore potential education and clinical pathways for nurses entering the profession through a Graduate Entry Nursing programme to transition to advanced practice roles.

Design: Realist review.

Review Methods: A two stage process included 1) a systematic search of the following electronic databases EMCARE, MEDLINE, CINAHL, ERIC, and Scopus for published peer reviewed literature reporting academic pathways for graduates of graduate entry nursing programmes to progress to advanced nursing roles, and 2) consultation with key education program stakeholders of graduate entry nursing programmes across Australasia, who undertook an inductive interpretive approach using realist logic to determine what works, for whom, and in what circumstances.

Results: Twelve published articles that explored advanced practice academic pathways for graduate entry nursing graduates were synthesised in terms of context, mechanisms, and outcomes. Data were then interpreted as to what works, for whom, in what context, and why, to develop new understandings of opportunities for advanced practice pathways for these students. No specific tailored academic pathway for

were identified between financial imperatives, political drivers, and registration requirements.

Conclusions: Transformative strategies for new education pathways were identified as necessary to inspire innovation in nurturing graduate entry nurse graduates to progress to advanced practice roles. Effective collaboration and consultation within and across agencies and organisations are needed to both develop and implement accessible, expedient, and equitable programmes to enable this capable cohort to contribute to the health workforce.

Key words: Advanced nursing practice, graduate entry nursing, GEN, nursing, nursing education, post-graduate nursing education, realist review.

Registration: PROSPERO: CRD42021272181

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Impact

- Graduate Entry Nursing programmes are one part of the solution for projected future health workforce requirements and these graduates require tailored pathways that accommodate their unique attributes and academic capabilities.
- Financial imperatives, political drivers, and registration requirements impact the development of advanced practice pathways for nurses; no specific tailored academic pathways were identified for graduate entry nursing graduates to progress to advanced practice.
- A systematic approach engaging politically, globally, and locally is necessary to develop new accessible, acceptable, and equitable advanced practice pathways for graduate entry nursing graduates.

Reporting Method: Realist And Meta-narrative Evidence Syntheses: Evolving Standards (RAMESES)

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

- Accessible, expedient, equitable education pathways are needed for graduate entry nurse graduates to progress to advanced practice roles.

INTRODUCTION

The World Health Organization (WHO, 2016) identified a shortfall of nurses against projected future health workforce requirements, with particular disparities in service delivery between urban and rural communities. Sustaining the future nursing workforce will require transformative, high-quality education for lifelong professional learning so that nurses are able to work to their full potential with capabilities that are consistent with the health needs of populations. A priority issue for nursing is to promote access to education pathways for higher levels of nursing practice, enabling nurses to upskill to the full extent of their potential and contribute to the health workforce (World Health Organization, 2020).

BACKGROUND

Grad
workforce using the candidate's first degree to fast track a career change (Raines & Taglaireni, 2008). The aim of GEN programmes is in keeping with international literature on health workforce development that articulates strategies for professional mobility between health and other elements of the workforce (World Health Organization, 2016). These programmes are well-established internationally and were introduced to New Zealand in 2014 (Macdiarmid, McClunie-Trust, et al., 2021), but have been available in the United States of America since the 1970s and Australia since the 1990s (Neill, 2011).

Graduate entry nursing programmes attract high calibre applicants with already demonstrated academic abilities, skills and attributes that are transferable to nursing (Bloomfield et al., 2013). These programmes enable the more rapid launch of graduates into the workforce and are one way of addressing persistent nursing workforce shortages (International Council of Nurses, 2020, 2021; World Health Organization, 2020). Graduate entry nursing programme graduates are likely to be skilled in communication, interpersonal relationships, critical thought, reasoning and reflection. These skills underpin the higher-level clinical decision making and judgement required for quality care in complex and rapidly changing health service environments (Bloomfield et al., 2013), and may expedite graduates' entry into leadership and roles with an advanced scope of practice.

An example of such an advanced scope of practice role is that of the Nurse Practitioner (NP). These nurses have competence and legal authority to definitively diagnose and treat a comprehensive range of health conditions across the lifespan (Nursing and Midwifery Board of Australia, 2022; Nursing Council of New Zealand, 2022). However, expediting GEN graduates into advanced clinical roles involves structural challenges, given that entry pathways to NP registration remain based on traditional models of education and levels of nursing registration; for example, completion of a pre-registration programme such as a Bachelor of Nursing or equivalent, and evidence of post registration clinical practice. As such, for nurses who enter the profession through a GEN programme, these traditional pathways require the completion of two masters' degrees for registration as a NP.

While GEN programs are offered in the US, UK and across Australiasia global data on the number of GEN graduates is unknown, however, it has been identified that those entering GEN programmes did so to expedite career advancement, to explore nursing specialities and the professional roles they saw in nursing research, management and education (Macdiarmid, McClunie-Trust, et al., 2021; Macdiarmid, Turner, et al., 2021; McKenna & Brooks, 2018; McKenna & Vanderheide, 2012). Hence, exploration of potential pathways that would promote timely access to advanced clinical practice for GEN graduates is a priority for the nursing profession. Therefore, the objectives of this research were to explore and explain potential education and clinical pathways for nurses who enter the profession through a GEN programme to transition to advanced practice roles, such as NP, and propose recommendations for current and emerging advanced practice academic pathways for GEN graduates. Our research questions were:

RQ1: What are the published academic pathways for graduate entry registered nurses to transition to advanced practice roles?

RQ2: What are the contexts and mechanisms by which graduate entry registered nurse graduates can progress to advanced practice roles?

RQ3: what circumstances?

METHODS

In alignment with the explanatory aim of this review, it is guided by a critical realist theoretical perspective. Critical realism is a perspective in social science developed in the 1970s by the English philosopher Roy Bhaskar. Bhaskar proposed a stratified ontology, with reality consisting of three domains: the real, the actual, and the empirical. In the domain of the real, mechanisms that may be unseen (say what they are), cause events to occur in the domain of the actual, experienced by human actors in the domain of the empirical (Bhaskar, 1975). The relationship between context, mechanism and outcome can be expressed as: 'in what contexts, mechanisms cause events to occur, leading to outcomes' (Pawson & Tilley, 1997). The realist review methodology is explanatory in that it enables researchers to identify mechanisms acting below the surface of perceived events, causing outcomes to occur (Pawson et al., 2005). Pawson et. al's (2005) five practical steps for conducting realist reviews were used as a guide: Step 1, clarify the scope; Step 2, search for the evidence; Step 3, appraise the primary studies and extract the data; Step 4, synthesise the evidence and draw conclusions; and Step 5 disseminate, implement and evaluate the findings.

Stage one (RQ1 & RQ2)

In stage one, an initial test search in two databases, Cinahl (Ebscohost) and Scopus, was conducted. This search was supported by a research librarian to determine search terms (and variations) and search strategy and to inform the development and registration of an apriori protocol. The final search was conducted in September 2021 and sought to identify all existing international evidence on educational pathways to advanced practice roles for GEN Registered Nurses in the databases: EMCARE (Ebscohost), Medline (Ebscohost), Cinahl (Ebscohost), ERIC (Ebscohost), and Scopus. The search terms and strategy are provided in Supplementary File 1. Article selection was based on relevance to the below inclusion criteria. Article screening and selection was undertaken by a minimum of two researchers (**masked** & **masked**) independently, then consensus gained through consultation amongst researchers. The review was registered with PROSPERO (CRD42021272181).

Literature with graduate entry registered nurses as participants and advanced practice programmes and pathways were included. Research focused Doctorates such as Doctor of Philosophy or Doctor of Health Science were excluded. Graduate entry registered nurses (GENs) included non-nurse college graduates (NNCGs), second-degree masters' graduates, direct-entry masters' graduates, and accelerated second-degree masters' graduates. Interventions included formal educational pathways for advanced practice in nursing. Graduate entry nurse graduates of these programmes have a range of title descriptors, for example accelerated second-degree qualified advanced practice registered nurses (APRNs). Comparators or controls included alternative pathways. Types of studies for inclusion were not restricted by methodology or date. Contexts included tertiary education advance practice pathways for graduate entry registered nurses. Main outcomes included (but were not limited to) satisfaction, experiences, and effectiveness of educational and clinical pathways for graduate entry registered nurses to advanced practice. Measures of effect included descriptions and explanations of how and why the advance practice pathway may have worked in a particular context.

USA). Characteristics of the articles (studies) were tabulated and summarised, and contexts, mechanisms, and outcomes related to the international advanced practice educational pathways were synthesised and reported narratively. Realist logic analysis was used with the goal of using data from the evidence to develop the initial educational mechanisms required to progress Australasian GEN to advanced practice roles. Data analysis was deductive, inductive and retroductive, where inferences were made based on interpretations of the data about context, mechanisms and outcomes. Quality appraisal of articles (studies) was not undertaken. Synthesised data then progressed to stage two.

Stage two (RQ3)

Findings of the interpretation of the review were shared via email with academic stakeholders inclusive of lecturers and program leaders of GEN programmes across Australasia tertiary settings who were part of the wider research team. Using realist logic this group of experts drew on the synthesized data from stage one to determine what advanced practice pathways for graduate entry registered nurses work, for whom, and in what circumstances in order to gain insights and opportunities for the development of local GEN graduate pathways to advanced nursing roles. These stakeholders met via videoconference to share their individual insights with the authors who collated the information and interpreted it in relation to the syntheses of the findings of the review. This collated synthesis from the review and stakeholder insights was reported narratively.

The research team made up of academics involved in GEN education adopted a reflexive approach whereby they met regularly to consider their personal preconceived expectations along with interpersonal and methodological factors related to the research (Olmos-Vega et al., 2023). By engaging in this process, the research team was able to recognise and clarify individually and collectively their subjectivity around advanced practice pathways for GEN students to minimise the potential bias during the research process.

Ethical considerations

Ethical approvals were not required for this review which explored publicly available websites and electronic databases.

FINDINGS

Stage one: literature review (RQ1& RQ2)

Search and screening

The systematic search identified 2586 articles. Following removal of duplicates (*n* = 784), titles and abstracts were screened in 1802 articles (**masked** & **masked**), resulting in 1688 being excluded from further consideration. The full text of the 114 remaining articles were assessed for eligibility against the inclusion criteria (**masked** & **masked**); 102 were excluded and 12 articles met the selection criteria. A flowchart of the search, screening, and selection findings is presented in supplementary file 2. The main reasons for exclusion

at th
publication in the English language, or the publication did not report relevant outcomes. The registered protocol was followed through to the point where synthesised findings progressed to the inductive interpretation through realist logic.

Characteristics of included studies

The characteristics of the 12 included studies are presented in Table 1.

Insert Table 1 here.

Of the 12 studies, four were cross-sectional studies; three were discussion articles, two qualitative studies, one action research, one integrative review and one website and literature review. Most studies were conducted in the USA (*n* = 10), followed by USA and Canada (*n* = 1), and United Kingdom (UK; *n* = 1). The main programmes reported in the articles were Masters' (*n* = 6), Doctor of Nursing Practice (*n* = 4), Doctoral (*n* = 1), and Master of Science Nursing to Doctor of Nursing Practice (*n* = 1). Analysis of literature across Canada, United States of America (USA), the (UK) and Europe revealed the following contexts, mechanisms and outcomes related to academic pathways for graduate entry registered nurses to transition to advanced practice roles.

Context

A range of contexts, defined as descriptions and explanations of the pathways and how, why and for whom they may have worked, were identified from the analysis of the included articles. Findings indicate that student's personal and academic attributes; the structure of the programme; along with financial circumstances can all contribute to the context (Chorenwett et al., 2011; Mancuso & Udlis, 2012; Pellico et al., 2012; Rich, 2005; Rich & Rodriguez, 2002; Rodgers & Healy, 2002; Udlis & Mancuso, 2012; White et al., 2000).

Student personal and academic attributes

An integrative review by Pellico et al. (2012) identified that students who engage in graduate entry nursing education for specialty practice were predominately Caucasian females who have above average entry credentials from wide ranging educational disciplines. It was proposed by Rodgers and Healy (2002) that educational diversity may enhance a student's success whereby they are able to combine their nursing education with their previous learning experiences to create new knowledge and skills. While the makeup of their undergraduate degree does not appear to impact on the success of the student within the graduate entry programmes (Rodgers & Healy, 2002), academic entry requirements and course pre-requisites are outlined across the literature. Minimal GPA and aptitude criteria were discussed as being used as a means to screen for entry into programmes, and also identified as a marker for student success (Mancuso & Udlis, 2012; Rodgers & Healy, 2002). Jackson and Marchi's (2020) review of websites and literature identified that most GEN programmes for advanced practice nursing set a minimum entry GPA of 3.0.

The top three prerequisite courses in the various advanced practice graduate programmes were statistics, research and health assessment with research and statistics considered necessary pre-requisite knowledge for success in Doctor of Nursing Practise (DNP) programmes (Mancuso & Udlis, 2012; Rodgers & Healy, 2002) however, Mancuso and Udlis (2012) found that statistics as a prerequisite did not translate into graduate success within the programme. Two thirds of MSN-DNP programmes required those applying to an Advanced Nurse practice programme to possess national certification (Mancuso & Udlis, 2012). The notion

that s al experience was outlined in several studies (Mancuso & Udlis, 2012; Rich, 2005; Rich & Rodriguez, 2002; Rodgers & Healy, 2002). This was challenged by findings in White et. al.'s (2000) survey of accelerated second degree qualified advanced practice nurses, who believed that having experience is not necessary for the NP scope of practice. Rich's (2005) exploration of the relationship between duration of prior RN experience and the level of NP clinical skills in professional practice found a negative correlation, indicating NP skills for those with fewer years of practice experience as RNs were rated more highly by collaborating physicians, challenging prior claims that less prior experience resulted in poorer preparation for advanced NP practice.

Structure of the programme

Three advanced practice pathways were discussed within the literature: the direct entry master's programme, in which enrolled students spend the first year in an undergraduate programme and in their second year they transition to full time graduate studies in an area of specialty (Rodgers & Healy, 2002); the Bachelor of Science in Nursing (BSN) to Doctor of Nursing Practice (DNP) (known as a post-baccalaureate); and the Master of Science in Nursing (MNS) to DNP (Giardino & Hickey, 2020; Mancuso & Udlis, 2012; Pellico et al., 2012; Udlis & Mancuso, 2012). It was also identified that within DNP programmes multiple tracks are offered, for BSN-DNP programs the majority included an Advanced Practice Nurse (APN) specialty such as adult, community, and psychiatric/mental health (Rodgers & Healy, 2002). It was classified as an APN specialty if it prepared graduates for roles as NP, nurse midwives, nurse anaesthetists, or clinical nurse specialists (Rodgers & Healy, 2002).

There were full-time and part-time options for study (Pellico et al., 2012; Rodgers & Healy, 2002; Udlis & Mancuso, 2012). Length of programmes ranged from 2-3 years of full-time study with some being 2 years plus a summer session (Pellico et al., 2012). A DNP benchmarking study found the average length of time for full time BSN-to-DNP was 40.6 +/- 8.9 months while the MSN-to-DNP was 21.0 +/- 5.9 months (Udlis & Mancuso, 2012). Most MSN-to DNP programs included a required number of clinical hours within the curriculum regardless of whether the student had undertaken clinical hours in their masters (Mancuso & Udlis, 2012; Pellico et al., 2012).

The focus of the discussion in the literature regarding curriculum was on types of delivery methods and inclusion of aspects of science. Few programmes were offered completely online, more were either hybrid or a combination of online and face to face (Udlis & Mancuso, 2012). Pharmacology, microbiology and anatomy were seen as core components of advanced pathways that should be integrated into the program of study either in the transition to professional nursing courses or the undergraduate /graduate courses (Rodgers & Healy, 2002; White et al., 2000).

Financial circumstances

Undertaking masters' advanced pathways was identified as being expensive for students as there are fewer financial resources available compared to undergraduate education (Cronenwett et al., 2011). While some students have access to external national funding for such things as fees, books and travel expenses, finance still remains an issue resulting in students withdrawing from programs (Rodgers & Healy, 2002). Financial strains can somewhat be alleviated for students in the USA undertaking second degree programmes whereby after completing the first year of study they are eligible to sit the NCLEX exam and work as a registered nurse, before they progress onto their second year as a full time graduate advanced practice student. However, it

was r[illegible]e intensive programmes (Rodgers & Healy, 2002).

Mechanisms

Several mechanisms, categorised as descriptions and explanations of internal and external factors contributing to the pathway, were identified. These mechanisms can be further categorised into three (3) internal and three (3) external mechanisms that influence the development of advance practice pathways for GEN graduates. The three internal mechanisms include: evidence and faculty drivers, bias barriers to change, and graduates' motivations. The three external mechanisms include: health system factors, socioeconomic and political drivers, and legislated clinical and academic hours for accreditation.

Internal mechanisms

Faculty recognises that students prepared in other disciplines outside of nursing add richness to the nursing profession and are valued for their strong contributions (Jackson & Marchi, 2020). Evidence demonstrates that prior work life experiences can bring depth and perspective to the profession (Jackson & Marchi, 2020). Accessing graduate students for advanced practice pathways in nursing and enabling a decreased length of time required to complete the nursing portion of the curriculum can help meet the demand for an advanced practice workforce (Cronenwett et al., 2011). However, professional bias and resistance to change against non-traditional pathways can limit the availability of clinical placements for students and restrict job and training opportunities for those seeking tailored advanced practice pathways (Rich, 2005). Graduates interested in transitioning to advanced practice nursing perceive positive experiences such as holistic health, and nurse/patient relationships as motivators to undertake advanced practice pathways and establish primary health care clinician careers (Rodgers & Healy, 2002). The driving force for development of tailored pathways to increase recruitment of graduates facilitates initiatives which address increasing number of didactic and supervised clinical practice hours that are being added to master's programmes by schools of nursing, state boards of nursing, or accreditation agencies (Mancuso & Udlis, 2012).

External mechanisms

Health system design and the need for high level nursing leadership to transform health care systems toward making efficiencies for more cost-effective ways to deliver health services is a driver for these advanced practice pathways. While establishing clinical excellence, and continued pressure to increase nursing student enrolments are instrumental to enable change and embrace non-traditional mechanisms to develop these tailored pathways (Cronenwett et al., 2011; Giardino & Hickey, 2020). Socioeconomic and political drivers can speed up the process of becoming an advanced practice nurse, by addressing nursing supply and educational access (Rodgers & Healy, 2002). Studies evaluating the impact and effectiveness of advanced practice nurses demonstrate that they have made important contributions to access, quality, and cost of health services since their early development (Cronenwett et al., 2011). Increasing applicant pools and decreasing the length of time required to complete the nursing portion of the curriculum by combined undergraduate graduate programmes are one way to help meet those demands. However, recommendations not to work during the programme and limited access to paid training positions can create financial barriers to progression to qualify and secure paid employment in specialty practice (Bombard et al., 2010; Rodgers & Healy, 2002). Legislated clinical and academic mandates and requirements by accreditation bodies vary by country, state and political

envir)10; Mancuso & Udlis, 2012; Pellico et al., 2012; Udlis & Mancuso, 2012).

Outcomes

Outcomes were defined as being (but not limited to) faculty or student satisfaction, experiences, successful completions, and enrolments. The following outcomes were identified within the articles: student experiences, knowledge and skills, and healthcare providers perceptions (Bartels, 2005; Bombard et al., 2010; Giardino & Hickey, 2020; Rich, 2005; Rich & Rodriguez, 2002; Rodgers & Healy, 2002; White et al., 2000).

Student experiences

White et al. (2000) invited GEN nurses to report the unique challenges faced in their non-traditional NP programme. Common challenges were resistance from nurses, NPs and traditional students who were thought to believe the non-traditional students had insufficient traditional experiences. Other challenges were the lack of exposure to the operational aspects of the organisations and trying to find a career with little or no experience. These non-traditional students perceived less acceptance by other nurses but more by physicians. Participants largely worked as staff nurses whilst completing their programme and felt this experience was helpful but not necessary (White et al., 2000). Through action research, direct-entry master's students (DEMN) reported immersion into the Clinical Nurse Leader (CNL) practicum to be confusing and stressful due to the newness of the role and the need to articulate and clarify goals and expectations to others (Bombard et al., 2010). Students later found responding to these questions helped clarify these same questions about goals and expectations for themselves. They described feeling like pioneers and made recommendations for strengthening the immersion experience through better preparation of preceptors not just the CNL role and competencies, but also how direct-entry master's students differed from traditional post-baccalaureate CNL nursing students (Bombard et al., 2010). Students felt credibility was a significant challenge and faculty advocates were key (Bombard et al., 2010).

Knowledge and skills

Students reported the DNP programme curriculum helped them learn the science underlying practice and their experiences of refocusing from doing tasks to recognising and using their understanding of scientific underpinnings for practice and the delivery of care (Giardino & Hickey, 2020). A discussion report by Bartels (2005) proposed DNP arms graduates with advanced competencies in leadership, thus preparing them for complex clinical, faculty, and leadership roles which results in enhanced nursing practice, patient-care outcomes, health-care delivery and complements researchers in the implementation of evidence-based practice (Bartels, 2005). DNP students identified growth in their leadership skills and understanding of change processes to inform system changes and the implementation of strategies to create sustained practice improvements and lead to evidence-based practice (Giardino & Hickey, 2020).

Bombard et al. (2010) described the goal of CNL direct entry Masters' students was to improve the process and quality of patient care. Health care quality and patient care were felt to be improved by the DNP students through their enhanced appreciation of quality improvement, understanding of evidence-based practice, and an ability to appraise and translate evidence into clinical practice (Giardino & Hickey, 2020). Giardino and Hickey (2020) reported the students' appreciation for innovation, information technology and the power of data, considering these to be essential components for evidence-based practice, and were better able to bridge clinical needs with information technology.

standards and discusses competitiveness of these non-traditional graduates in the job market and in career progression. Students found the DNP preparation transformative, strengthening their awareness of, and commitment to, professional responsibility and accountability, building both their self-confidence, professional ability, and systems thinking (Giardino & Hickey, 2020). The DNP programme graduates described their new understanding of the key role and influence of nurses in addressing social justice through policy and legislation, developing global health perspectives, and applying population health principles (Giardino & Hickey, 2020). Students highlighted the role of the DNP programme activities in strengthening their approach to goal setting, communication, collaboration, and leadership of interprofessional teams (Giardino & Hickey, 2020).

Healthcare providers perceptions

Healthcare providers from medicine and nursing in the qualitative study of Rich and Rodriguez (2002) expressed experiences, thoughts, and feelings about NNCG nurse practitioners, particularly questioning the paucity of clinical experience of the NNCG nurse practitioner. The participants proposed from one to ten years experiences as necessary before commencing an advanced practice pathway, suggesting those with less than five years RN experience would not be sufficiently mentally prepared for the role. These healthcare providers also purported a gap in learning between an academic programme and clinical practice, identifying the following NNCG's strengths in the academic setting, confidence, learning quickly, and mastery of concrete skills yet lacking in intuition and ability to act rapidly when confronted with a complex problem (Rich & Rodriguez, 2002).

Stage two Interpretation of stage one findings by key education program stakeholders of GEN programmes (RQ3)

Synthesised data from stage one was interpreted inductively by seven academic program stakeholders of GEN programmes across Australasia using realistic logic to determine what works, for whom, and in what circumstances.

What works for whom

GEN programmes attract able learners who have diverse backgrounds and experiences (Jackson & Marchi, 2020). GEN graduates have strengths and capabilities with the potential to rapidly upskill to advanced nursing practice or Nurse Practitioner roles (Cronenwett et al., 2011). As such graduates from GEN programmes should be understood as a valuable health workforce resource that could be fostered into advanced practice through modified educational pathways. Given the academic strengths of this cohort as already able learners, a faster launch into the advanced nursing workforce could include reducing the number of academic requirements in a Nurse Practitioner pathway. A minimum level of academic achievement for entry to the modified pathway would enhance this strategy alongside recognition of prior learning in the GEN programmes.

In what circumstances

To support and retain GEN graduates in further academic study, a modified Nurse Practitioner pathway needs to be accessible to them. This pathway needs to have clear entry requirements and pre-requisites that relate

to re g to research skill development for becoming an advanced practitioner.

As most GEN graduates are women (Pellico et al., 2012) who have already engaged in at least five years full time equivalent study and may have family commitments, a modified programme would need to be flexible, with options for at least some part-time study. The part time option could apply to course work to enable students to plan for periods of full-time clinical experience. Course work should also be taught using a combination of learning strategies that graduates will have experienced in their previous study, including hybrid online and face-to-face modes. For students that are geographically distanced from the university or education provider, online learning may provide more equitable access to education for a modified NP pathway. Accessibility would also be strengthened by reducing financial barriers through scholarships (Bombard et al., 2010; Rodgers & Healy, 2002), as GEN graduates have already made a significant financial investment in their prior programmes of study. Managing the financial strain of further study by offering scholarships may decrease attrition (Rodgers & Healy, 2002), given that the demands of study at the advanced level reduce students' capacity for paid employment. Furthermore, there needs to be meaningful collaborative engagement with NPs and physicians to ensure acceptability and recognition of these modified pathways and graduates.

What might be

The required supervised clinical practicum hours should not be shortened or credited from a previous programme. However, clinical learning experiences should be skilfully supervised and mentored to enhance the application of clinical knowledge and skills at the advanced practice level (Giardino & Hickey, 2020). The availability of a stronger body of NP mentors, who recognise the strengths and capabilities of GEN graduates, would enhance this advanced nursing practice workforce development. Faculty offering NP programmes also need to engage nurse leaders who will champion a GEN NP pathway in health services, as an investment in their future workforce. It may also be necessary to transform values and beliefs held by health care providers about whether a 'required length of practice' as a registered nurse usefully contributes to advanced practice development (Rich, 2005). There needs to be globally agreed frameworks for graduates of GEN programmes to transition into advanced practice roles.

DISCUSSION

This realist review sought to explore and explain potential education and clinical pathways for nurses who enter the profession through a GEN programme to transition to advanced practice roles and propose recommendations for current and emerging advanced practice academic pathways for GEN graduates. In the literature review most advanced practice pathways identified were from the USA (n=10) and exhibited wide variation in the structure, scope, academic and clinical preparation for advanced practice. Professional bias and resistance against change to non-traditional pathways were identified as barriers to job and educational opportunities for GEN graduates from advanced practice pathways. These barriers highlighted the need for collaborative engagement with stakeholders to ensure these modified pathways are accepted as relevant and valuable. Successful transition of GEN graduates will require a commitment from stakeholders in the development of an enabling educational pathway amidst calls to progress research to understand and enhance the experience of becoming a NP (MacLellan et al., 2015).

McClunie-Trust, et al., 2021; Macdiarmid, Turner, et al., 2021). As graduates, they have potential to rapidly upskill to advanced practice roles and in this sense are a potentially valuable health workforce resource. However, there is a call for transformative strategies, whereby innovative educational frameworks to transition these individuals to advanced practice roles are considered, to support pathways for the efficient development of this effective workforce (Bloomfield et al., 2013; World Health Organization, 2016). Practice and learning environments need to be created that are mindful of and responsive to the value-added benefits of the NP role (MacLellan et al., 2016) and the transferable capabilities, knowledge and skills of these GEN graduates. Political, cultural, and economic influences on the progression of NPs is widely recognised and creates a challenging pathway (MacLellan et al., 2016). While these graduates are given credit for their academic achievements, they need to have opportunities to immerse themselves in clinical experiences to develop advanced knowledge, practice and professional identity to complement their existing academic capability and life experience (Jarden et al., 2021).

The findings of this study identified that the relationship between financial imperatives, political drivers, and registration requirements significantly impact the development and acceptability of advanced practice pathways for nurses. Therefore, a financial commitment from governments, health and educational organisations is crucial to the successful development of NP pathways for GEN graduates. This can only occur if there is effective collaboration within and across these agencies and organisations so that these innovative programmes are accepted within the health sector. Therefore, sector engagement and buy in must be undertaken to recognise the potential contribution this cohort can make to resolving the current health workforce crisis.

Recommendations for future research:

1. Primary research engaging with key stakeholders including GEN graduates, NPs, health services, governance and professional nursing accreditation bodies, and government to explore opportunities.
2. Long term evaluation, measures of success, and proof of concept in different contexts

Strengths and limitations

This research was robust in review design, strengthened by an apriori protocol, registration and dual independent reviewers in screening and extraction of stage 2 data, and researcher reflexivity throughout, but particularly in interpretation of stage 1 and 2 findings. This review is limited in that broader stakeholder engagement through a consultative process has not yet occurred. Using the findings of this review as a foundation, the next steps will be to commence wider key stakeholder consultation. Additionally, the published research included in this review has a broad range of years, and the participants in the programmes tended to be Caucasian and female. We recognise that the further research inclusive of programs of diverse learners is needed.

CONCLUSIONS

Now that GEN degrees are a globally recognised pathway into the nursing workforce, we need to address how these graduates can be facilitated to progress to advanced practice roles. As these academic pathways for advanced practice are established and regulated, new transformative approaches will need to be considered

to en ude, further consultation is needed.

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Table

Characteristics of included articles

Study ID	Title	Country of origin for program	Study / article design	Population	Level of study or type of programme
Bartels (2005)	Educating nurses for the 21st century	USA	Discussion	Doctor of Nursing Practice	DNP
Bombard et al. (2010)	Answering the question, "what is a clinical nurse leader?". Transition experience of four direct-entry master's students	UK	Action research	Direct-entry master's students in Clinical Nurse Leader (CNL) program	Masters
Cronenwett et al. (2011)	The Doctor of Nursing Practice: A national workforce perspective	USA	Discussion	Practice-focused doctoral degree (sometimes referred to as a professional or clinical doctorate). The first such program was a Doctor of Nursing (ND) offered as an entry-level nursing degree. APRNs	DNP
Giardino and Hickey (2020)	Doctor of nursing practice students' perceptions of professional change through the DNP program	USA	Qualitative study	DNP graduates	DNP
Jackson and Marchi (2020)	Graduate-entry education for non-nurses: Preparation, pathways, and progress	USA	Literature and website review	GEN programme to APRN practice	Doctoral
Udlis and Mancuso (2012)	Doctor of Nursing Practice Programs Across the United States: A Benchmark of Information. Part I:	USA	Cross-sectional, descriptive study	137 DNP programs	DNP

	Characteristics				
Mancuso and Udlis (2012)	Doctor of nursing practice programs across the United States: A benchmark of information: Part II: Admission criteria	USA	Cross-sectional, descriptive study	Advanced practice nurses (APRNs) DNP	MSN to DNP
Pellico et al. (2012)	Integrative review of graduate entry programs in nursing	USA & Canada	Integrative review	Non-nurse college graduates enrolled in master's degree programs leading to preparation for advanced practice nurse roles	Masters
Rich and Rodriguez (2002)	A qualitative study of perceptions regarding the non-nurse college graduate nurse practitioner	USA	Qualitative study	NNCGs or non-traditional NP students; non-nurse college graduate nurse practitioners.	Masters
Rich (2005)	Does RN experience relate to NP clinical skills?	USA	Cross-sectional survey	NNCGs who have Bachelor's degrees in other disciplines into non-traditional programs, which lead directly to graduate NP study without prior nursing experience	Masters
Rodgers and Healy (2002)	Integrating master's-level entry education into an established BS and MS program	USA	Discussion	Direct-entry master's program, titled, The Second Degree Options Program (Options Program)	Masters
White et al. (2000)	Accelerated second degree advanced practice nurses: How do they fare in the job market?	USA	Cross-sectional survey	Second degree, NNCGs	Masters

Notes. Abbreviations: APRNs = Advanced practice nurses; BS = Bachelor of Science; CNL = Clinical Nurse Leader; DNP = Doctor of Nursing Practice; GEN = Graduate-entry nursing; MS = Master of Science; NNCGs = Non-nurse college graduates; NP = Nurse Practitioner.