

TRANSITION SUPPORT FOR NEW GRADUATE AND NOVICE NURSES IN CRITICAL  
CARE SETTINGS: AN INTEGRATIVE REVIEW OF THE LITERATURE

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## **Transition support for new graduate and novice nurses in critical care settings: an integrative review of the literature**

### **Abstract**

Transition into critical care areas for new graduate nurses may be more difficult than transitioning into other areas due to the specialised knowledge needed. It is unknown which aspects of transition programs best support new graduate nurses improve competence and confidence to transition into critical care nursing specialties. Identifying these aspects would assist to design and implement best practice transition programs for new graduates in critical care areas. Themes identified in the literature include; having a designated resource person, workplace culture, socialisation, knowledge and skill acquisition, orientation, and rotation. Allocation of a quality resource person/s, supportive workplace culture, positive socialisation experiences, knowledge and skill acquisition and structured orientation based on new graduates' learning needs all positively supported increased confidence, competence and transition into nursing practice. Rotations between areas within graduate programs can potentially have both positive and negative impacts on the transition process. Negative impacts of including a rotation component in a transition program should be carefully considered alongside perceived benefits when designing new graduate nurse transition programs.

### **Highlights**

- Allocation of a quality resource person supports transition of new graduate nurses into critical care nursing.
- New graduate nurses' competence, confidence and transition is supported by positive and inclusive workplace cultures, positive socialisation experiences and targeted knowledge and skill development opportunities.

- Rotations between areas within graduate programs can negatively affect the transition process.

**Keywords:** new graduate nurse, novice nurse, transition support, critical care nursing, preceptorship

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### **Background**

Generally transition programs exist to support the transition of nurses to practice, and one view is that new graduate nurses should graduate ready to meet workplace expectations (Rush et al., 2013). The rival view is that due to a demonstrated theory-practice gap and patient safety risk, there is an imperative need to provide support to graduates during the first year of practice to build relationships that increase their patient care capacity, confidence, competence, job satisfaction, and retention rates (Haggerty et al., 2013; McKillop et al., 2016). Although new graduates experience the transition process differently (Tastan et al., 2013), the first year of practice is recognised as a stressful period. In many health care environments, new graduates are also commencing in specialist practice areas, and these feelings are amplified when transitioning into a critical care environment (O'Kane, 2012; Wilson, 2012).

Research has highlighted that a theory-practice gap is evident in role-related knowledge, skills and clinical thinking, and that reality shock occurs as new graduates enter the nursing workplace (Ortiz, 2016; Rush et al., 2013). While there was research about the effectiveness of new graduate transition interventions (Edwards, 2015), there was an overall lack of research about the readiness of new graduates entering critical care areas (Lewis-Pierre, 2013). We found one study about how nursing students felt about their perceived

readiness to work in critical care areas (Halcomb et al., 2012) however this did not relate to new graduates experiencing this transition.

In critical care nursing fields, several models for new graduate and novice nurse transition exist with differing degrees of effectiveness (Edwards, 2015; Farnell and Dawson, 2006; Haggerty et al., 2013; Hyrkas et al., 2014; Kaddoura, 2010). Educational support frameworks in nursing are inconsistent (Wolak et al., 2009) and vary in duration, structure, program components, rotations, financial support and content (Edwards, 2015; Rush et al., 2013). As such, the requirements needed to deliver effective education to new graduate and novice nurses entering a specialty nursing field, that best facilitates learning and transition are not clear (Thomason, 2006). However most interventions reported were seen to be successful in some form, but did not focus on measuring competence, comparing knowledge growth or confidence growth of new graduates using validated tools (Edwards, 2015). We required an in-depth knowledge of the associated challenges, as well as education strategies proven to support transition of nurses (both new graduates and nurses without experience in the specialty setting) into highly specialised critical care nursing roles. This review was undertaken to develop a clear understanding of elements and strategies that may inform the creation of an evidence based education program to support transition of nurses to critical care.

## **Method**

This review was guided by Cooper (1998) approach to conducting an integrative review; problem formulation, literature search, data evaluation, data analysis, and presentation of results. A systematic search of the following databases was conducted; Cumulative Index to Nursing and Allied Health Literature (CINAHL), MEDLINE, ProQuest Nursing and Allied Health Source, Scopus, and Informit Health Collection. The search terms used are presented in Figure 1. Articles included in this review met the following criteria:

primary research papers or review papers, available in full text, focused on new graduate nurses during transition to their first year of nursing practice or a novice nurse transitioning into a new specialty nursing area, published in English language between 2006 and 2016, and focused on acute care or critical care nursing. Data was extracted using a cover sheet followed by data input to a spreadsheet. A constant comparison approach to thematic analysis of the data was used. A conceptual lens derived from constructivist learning theory (Thomas et al., 2014) and backwards design (Emory, 2014) was applied to the data during critique. Constructive alignment in instructional design has been most recognisably developed by John Biggs who describes a pragmatic association between teachers' understanding and articulating what learners need to know, apply and do, and what learners have to demonstrate to show this. The third aspect of this alignment is to consider what circumstances the learner needs to be placed into that will most likely elicit the desired development and required performance (Biggs, 1996). Backward design is therefore considering what the endpoint of the development should be, and designing the learning experience to help the learner arrive at that endpoint. In considering the data derived from the studies we used these considerations in developing themes and associations.

## **Results**

Articles were reviewed for their aim, design and method, participants and sample size, intervention type (e.g. preceptorship, mentor program, orientation), intervention length, types of support and findings. The search strategy is presented in Figure 2 and details of each article are presented in Table 1.

Sample sizes within the studies ranged from 6 to 2032 participants (of which most were nurses). Participants in 25 of the studies were new graduate nurses in their first year of nursing practice, 1 study included both new graduate nurses and nurses transitioning into a new specialty nursing field. Participants in the remaining 4 studies were nurses transitioning

into a new specialty nursing field and will be defined in this study as novice nurses. A variety of design methods were employed by the researchers; with qualitative and descriptive (many using phenomenology) designs being the most frequently used. The majority of articles were of United States origin, followed by Australia, United Kingdom, New Zealand, Canada, Israel and Turkey. Many studies focused on generalised nurse transition programs, while some focused on specific models such as preceptorship, mentorship, and intensive education programs. The support programs differed in length from 5 days to 12 months, however others did not specify a set length. Twelve months was the most frequently noted length of time reported in the selected studies.

Analysis of the data resulted in the formation of six key themes that influenced competence and confidence during new graduate and novice nurse transition. These themes included; having a designated resource person, workplace culture, socialisation, knowledge and skill acquisition, orientation, and rotations.

**Having a designated resource person** was the predominant element identified and referred to the allocation of a defined resource person providing support during new graduate and novice nurse transition. A common definition for the designated resource person fulfilling this support role was lacking, with authors describing the terms preceptor, mentor, and facilitator with similar roles and responsibilities.

**Workplace culture** referred to the nature and environment of a department or organisation which was often influenced by the values, beliefs, interactions, behaviours, and traditions of staff within the unit. This theme explored the positive and negative influences of workplace culture on transition of new graduates and building relationships and cohesion in the team.

**Socialisation of new graduates into the workplace** included the complex and ongoing process of a new nurse learning the knowledge, skills and behaviours of the nursing

profession, which in turn assisted them to develop their professional identity. Socialisation and acceptance by others in the unit was achieved by various methods and was found to positively influence confidence and competence during new graduate transition. Socialisation was affected by workplace culture, professional and supportive relationships and support structures built into the environment.

**Knowledge and skill acquisition** included the attainment of increased theoretical and practical expertise. Knowledge and skill acquisition was employed through a variety of methods such as simulation, competency based learning packages, classroom and clinical environment learning, preceptorship, mentorship, targeted orientation plans based on prior assessments, and repetition.

**Orientation** included the processes employed by the organisation/department to familiarise new graduates to their new workplace environment, procedures and practices. Orientation processes typically took place at the beginning of the transition programs, but varied significantly in length, content, style and implementation.

**Rotations** described the practice of nurses transitioning/rotating between multiple nursing units during the course of their transition program (for example, a nurse may experience three months in a surgical ward, three months in a medical ward and three months in an outpatient clinic).

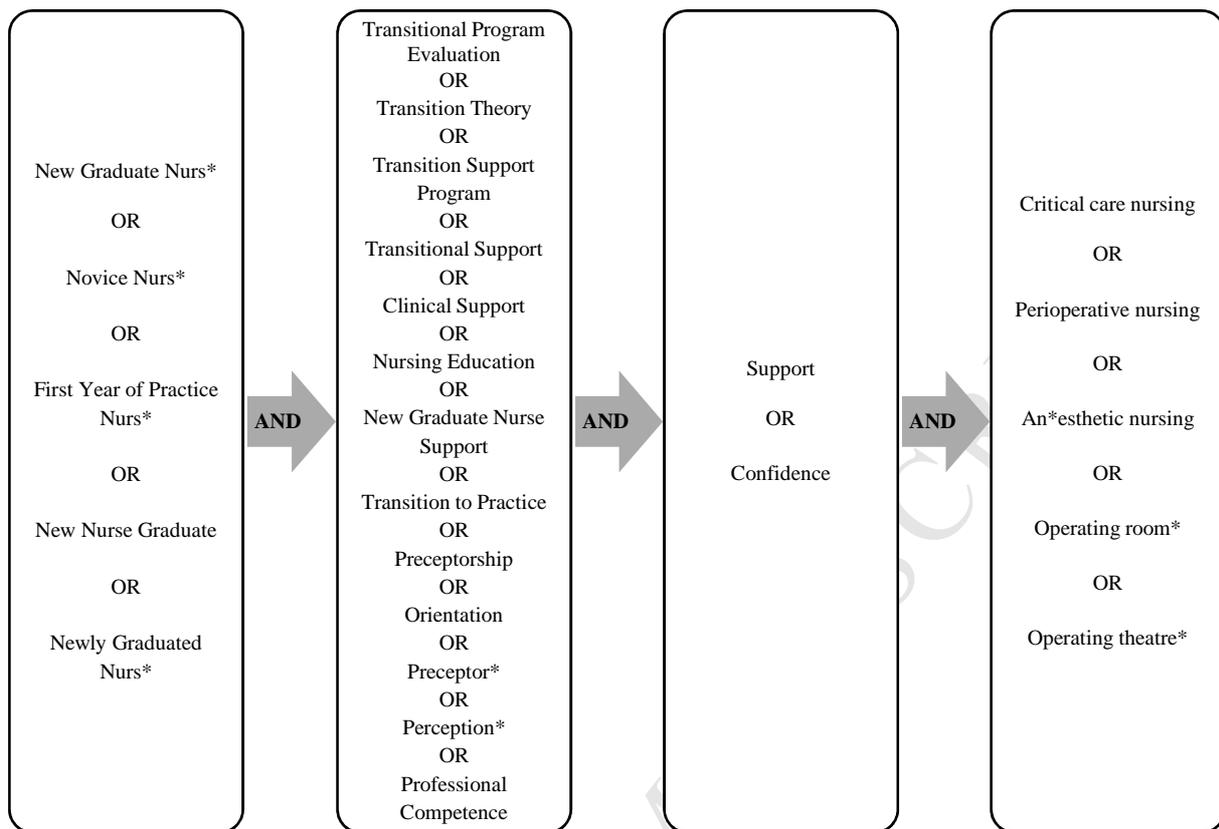
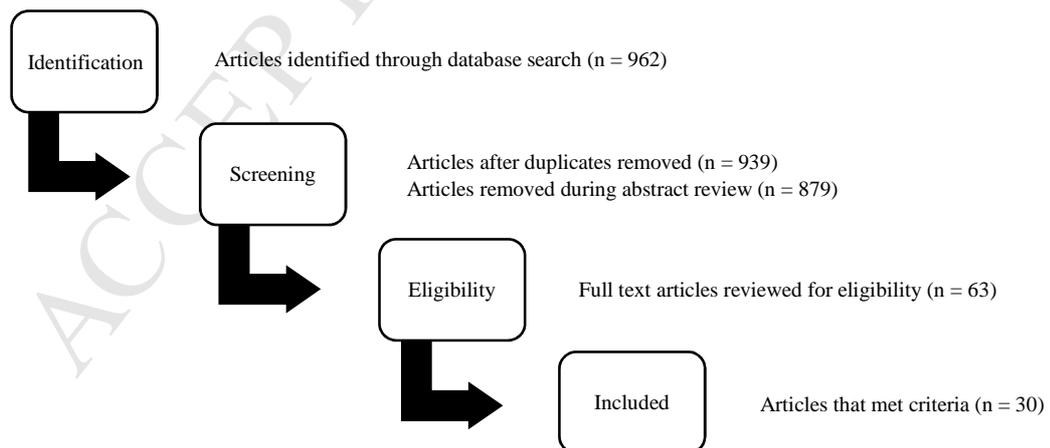


Figure 1. Search Terms

Figure 2. Search Strategy



## Discussion

### *Having a designated resource person*

Preceptorship was a common model used within graduate programs to support transition, with preceptors seen as a significant resource during transition who provided support, knowledge, guidance and teaching (Edwards, 2015; Haggerty et al., 2013; O'Connor, 2006; Pettersen, 2006; Tastan et al., 2013). Preceptors provided opportunities to ask questions, socialisation and clinical supervision (O'Connor, 2006) and increased new graduates' confidence levels, successfully helping new graduates transition through challenges of first year practice (McKillop et al., 2016). Preceptors also helped prepare new graduates for the rigours of nursing practice, an essential aspect of facilitating transition from student to registered nurse (Penprase, 2012) and assisted to bridge the theory-practice gap (St-Martin, 2015). Conversely, Tastan et al. (2013) found that only 58.7% of new graduates felt that working with preceptors met their expectations, but did not specify what these expectations were or how they were not met.

Preceptorship is not a problem-free initiative (Farnell and Dawson, 2006). Preceptors should focus on promoting effective, quality experiences as this influences novice nurse progression and socialization within the specialty area. Where possible, deliberate pairing of preceptor and preceptee is recommended and should be based on the learning/teaching styles and personal characteristics of both (Hyrkas et al., 2014). Strong interpersonal, teaching and facilitation skills were associated with higher quality professional relationships in which nurses felt supported and challenged (Haggerty et al., 2013; Hyrkas et al., 2014). Learning needs of new graduates were met most often when they had access to preceptors, experienced effective teaching approaches and were given feedback which was appropriate and timely (Haggerty et al., 2013). Receiving positive feedback impacted significantly on the new graduate's confidence, and positively influenced relationships with the preceptor and team (Ortiz, 2016). Having a resource person available to provide structure, guidance and to role-model realistic expectations and behaviours was crucial for new graduates' success however

this can be difficult after-hours (Murphy-Rozanski, 2008). One study found new graduates faced their most difficult challenges out of business hours when resource people were significantly limited (Henderson, 2015). Rosters should be aligned to increase the amount of time spent together early in the preceptorship relationship (Penprase, 2012) and allow for the mentor relationship to continue for a period of six to nine months to maximise transition (Penprase, 2012; St-Martin, 2015).

A positive preceptorship experience was described when novice nurses felt comfortable with their preceptor (Hyrkas et al., 2014). Graduates experienced a full spectrum of emotions during their transition, when this was recognised and supported then transition was more successful (Ortiz, 2016; Tastan et al., 2013). Successful transition also relied on the preceptor's ability to identify low self-confidence and reality shock, then use encouragement and knowledge-acquisition techniques to build confidence in the new graduate (Tastan et al., 2013). Being able to identify reality shock and how to manage this is an important skill for preceptors as reality shock is a recurring theme in the literature with around half of new graduate and novice nurses experiencing disappointment during their transition (Duchscher, 2009; Tastan et al., 2013).

Preparation of preceptors and the number of preceptors allocated to a preceptee were two issues highlighted in the literature, however general agreement was evident that formal training needed to be provided to preceptors (Ortiz, 2016; Reid Tinio, 2012; Rush et al., 2013). When preceptor training was offered in one study, multiple preceptors reported not being able to attend due to workload and patient acuity issues in their workplace (Haggerty et al., 2013). Another study highlighted similar issues with less than half of the preceptors attending training, however the authors did not comment why (Hyrkas et al., 2014). Preceptor training was reported to be anywhere from a few hours to more extensive ongoing development programs. Poorly prepared preceptors provided little orientation to the clinical

environment, proved untrusting of new graduate's clinical abilities and often tried to do the work themselves (Haggerty et al., 2013) and some failed to recognise when to reduce support as competence evolved (O'Kane, 2012). Organisations and nursing leaders need to consider these issues when balancing the demands of the workplace against the benefits gained from preceptor training (Hyrkas et al., 2014).

Findings within the literature depicted mixed reactions to new graduates being allocated multiple preceptors (Haggerty et al., 2013; Simpson-Cosimano, 2010). Simpson-Cosimano (2010) found that 2 of the 10 participants appreciated having multiple resource people. Penprase (2012) claims that having access to multiple preceptors provides several nurses to approach for advice, feedback, questions or concerns. However, Penprase (2012) did not specify how many participants indicated these results. In contrast, Simpson-Cosimano (2010) reported half of their participants found having multiple preceptors was challenging and confusing, with the majority of participants wanting one preceptor. Haggerty et al. (2013) reported some graduates found having multiple preceptors confusing and potentially impacted their confidence and competence, however failed to specify how many of the 1,181 participants reported these findings.

Other transition strategies that relied on designated resource person/s included mentorship, group mentorship and facilitation by a coordinated team. Allocation of a designated mentor helped novice nurses feel comfortable asking questions and seeking clinical support, in structured support times and when learning needs arose (Wolak et al., 2009). Novice nurses felt this approach created an environment of support and trust (Wolak et al., 2009).

A study of 2032 participants comparing group mentorship and one-on-one mentorship found that group mentorship resulted in a positive transition experience for new graduates, likely due to the creation of social networks facilitating access to multiple resource people

(Reid Tinio, 2012). Group mentorship boosted graduates' views of group cohesiveness and work empowerment (Reid Tinio, 2012). One-on-one mentorship can be influenced by multiple factors including relationship fit, the mentor's access to information within the organisation and perceptions and attitudes about the organisation (Reid Tinio, 2012). Group mentorship appears to be more effective at increasing new graduates intent to stay at the organisation 12 months post transition program due to socialisation opportunities (Reid Tinio, 2012). However, this study did not consider competence and confidence as well. Given that group mentorship may be more cost effective than one-on-one mentorship (Reid Tinio, 2012) further research into the effectiveness of group mentorship on supporting confidence and competence of new graduates during transition is needed.

A coordinated team approach was analysed in one study and found to improve support and confidence in new graduates (Scells and Gill, 2007). The team approach reduced workload and stress levels of preceptors, enhanced communication and prevented conflict between preceptors and new graduates (Scells and Gill, 2007). Staff felt the coordinator role in the model was integral to its success and that the model could not function without a coordinator (Scells and Gill, 2007). Due to the context of this study, a wider implementation of this model would be required to enable generalisation of results.

An assessment of new graduates' competence and readiness to progress from supernumerary to autonomous practice should be determined by the clinical support person and then authorised by nursing management. In a study by Nied (2009) each new graduate in a nurse residency program ( $n = 7$ ) was designated a preceptor and a mentor. The preceptor was a nurse who worked clinically, one-on-one with the new graduate (Nied, 2009). The mentor was an external senior nurse, who provided guidance and emotional support (Nied, 2009). Mentors believed there was significant improvement of new graduates' clinical skills following the residency, while preceptors perceived only a slight improvement of clinical

skills (Nied, 2009). The cause of this contrast in perception is unknown (Nied, 2009). Mentors, as senior nurses, had the administrative power to authorise new graduates to work autonomously (Nied, 2009). At times, there was a mismatch between the mentors' and preceptors' assessment of new graduates' competence possibly resulting in graduates being elevated to independent practice before they were ready. This is a concern for patient and staff safety if the preceptor's assessment of the graduate were valid (Nied, 2009). Nied (2009) argued that preceptors, being less senior, were unlikely to be comfortable advocating their perspective to the mentors. In this model, due to the risk to patient and staff safety, communication of concerns need to be prioritised above hierarchical and social norms.

### ***Workplace Culture***

In addition to a dedicated resource person, several researchers discussed positive and negative influences of workplace culture on new graduate transition. The presence of an overall culture of support created a nurturing environment which improved confidence and competence in new graduates' practice (Haggerty et al., 2013), especially after-hours when most support personnel were not present (Henderson, 2015). After-hours support was identified as being outside of normal office hours e.g. between 1700 - 0700hs and weekends. New graduates identified support, availability and acceptance from clinical staff as factors that helped facilitate a smooth transition to practice (Penprase, 2012) and increased workplace satisfaction (Pettersen, 2006). The team is a major influence on the development of competence (Lima, 2016; St-Martin, 2015), new graduates that felt well supported by their team were comfortable approaching colleagues to seek second opinions or ask questions (Lima, 2016; Simpson-Cosimano, 2010). Although new graduates valued a nurturing and supportive work environment, they also wanted to work autonomously in the clinical setting (Murphy-Rozanski, 2008; Ortiz, 2016) and be autonomous and empowered to practice according to professional standards (Spence Laschinger, 2016). Providing a balanced,

supportive environment that allows autonomy to develop professional confidence is important to foster. Novice and new graduate nurses must also cultivate insight regarding their scope of practice and recognise when they need to seek support.

The transition period during the first year of practice can be challenging for nurses and therefore it is important to consider workload pressures and individual learning needs (McKillop et al., 2016; Spence Laschinger, 2016) particularly when developing role identity and role-competence (St-Martin, 2015). During the transition period nurses need ongoing support, a positive work environment, as well as recognition and understanding that they are new to the professional nursing role (Pettersen, 2006; Spence Laschinger, 2016) and are still discovering how to 'be' as a nurse (Mellor, 2016). When new graduate nurses work with staff who are burnt out and disinterested, there is a risk of damaging confidence (Allanson and Fulbrook, 2010). In contrast, novice nurses who worked with multidisciplinary staff committed to teaching, reported the experience improved their transition into the specialty environment (Pupkiewicz et al., 2015). In one study Mellor (2016), new graduates felt that workplace interactions were sometimes sub-optimal and they needed to learn to navigate relationships with multidisciplinary team members and respond in ways that were sensitive of their colleague's views and self-esteem. These aspects of socioemotional skills are as important as clinical skills to foster in new graduate development (Mellor, 2016).

Several negative behaviours relating to workplace culture have been identified as barriers to transition. These behaviours include: hostility (Pettersen, 2006); exclusion, cliques, and 'bitchiness' (Kelly and Ahern, 2009); unsupportive nurses (Kelly and Ahern, 2009; Tastan et al., 2013); experienced nurses averse to teaching unwillingly allocated to novice nurses (Pupkiewicz et al., 2015); graduates being compared against one another and poor time management (O'Kane, 2012). Authors of one study noted only 62% of participants (n = 234) felt that other nurses working within the clinical environment helped them

transition into practice (Tastan et al., 2013). Ramifications of these negative behaviours led to graduates avoiding nurses who were rude and unhelpful (Penprase, 2012). Organisations need to address hostility in their work units and raise awareness of the effects of unit culture on all staff (Kelly and Ahern, 2009). To achieve this, workplace culture needs to be assessed and strategies implemented to build a supportive culture. Furthermore, new graduates would benefit from being taught proactive problem-focused and emotion-focused coping skills allowing them to be better prepared to manage these issues personally and professionally (Kelly and Ahern, 2009; Pettersen, 2006; Tastan et al., 2013).

The relationship established between novice nurses and their designated resource person helped the nurses navigate workplace culture. In one study (Wolak et al., 2009), novice nurses felt that their mentors helped them create more realistic expectations by sharing their perspectives on how things 'really were' within the unit. Mentees highlighted the benefit of the program in helping to develop relationships, and learning about the culture of nursing from their mentors (Wolak et al., 2009). Despite the increased responsibility, being assigned as a mentor was seen as a positive role that helped the unit because individuals felt more accountable for their actions as a role model (Wolak et al., 2009). Novice nurses strived to make their mentors proud, therefore making a positive contribution to the unit (Wolak et al., 2009). Mentors gained an appreciation for what novice nurses experienced and this created an environment where graduates felt confident, supported and encouraged to ask questions (Wolak et al., 2009).

### ***Socialisation***

Socialisation positively influenced transition (Kelly and Ahern, 2009) and there was a recurring theme that preceptor models fostered socialisation (Farnell and Dawson, 2006; Haggerty et al., 2013; Lewis-Pierre, 2013; McKillop et al., 2016). Socialisation aided by education and effective support, helped progression from novices to advanced beginners in

critical care specialties (Farnell and Dawson, 2006) as well as general settings (Strauss, 2016). In particular, preceptors assisted socialisation by providing advice on ways to approach certain staff members (Haggerty et al., 2013) and by increasing new graduate nurses' competence and confidence in communicating with the team (McKillop et al., 2016). Additionally, experienced nurses, nursing leaders, educators and managers within critical care units played an important role in professional socialisation of new graduates and positively influenced their adaption to the nursing profession (Kelly and Ahern, 2009; Lewis-Pierre, 2013; Tastan et al., 2013). Graduate programs that promoted socialisation, integration and belonging through positive partnerships facilitated positive transition (Kelly and Ahern, 2009; Strauss, 2016). Similarly, many authors (Haggerty et al., 2013; Henderson, 2015; Nied, 2009; Penprase, 2012) found that the formation of relationships with fellow new graduates helped the socialisation process and created a culture of support during transition. Implicit within this is the timing and sequencing for commencing new graduates and the provision of opportunities for new graduates to build rapport with one another during their transition.

### ***Knowledge and Skill Acquisition***

Enabling knowledge and skill acquisition helped the transition process from a novice nurse to an advanced beginner (Farnell and Dawson, 2006). Structured programs with specific support roles promoted skill and knowledge attainment and resulted in increased competence, confidence, skills and improved job satisfaction (reported by new graduates) and improved patient outcomes (reported by senior nurses) (Haggerty et al., 2013; McKillop et al., 2016). Furthermore, the ability to manage and provide patient care helped build confidence and satisfaction during the first year of practice (Pettersen, 2006; Spence Laschinger, 2016).

In the critical care setting, improved confidence and competence in new graduates was achieved using simulation-based training to facilitate learning of critical thinking skills

such as assessment, prioritisation, planning, decision making, problem solving and evaluating (Kaddoura, 2010). The use of simulation as an adjunct to classroom and clinical learning experiences helped strengthen self-reflection and critical thinking (Lewis-Pierre, 2013). Furthermore, simulation was reported to help bridge theory-practice gaps by offering an opportunity to apply theoretical knowledge to practical experience (Kaddoura, 2010; Lewis-Pierre, 2013; O'Connor, 2006). Simulation improved communication, teamwork, stress management, delegation, and leadership skills (Della Ratta, 2016; Kaddoura, 2010) and provided a safe environment to make, reflect and learn from mistakes, and improve competence and confidence (Della Ratta, 2016; Kaddoura, 2010; Pupkiewicz et al., 2015).

An ideal program would be based on role-specific competencies and the individual's learning needs. Critical care units need to determine specialty skills and competencies that new graduates are expected to have within their area (Lewis-Pierre, 2013). New graduates should undergo an assessment of their knowledge, competency and skill levels as they enter the workplace in order to identify learning needs, interests and gaps in knowledge and skills (Lewis-Pierre, 2013). Ideally educators can then develop individualised, targeted teaching interventions and orientation plans based on the specialty area in which the new graduate is transitioning into and their specific needs (Lewis-Pierre, 2013) with levels of autonomy that increase over time (Spence Laschinger, 2016). However, accessing the resources required may hinder the practical application of this strategy.

The effect of graduate's participation in extra academic activities on their transition experience is debated in the literature. New graduate participants in McKillop et al. (2016) study felt that additional study content, delivery and assessment requirements of post-graduate education were beneficial and manageable while transitioning into their new role. Conversely, in another study by Tastan et al. (2013) graduates who undertook extra academic certificates during transition struggled and the authors felt this may be due to the increased

amount of intensive training. As neither authors described the components, depth or extent of study associated with the postgraduate study or certificate program we were unable to identify if these programs were comparable. Therefore, further research is needed to determine the effect of incorporating post graduate study into new graduate programs.

Clinical exposure and repetition is valuable in helping new graduates refine skills (O'Connor, 2006). For example, in the perioperative environment, repetition of procedures (same set up, equipment, surgeon preferences, sequence of operation) improved confidence and competence of novice scrub nurses (Pupkiewicz et al., 2015). Therefore, where possible consistency of tasks and procedures should be provided for novice nurses to refine skills and gain confidence and competence.

Competency based, succinct learning packages unique to the specialty unit were also reported to be helpful in demonstrating what nurses are expected to know and do (O'Kane, 2012). By incorporating a checklist, new graduate nurses gained a sense of achievement once competencies were completed (O'Kane, 2012). Of concern however, was that some seemed to lack understanding of the importance of the tasks and saw the checklist as a 'tick the box' exercise (O'Kane, 2012). Therefore, if using this strategy as part of a graduate program, the importance of included tasks needs to be emphasised.

Time pressure was an identified barrier to practicing assessment skills (McKillop et al., 2016). New graduates often developed anxiety about time-management and became very task orientated (O'Kane, 2012). New graduates need adequate time to develop their time-management skills, often occurring at roughly four months after commencement of work (Nied, 2009). After this, new graduates seemed to be able to learn from and incorporate evidence-based research into their practice (Nied, 2009).

### ***Orientation***

Orientation to specialty areas varies greatly in the literature. In New Zealand, nurse entry to practice programs must provide six weeks of preceptored supernumerary time to each new graduate (Haggerty et al., 2013). This supernumerary period increases to 12 weeks if allocated to highly specialised areas, allowing for more extensive orientation and support (Haggerty et al., 2013). Orientation of the new graduate to the critical care area was closely linked to satisfaction with their clinical performance (Hussein, 2016). Therefore, if critical care areas can map the skills and knowledge needed to work in their complex environment and develop an orientation program that supports this, then new graduates should be better prepared and satisfied with their time in the critical care environment.

One study (Allanson and Fulbrook, 2010) found that an intensive five-day education program (as part of perioperative nursing orientation) significantly improved knowledge, competence and confidence in all novice perioperative nurses (this included new graduate RNs, RNs with other clinical experience, and Enrolled Nurses (EN) with no perioperative experience). However, it is important to note that the multiple-choice questionnaire to test participant's knowledge was administered on the last day, therefore was a test of recall not of knowledge retention. It could be argued that administering the test once participants had begun work in the perioperative environment would have provided a more accurate reflection of the level of preparedness the education program provided. Furthermore, it cannot be assumed that this improvement in knowledge and self-perceived competence and confidence translated into competent clinical practice.

An important correlation between new graduates feeling supported and their intention to stay with the organisation after orientation was also identified (Penprase, 2012). Most new graduates felt that a well-structured nursing orientation helped prepare them for working in the clinical environment (Penprase, 2012). However, Tastan et al. (2013) study revealed that most new graduates felt that orientation training did not meet all expectations. It is not clear if

this was due to orientation as a process or the content contained within orientation. This study's design could have sought to identify why orientation was not meeting the graduate's expectations. This issue is concerning as graduates who thought orientation met their needs were also satisfied with their profession (Tastan et al., 2013) and therefore may be linked to retention of staff.

Specialty transition programs benefit from a structured orientation period (Pupkiewicz et al., 2015) and could include formal classes, clinical exposure to refine skills, and guidance from a preceptor (O'Connor, 2006). At the beginning of orientation an assessment of confidence and competence in completing tasks allows for adaption of the program to incorporate and address identified weaknesses (O'Connor, 2006; Pupkiewicz et al., 2015). Areas identified as group weaknesses could be targeted during larger classes while preceptors could tailor their support to each individual nurse's needs.

### ***Rotations***

Rotations during transition were a cause of stress. At the commencement of a program incorporating rotations, new graduates were enthusiastic and excited to learn and experience different units with the intention of finding an area they wanted to permanently work in (Kelly and Ahern, 2009). However, none of the new graduates had a positive experience with rotation. Each rotation caused stress and disruption, due to participants feeling like they were starting from the beginning again and not wanting to leave the team they had socialised in to (Kelly and Ahern, 2009). Another study (Pupkiewicz et al., 2015) of perioperative scrub nurses found that an inadequate amount of time spent in each rotation resulted in learning difficulties. Novice nurses need to be deemed competent in one specialty before being moved to the next (Pupkiewicz et al., 2015). Novice nurses being moved between specialties due to staffing issues was not conducive to their proficiency or learning (Pupkiewicz et al., 2015). Organisations need to consider the benefits of rotations versus the stress for new graduates

during transition (Kelly and Ahern, 2009). Research is needed on the impact of rotations within critical care areas on confidence and competence of novice and new graduates participating in transition programs.

### **Limitations and gaps**

- Only articles published in English included. There may have been articles relevant to this review published in languages other than English.
- Review period of 10 years, while there are some papers that could have been included outside of this timeframe, we wished to consider a contemporary view of the literature.
- Integrative review rather than a systematic review of all transition programs - specifically included literature that focused on new graduate nurses/novice nurses transitioning into critical care nursing. Therefore, generalisability may be limited.
- This review's validity of results is limited by the methods and limitations of the articles which are included in this review.

### **Recommendations**

Promote effective, quality experiences between graduate nurse and designated resource person through deliberate pairing based on learning/teaching styles and personal characteristics. Support persons should have strong interpersonal and facilitation skills as well as clinical experience to offer psychological support and appropriate and timely feedback. Rostering practices should enable access to support person/s and for preceptors to attend training. An assessment of new graduates' competence at commencement and readiness to progress from supernumerary to autonomous practice should be determined by the preceptor and then supported by management. Support persons can then develop individualised, targeted teaching interventions based on the specialty area in which the new graduate is transitioning into and their specific learning needs.

Supportive environments need to be developed in which novice and new graduate nurses are given time to adjust to their new role identity and gain confidence while working autonomously, yet still be able to approach staff for help as required. Workplace culture should be assessed so that any hostility can be addressed and suboptimal staff behaviours managed. All staff should be supported in developing coping skills to manage unsupportive staff. Transition programs should incorporate strategies that promote socialisation, integration and belonging through positive peer partnerships, nursing management, preceptors and colleagues to help facilitate new graduate transition.

Transition programs should be structured as this is advantageous to skill and knowledge attainment. Critical care units need to determine specialty skills and competencies that new graduates are expected to have within that specialty area. Organisations need to weigh up the benefits of rotations versus the extra stress it puts on new graduates during transition.

### **Future directions**

Further research on novice and new graduate nurse transition into critical care areas is needed to create higher levels of generalisability for critical care transition program development. In particular, more rigorous study designs with international partnerships and multiple facets for example, intention to stay and competence assessment. Studies focused on transition programs return-on-investment are required to establish the financial benefits of transition programs in critical care areas (for example reduced turnover etc.). Research is necessary to determine how departments can best assess and improve workplace culture, develop sustainable strategies embedded into the workplace that foster a supportive environment and promote socialisation during transition. Additional research is warranted to objectively measure if apparent improvement in critical thinking, leadership and knowledge from simulation training translates into competent, confident practice in the clinical setting.

Research is required to determine the effects of incorporating post graduate study into transition programs, focusing on support of transition into critical care units. Further investigation is needed to determine if short intensive education programs, improve knowledge and skills of nurses, and if this improved knowledge translates into competent practice in the clinical environment.

### **Conclusion**

There are a lack of studies focusing on transition of new graduates and novice nurses into critical care areas, however the research that is available strongly supports the use of transition programs developing confidence and competence in this population. Having a dedicated resource person was identified by multiple studies as a vital aspect of transition and a positive influence on nurses' confidence, competence and their overall perception of feeling supported. The quality of the designated resource person is focused on having strong interpersonal skills, teaching skills and clinical experience. A positive and supportive workplace culture was beneficial to transition and the reverse was detrimental to confidence levels and transition. Socialisation of nurses into the workplace had a positive influence on transition, support, and confidence. Knowledge and skill acquisition was achieved by various aspects including simulation, repetition of skills, preceptorship, mentorship, competency based learning packages, and targeted orientation programs based on prior assessments. Overall these strategies had a positive influence on competence, confidence and transition. Structured orientation programs were beneficial to transition, despite diverse delivery methods and time periods. Rotations were stressful, a hindrance to knowledge attainment and negatively affected competence and confidence. Educators should undertake further research about the effectiveness of educational approaches in critical care and other specialist clinical practice environments. It is essential therefore that constructive alignment and backward

design along with evidence about educational strategies, are used by nurse educators to help develop robust transition programs.

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Table 1. Summary of articles included in review

Author/Year/Country	Aim	Design/Method	Participants/Sample Size	Intervention Type/Length	Types of Support
<b>Allanson &amp; Fulbrook (2010)</b> Australia	Evaluate the effectiveness of a short (five day) education program (PIP) in preparing nurses for novice perioperative practice.	Pre-test and post-test design  Self-assessment questionnaire (knowledge, competence, confidence) and multiple choice questionnaire (objective knowledge test)	Nurses who completed PIP  Total (n = 49) including NGN's (n = 14) RN's new to theatre (n = 13)	Fast-tracked education program  Five Days	Range of teaching methods (e.g. didactic, mock theatre simulation, and reflection).
<b>Della Ratta (2016)</b> USA	Explore NGNs experiences of caring for a deteriorating patient in the first year of practice	Qualitative (interpretive) phenomenology Semi-structured individual interviews	NGNs (n = 8) working in acute care, ICU, ED	In caring for deteriorating patients as an NGN three themes: Dwelling with uncertainty, Building me up, A new lifeline-Salient being	Repeated exposure, trusted relationships with preceptors/support people, identity development, self-understanding
<b>Edwards, Hawker, Carrier, &amp; Rees (2015)</b> UK	To evaluate strategies that support NGN transition to the workplace	Systematic review of quantitative studies that investigated effectiveness of support interventions	30 studies	Dependant on studies included in the review. Includes internship/residencies, didactic lectures, Graduate nurse orientation programs and simulation sessions.	Mentorship/preceptorship. Structured teaching sessions of varying length. Simulation.
<b>Farnell &amp; Dawson (2006)</b> UK	Identify factors which influence new nurses' experiences during transition to critical care and evaluate effectiveness of methods such as education and preceptorship in facilitating nurses' development.	Longitudinal qualitative design  Semi-structured interviews	Nurses recruited to critical care (n = 14)	Foundation programme  12 week program including 8 study days and minimum 3 weeks supernumerary period	Competency based course. Supernumerary period. Each novice allocated 2 preceptors.
<b>Haggerty, Holloway, &amp; Wilson (2013)</b> New Zealand	Evaluation of NETP programmes. Focus on preceptorship, support, confidence and competence of NGN's.	Longitudinal qualitative design  Questionnaires and focus groups	NGN's completing NETP programme, programme co-ordinators, preceptors, directors of nursing, nurse managers, nurse educators, key DHB personnel  Questionnaire (n = 1,226) Focus group (n = 22 visits over 8 sites)	NETP programme  12 months including 6 weeks supernumerary with preceptor. Up to 12 weeks supernumerary if specialised area.	Preceptorship. Supernumerary orientation period. Clinical study days.
<b>Henderson, Ossenberg, &amp;</b>	To evaluate NGNs perceptions of a structured	Mixed method Phase 1 = Survey	New graduates in the support program	Graduate program centrally managed but locally supported	Preceptorship. Hospital orientation (4 days). Initial supernumerary shifts (2 weeks). 3

<b>Tyler, (2015)</b> <b>Australia</b>	support program	Phase 2 = Focus group	Phase 1 = 78 Phase 2 = 10	with preceptors. Intense support at start, tapers over 12 month period.	study days in first 6 months. Clinical facilitation.
<b>Hussein, Hu, Thornton, &amp; Salamonson (2016)</b> <b>Australia</b>	To examine how NGNs satisfaction with the practice environment is influenced by situational and personal factors	Quantitative – cross-sectional survey	NGNs (n = 109) working in several different acute specialities in a large tertiary hospital.	5 day transitional support program orientation days, 1-10 ward level orientation days. 5 education days over 12 month period	Point of care support (teaching/buddy support), facilitated professional development, formal clinical supervision.
<b>Hyrkas, Linscott, &amp; Rhudy (2014)</b> <b>USA</b>	Identify the factors associated with preceptor commitment to and satisfaction with the role of preceptor and investigate preceptees satisfaction with their nursing performance and the preceptorship experience.	Descriptive correlational qualitative design  Questionnaires	Registered Nurses currently or who have in the last six months been a preceptor. Newly hired nurses who have completed a preceptorship relationship in the last six months.  Preceptors (n = 85) Preceptees (n = 85)	Preceptorship  Length not stated	Preceptorship.
<b>Kaddoura (2010)</b> <b>USA</b>	Explore the use of simulation training in developing critical thinking, learning, and confidence during NGN's transition to critical care nursing.	Exploratory qualitative descriptive design  Demographic questionnaire and semi-structured interviews	Registered NGN's working in ICU with no previous experience.  (n = 10)	Critical care training program.  6 month program. Included simulation training 1 x 8 hour session every 3 weeks (8 simulation training days total)	Clinical simulation on simulated patients, debriefing and evaluation.
<b>Kelly &amp; Ahern (2008)</b> <b>Australia</b>	Describe experiences of NGN's during their first six months of practice as RN's.	Qualitative (phenomenology) design  Semi-structured interviews	Registered NGN's  (n = 13)	Rotational graduate program  12 months (number of rotations varied in length from 1 - 8)	Various amongst rotations – not specifically stated.
<b>Lewis-Pierre (2013)</b> <b>USA</b>	Explore the views of managers, clinical educators, preceptors, and NGN's regarding workplace readiness and needs of NGN's entering the ICU.	Qualitative (grounded theory) design  Interviews	Managers, educators, preceptors and NGN's working in ICU.  (n = 24)	NNEIT  12 months	Incorporating the NNEIT into transition program
<b>Lima, Jordan, Kinney, Hamilton, &amp; Newall (2016)</b> <b>Australia</b>	Refine a framework for developing competence in NGNs in paediatric nursing.	Qualitative (explanatory) – interviews  Interview questions informed by previous phase in overarching mixed method study	NGNs (n = 21) who were part of a 12 month transition programme	Program theory evaluation (PTE)	Framework for developing competence refined
<b>McKillop, Doughty, Atherfold, &amp; Shaw (2016)</b>	Explore the perceived impact of the NETP programme on NGN's.	Mixed method descriptive cohort design	RNs who had completed the NETP program and their clinical preceptors	NETP program	Combined academic and clinical program which provides postgraduate academic credit points. Preceptorship.

<b>New Zealand</b>		Questionnaire and focus groups	Questionnaire (n = 136) Focus groups (n = 24)	12 months	
<b>Mellor, &amp; Gregoric (2016)</b> <b>Australia</b>	Identify strategies used by NGNs to be successful in transition to practice.	Qualitative (grounded theory) design Interviews	NGNs (n = 9) who had recently completed transition-to-professional practice program	All were in a graduate nurse transition program across different contexts (rural, metro) and specialties	Model developed: Ways of: - feeling - relating - doing Ways: - I am - I am aware - I navigate
<b>Murphy-Rozanski (2008)</b> <b>USA</b>	Evaluate NGN's perceptions of helping behaviours of their preceptors, mentors, or coaches, during their nurse residency program.	Qualitative (phenomenology) design  Focus groups and demographic questionnaire	NGN's in a nurse residency program  (n = 19)	Nurse Residency Program  12 months	Nurse residency involving preceptors, mentors, or coaches.
<b>Nied (2009)</b> <b>USA</b>	Investigate the evidence available regarding the divide between nursing education and nursing practice, design an evidence based formal residency program for NGN's, and evaluate the implementation of the residency program.	Pre-test and post-test single group cohort design  Interviews and questionnaire	NGN's completing a hospital residency  NGN's (n = 7)	Nurse Residency Program  4 months	Each NGN was assigned a preceptor (trained) and a mentor. Weekly education offered, targeted at competency deficits identified by NGN's, preceptors and mentors at beginning of program.
<b>O'Connor (2006)</b> <b>USA</b>	Explore novice nurses' perceptions of ways they initially learned and refined nursing skills during their first nursing job.	Single cohort case study design  Semi-structured interviews	Novice nurses 10 – 14 months' post baccalaureate of nursing science  (n = 9)	Orientation Programs over multiple work areas  Varied from 6 weeks – 6 months	Orientation program. Preceptorship.
<b>O'Kane (2011)</b> <b>UK</b>	Investigate transition experiences of NGN's starting their career in ICU. Discuss areas that affect NGN's induction into critical care. Investigated senior nursing staff opinions of NGN's in ICU.	Qualitative comparative design  Semi-structured interviews and focus group	NGN's employed in ICU for less than one year and senior charge nurses in ICU  NGN's (n = 8) Senior charge nurses (n = 7)	Preceptorship Program  Length not stated	Preceptorship.
<b>Ortiz (2016)</b> <b>USA</b>	Explore how NGNs describe lack of confidence and development of confidence in	Descriptive qualitative design Semi-structured	NGNs (n = 12) employed in the hospital setting for one year or less	No intervention. Exploratory study	NA

	first year of practice	interviews at multiple different time points			
<b>Penprase (2012)</b> <b>USA</b>	Discuss factors that influence newly graduated accelerated second-degree nursing students to remain at the bedside. Identify areas of improvement to help NGN's transition into nursing practice.	Exploratory qualitative descriptive design  Questionnaire (14 open ended questions) and demographic questionnaire	Graduate second-degree RN's.  (n = 29)	Participants employed across multiple work areas, majority in critical care  Between 6 weeks and 3 months	Orientation period between 6 weeks and 3 months. Preceptorship.
<b>Pettersen (2006)</b> <b>USA</b>	Investigate the transition experience of NGN's entering nursing practice as RN's.	Qualitative (phenomenology) design  Interviews	NGN's in acute care nursing practice  (n = 6)	Various graduate programs  8 – 12 months	Preceptorship.
<b>Pupkiewicz, Kitson, &amp; Perry (2015)</b> <b>Australia</b>	Investigate factors within the perioperative environment which influence the transition experience of novice scrub nurses from the perspective of the novice nurse and expert nurse.	Qualitative interpretive (phenomenology) design  Individual interviews and focus group	Enrolled or registered novice scrub nurses with less than one years experience and clinical nurses/perioperative educators  Novice scrub nurses (n = 6) Senior scrub nurses (n = 7)	Graduate support program  Length not stated	Preceptorship. Orientation.
<b>Reid Tinio (2012)</b> <b>USA</b>	Compare NGN's perceptions of job embeddedness regarding one-on-one mentorship versus those mentored in a group.	Exploratory comparative cross-section design	NGN's who completed an 18-week residency program and received either one-on-one or group mentoring interventions  (n = 2032)	One-on-one mentorship and group mentorship  18 weeks	Mentorship.
<b>Scells &amp; Gill (2007)</b> <b>Australia</b>	Evaluate the effectiveness of a transition support model (co-ordinated team preceptorship model).	Mixed method, two phase design  Interviews and questionnaire	NGN's, experienced nurses and resource preceptors on an orthopaedic ward  Interviews (n = 6) Questionnaires (n = 39)	Team preceptorship program  Length not stated	Facilitator.
<b>Simpson-Cosimano (2010)</b> <b>USA</b>	Explore the experiences of NGN's working in a labour and delivery unit with a focus on orientation, support and critical thinking.	Qualitative (phenomenology) design  Interviews	NGN's working in a labour and delivery unit and a manager on the same unit  New graduates (n = 10) Manager (n = 1)	Co-ordinated team preceptorship model  Not stated	Program is facilitated by a nurse skilled in leadership, communication, clinical and organisational practices.
<b>Spence Laschinger, Zhu, &amp; Read (2016)</b>	Test a model predicting the effects of empowerment and support on NGNs perceptions of professional practice, care	Non-experimental predictive design to test a hypothesised model using structural equation	Canadian NGNs in first three years of practice (n = 393)	Model testing of how empowerment affected NGNs experiences, perceived	Empowerment Length of support needed for NGNs

<b>Canada</b>	quality resulting in job satisfaction and intention to leave.	modelling		professional behaviours and intentions	
<b>Strauss, Ovnat, Gonen, Lev-Ari, &amp; Mizrahi (2016)</b> <b>Israel</b>	To assess if NGNs orientation to the workplace included structured programs, and effectiveness of the program from the NGN perspective.	Quantitative Cross sectional survey	NGNs (n = 79) working in 4 institutions (all hospitals, one with a college and bridging program)	NA	Structure in the orientation program was seen as positive, as was preceptorship external to the ward staff. Fragmentation in preceptors seen as difficult or having a preceptor as part of staff, high workloads, organisational culture and unrealistic NGN self-expectations were all barriers.
<b>St-Martin, Harripaul, Antonacci, Laframboise, &amp; Purden (2015)</b> <b>Canada</b>	NGNs perceptions of strategies that influenced development in first 2 years of practice.	Qualitative descriptive design Semi-structured interviews	Convenience sample of NGNs (n = 13) working equal to or less than 2 years in practice, have completed the unit's orientation program	Model development	Model developed: Developing as a nurse Strategies affecting development (Organisational, educational, personal)
<b>Tastan, Unver, &amp; Hatipoglu (2013)</b> <b>Turkey</b>	Identify factors affecting the transition period of NGN's.	Descriptive cross-section design  Questionnaire	NGN's working in a military education and research hospital  (n = 234)	Graduate nurse program  12 months	Orientation period between 3 – 6 months. 1 month preceptorship. Seminars. Continuous training and in-services. Certificate programs based on interests (e.g. emergency, perioperative, intensive care). Supervision from experienced nurse for 16 weeks.
<b>Wolak, McCann, Queen, Madigan, &amp; Letvak (2009)</b> <b>USA</b>	Examine experiences of mentors and mentees in a structured mentorship program.	Qualitative design  Focus groups	Mentors (level 3 clinical nurses) and mentees (level 1 clinical nurses) with no previous critical care experience working in an ICU and whom had participated in a mentorship program  Mentors (n = 6) Mentees (n = 5)	Graduate nurse program  12 months	Clinical preceptorship followed by mentorship.
<b>Legend:</b> PIP = Perioperative Introduction Program; NGN = New Graduate Nurse; RN = Registered Nurse; NETP = Nurse Entry To Practice; ICU = Intensive Care Unit; NNEIT = New Nurse Embracing ICU Theory; DHB = District Health Boards					

Table 2. Themes Discussed by Authors

Author/Year	Designated Resource Person	Workplace Culture	Socialisation	Knowledge and Skill Acquisition	Orientation	Rotation
Allanson & Fulbrook (2010)		X			X	
Della Ratta (2016)				X		
Edwards, Hawker, Carrier, & Rees (2015)	X			X		
Farnell & Dawson (2006)	X		X	X		
Haggerty, Holloway, & Wilson (2013)	X	X	X	X	X	
Henderson, Ossenberg, & Tyler, (2015)	X	X	X	X		
Hussein, Hu, Thornton, & Salamonsen (2016)					X	
Hyrkas, Linscott, & Rhudy (2014)	X	X				
Kaddoura (2010)				X		
Kelly & Ahern (2008)		X	X			X
Lewis-Pierre (2013)			X	X		
Lima, Jordan, Kinney, Hamilton, & Newall (2016)	X					
McKillop, Doughty, Atherfold, & Shaw (2016)	X	X	X	X		
Mellor, & Gregoric (2016)		X	X	X		
Murphy-Rozanski (2008)	X	X				
Nied (2009)	X		X	X		
O'Connor (2006)	X			X	X	
O'Kane (2011)	X	X		X		
Ortiz (2016)	X	X		X		
Penprase (2012)	X	X	X		X	
Pettersen (2006)	X	X		X		
Pupkiewicz, Kitson, & Perry (2015)	X	X	X	X	X	X

<b>Reid Tinio (2012)</b>	<b>X</b>					
<b>Scells &amp; Gill (2007)</b>	<b>X</b>					
<b>Simpson-Cosimano (2010)</b>	<b>X</b>	<b>X</b>				
<b>Spence Laschinger, Zhu, &amp; Read (2016)</b>	<b>X</b>	<b>X</b>		<b>X</b>		
<b>Strauss, Ovnat, Gonen, Lev-Ari, &amp; Mizrahi (2016)</b>		<b>X</b>				
<b>St-Martin, Harripaul, Antonacci, Laframboise, &amp; Purden (2015)</b>	<b>X</b>					
<b>Tastan, Unver, &amp; Hatipoglu (2013)</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>Wolak, McCann, Queen, Madigan, &amp; Letvak (2009)</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>		

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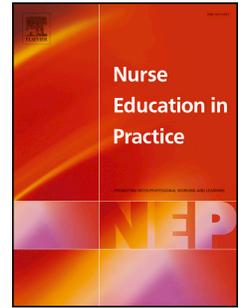
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# Accepted Manuscript

Transition support for new graduate and novice nurses in critical care settings: An integrative review of the literature

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