BEST PRACTICE COMPONENTS FOR NURSING NEW GRADUATE RESIDENCY

PROGRAMS: AN INTEGRATIVE REVIEW OF THE LITERATURE

by

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DEDICATION

This paper is dedicated to my husband, family, friends, and mentors- both those who completed this journey with me and those in memory. Without your never-ending support, patience, and unconditional love this work would not have been possible.

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ABSTRACT

The need for an effective transition to practice program, such as nurse residency programs (NRPs), has been documented for over 80 years (Townsend, 1931 as cited in Spector et al., 2015). Anderson, Hair, and Todero (2012) stress how new graduate registered nurses (RNs) face high patient acuity and complex situations, nursing shortages, high turnover, burnout, excessive overtime demands, reduced new RN orientations, and heavy use of agency/traveling nurses to fill gaps (Joint Commission on Accreditation of Healthcare Organization, 2002; Jones & Gates, 2007 as cited by Anderson et al., 2012). Not only does this turnover negatively affect morale and job satisfaction, it's also very expensive with the estimated cost to replace these nurses ranging from $49,000 to $92,000 per nurse (Kram & Wilson, 2016). NRPs have been recommended to combat turnover and provide support during the transition into professional practice (Benner, Sutphen, Leonard, & Day, 2010; IOM 2011; The Joint Commission, 2002 as cited by Spector et al., 2015; Cochran, 2017). However, despite these recommendations, there continues to be a lack of comprehensive, evidence-based NRPs offered by employers (Spector, et al., 2015). The purpose of this integrative review of literature was to explore the best practice components of NRPs.

This integrative review was performed by mining relevant literature from predetermined databases and all reference lists of the selected literature. A total of 13 publications met the predetermined inclusion criteria. After reviewing how different factors affect the transition of new graduates, it was concluded that an NRP that was based on a national model or developed internally in congruence with national models would provide best chance for a successful transition for new graduates. This model would include an adaptive, evidence-based curriculum that is customized to the patient populations and unit specifics, a program length of at least 12 months, and training and careful selection of preceptors and mentors. Additionally, it is recommended to that NRP staff have an awareness of differences in new graduate ADN and BSN preparedness and skill sets and adapt the NRP as needed to accommodate both cohorts.

CHAPTER ONE

PRACTICE PROBLEM

<u>Introduction</u>

Nursing residency programs (NRPs), or transition-to-practice programs, are programs for new graduate nurses to help ease new graduate nurses into their professional roles. These programs help to establish clinical competence, provide emotional support through the transition, and facilitate recruitment and retention of new nurses (Defenbeck, Plowfeild, & Herrman, 2006 as cited in Welding, 2011; Spector & Echternacht, 2010). NRPs have built on the traditional orientation program for new graduate nurses in acute or critical care settings. These orientation programs generally consist of a day of general hospital orientation, three to five days of general nursing orientation, and a 6- to 12-week (or longer) period of precepted clinical experience in which the new nurses are paired with experienced nurses, preceptors, to learn directly on the unit of hire (Sandau & Halm, 2010). This orientation period helps the new hire acquire skills and become familiar with patients, protocols, care providers, and the unit's culture (Sandau & Halm, 2010).

Most NRPs last around one year, although structure and content can vary significantly between organizations. However, Welding (2011) discusses how the typical NRP incorporates classroom lectures and seminars in addition to the traditional orientation with a preceptorship. The lecture and seminar portion of an NRP is crucial in fostering critical thinking, developing clinical competence, and enhancing job satisfaction

as well as provide ongoing institutional support during a time of stressful transition (Welding, 2011; Spector & Echternacht, 2010).

Background and Significance

According to the U.S. Department of Health and Human Services, Health Resources and Service Administration (HRSA) there will be a projected national shortage of 776,400 RNs by 2030 (HRSA, 2017). However, in a recent interview with Anna Cantrell of MSU News Service, Montana State University's Professor Buerhaus, Director of the Center for Interdisciplinary Health Workforce Studies, states that the influx of individuals into the nursing profession over the past 10 years has generally alleviated concerns about large shortages of registered nurses. Professor Buerhaus concluded that, if the trends continue, some regions of the United States will experience nurse shortages, but this will be mostly regional, primarily among the coasts (P. Buerhaus personal communication, February 3, 2017).

The national average of turnover rates for newly graduated nurses can range from 13% to up to 75% at the one-year post-hire date, with new graduates either transferring to a different area of care or leaving the nursing profession entirely (Kram & Wilson, 2016). Acute care nurse vacancy rates of 8-10% are reported widely, with new graduate nurse turnover rates of 18-50% or higher at the one-year post-hire date (Spiva et al., 2013 as cited by Cochran, 2017; Kram & Wilson, 2016). Not only does this turnover negatively affect staff morale and job satisfaction, it is also very expensive with the estimated cost to replace these nurses ranges from $49,000 to $92,000 per nurse (Kram & Wilson, 2016).

Unlike the disciplines of medicine, pharmacy, pastoral care, and physical therapy, nursing does not have a required formalized transition-to-care program in place for their graduates (Spector & Echternacht, 2010). Anderson et al. (2012) stress how new graduate registered nurses (RNs) face high patient acuity and complex situations, nursing shortages, high turnover, burnout, excessive overtime demands, reduced new RN orientations, and heavy use of agency or traveling nurses to fill gaps in service (Joint Commission on Accreditation of Healthcare Organization, 2002; Jones & Gates, 2007 as cited by Anderson et al., 2012). With the increasing costs of training and retaining quality nurses, many healthcare organizations are employing nursing residency programs (Welding, 2011). Spector and Etchternacht (2010) discuss how comprehensive NRPs can greatly reduce new graduate nursing turnover as well as increase clinical skills and improve patient care.

While most NRPs are reported to be around one year, transition programs range from a little over four weeks to up to one year (Reinvsold, 2008; Spector & Echternacht, 2010; Welding, 2011). Many of these transition programs are unique to the organization and were developed in response to new nurse hires lacking experience and rapid turnover (Welding, 2011; Reinsvold, 2008). Reinsvold also states that most of these unstandardized initiatives, while well-meaning, are quickly overwhelmed and struggle with time constraints, divergent clinical instruction, and subtle misalignments with standards of care (2008). Several parties (e.g., The Joint Commission, the Carnegie study of nursing education report, and the University HealthSystem Consortium with the American Association of Colleges of Nursing) have stressed the need for a standardized transition program for newly licensed nurses in order to decrease the nursing turnover

and increase the competence in new graduate nurses (as cited in Spector & Echternacht, 2010).

<center>Problem/Purpose</center>

Keller, Meekin, and Summers (2006) write that nursing education cannot prepare new graduates for acculturating into their workplace and compare this transition to "moving to a new country where the language and customs are unfamiliar" (as cited in Spector & Echternacht, 2010, pp. 19). They discuss several skills involving experiential learning that go beyond opportunities available in pre-licensure education programs such as self-awareness, team dynamics, leading teams, coordinating care, managing conflict, understanding the psychological effects of change and transition, communicating, using evidence-based practice, employing systems thinking, and dealing with financial pressures (Keller et al., 2006 as cited in Spector & Echternacht, 2010). Welding (2011) states that the stress of this transition can contribute to high turnover within the first year as well as patient errors (Elfering, Semmer, & Grebner, 2006 as cited in Spector & Echternacht, 2010).

Additionally, new nurses often engage in concrete thinking and focus on technology (Benner, 2004; Ebright et al., 2004 as cited in Spector & Echternacht, 2010). This deficiency of critical thinking and ability to see the big picture can adversely affect patient outcomes, potentially leading to life-threatening situations (Del Bueno, 2005; Orsolini-Hain & Malone, 2007 as cited by Spector & Echternacht, 2010).

Many nursing leaders throughout heath care are turning to NRPs in order to combat new graduate nurse turnover and lack of skills needed to succeed in the hospital

environment (Welding, 2011). However, as mentioned above, transition and nursing

residency experiences vary across the U.S. and across differing levels of education

(Spector & Echternacht, 2010), and frequently outcome measurements are minimal or

incomplete (Reinsvold, 2008). Because of a lack of standardization, the level and quality

of material in these internally developed programs can differ greatly by

preceptor/facilitator, department, and organization (Reinsvold, 2008).

The purpose of this project was to identify components of NRPs that are

associated with best practice. By identifying these aspects, recommendations for NRPs

can occur to produce resilient, competent nurses who will provide outstanding patient

care at organizations currently developing an independent NRP.

<u>Integrative Review</u>

Broome (1993) defines an integrative review as "a specific review method that

summarizes past empirical or theoretical literature to provide a more comprehensive

understanding of a particular phenomenon or healthcare problem" (as cited in

Whittemore & Knafl, 2005, pp. 546). Because it is the only approach that allows for

combination of diverse methodologies, integrative reviews have the potential to play a

greater role in evidence-based practice for nursing by building nursing science, informing

research, practice, and policy initiatives (Whittemore & Knafl, 2005).

Crawford (2008) stresses how integrative reviews are the cornerstone of

Evidence-Based (EB) Practice and help to provide the foundation for EB nursing

interventions and clinical practice guidelines by ensuring the integration of research

evidence into nursing practice. Rigorously developed integrative reviews allow for the

synthesis of various perspectives and diverse evidence on a complex phenomenon into a

systematic knowledge base and thus form the foundation for nursing practice

(Whittemore & Knafl, 2005).

CHAPTER TWO

METHODS

<u>Theoretical Frameworks</u>

<u>Whittemore and Knafl's Integrative Review Methodology</u>

This integrative review process followed the framework outlined by Whittemore and Knafl (2005) for conducting an integrative review. The authors state than an integrative review is the only approach that allows for the combination of diverse methodologies and has the potential to play a greater role in evidence-based practice for nursing (Whittemore & Knafl, 2005).

Integrative reviews are the broadest type of research review, "allowing for the simultaneous inclusion of experimental and non-experimental research in order to more fully understand the phenomenon of concern" (Whittemore & Knafl, 2005, p. 547). Because of this inclusion of diverse methodologies, an integrative review has the potential to result in a comprehensive portrayal of complex concepts, theories, or health care problems of importance to nursing (Whittemore & Knafl, 2005). The integrative review methodology consists of five stages: problem identification, literature search, data evaluation, data analysis, and presentation. A brief overview of each stage in the integrative review process will be discussed in the following paragraphs.

The first stage in beginning an integrative review is known as the problem identification stage. This initial stage forms a clear identification of the problem to be addressed by the review and the review purpose (Whittemore & Knafl, 2005). Variables of interest and appropriate sampling frame are determined at this time. Whittemore and

Knafl (2005) stress the importance of clarity of the review purpose throughout the review stating, "a well-specified research purpose in an integrative review will facilitate the ability to accurately operationalize variables and thus extract appropriate data from primary sources" (p. 548). The purpose of this particular integrative review was to explore best practices for nurse residency programs. The factors being investigated were components specific to the best practices involved in the NRPs.

The second stage of the integrative review process is a well-defined literature search. Well-defined search strategies are critical for enhancing the rigor of any type of review because incomplete and biased searches result in an inadequate database and the potential for inaccurate results (Cooper, 1998; Conn et al., 2003a, as cited in Whittemore and Knafl, 2005). An efficient and very effective route for identifying relevant literature is the use of computerized databases. However, only 50% of eligible studies may be identified using the databases alone (Whittemore & Knafl, 2005). Therefore, Conn et al. (2003b) recommends utilizing additional approaches such as ancestry searching, journal hand searching, networking, and searching research registries to identify additional literature (as cited in Whittemore & Knafl, 2005). These additional strategies need to be tailored to the individual review and the data available. Whittemore and Knafl (2005) discuss how this process should be clearly documented including the search terms, databases used, additional search strategies, and the inclusion and exclusion criteria for determining relevant primary sources.

In the third stage of the integrative review process, also known as the data evaluation stage, extraction of specific methodological features of primary studies is recommended in order to evaluate overall quality (Cooper, 1998, as cited in Whittemore

& Knafl, 2005). Quality scores of the primary studies are subsequently incorporated into the data analysis stage. Whittemore and Knafl describe how primary sources of an integrative review are often varied in methodologies as well as empirical and theoretical sources (2005). Frustratingly, there is no gold standard for calculating the quality scores (Jadad et al., 1998; Conn & Rantz, 2003, as cited in Whittemore & Knafl, 2005) as each research design usually has different criteria to evaluate quality. These variations make calculating quality scores complex and challenging. With a diverse sampling frame Kirkevold (1997) recommends an approach to evaluating quality similar to historical research: authenticity, methodological quality, informational value, and representativeness of available primary sources are to be considered and discussed (as cited in Whittemore and Knafl, 2005).

Data analysis is the fourth stage of the integrative review process, requiring the data from primary sources to be "ordered, coded, categorized, and summarized into a unified and integrative conclusion about the research problem" (Cooper, 1998, as cited by Whittemore & Knafl, 2005, p. 550). The strategies for this stage are one of the least developed aspects of the process, making this one of the most difficult aspects of the integrative review process and one potentially fraught with error. Because of these risks, a systematic analytic method should be explicitly identified before undertaking the review in order to form a thorough and unbiased interpretation of primary sources as well as an innovative synthesis of the evidence. (Whittemore & Knafl, 2005). Miles and Huberman (1994), Tasharkkori and Teddlie (1998), and Patton (2002) explain how primary research methods of analysis developed for mixed-method and qualitative designs are particularly applicable to the integrative review method as it allows for

comparisons across primary data sources (as cited in Whittemore & Knafl, 2005). A

constant comparison method is often used in a broad array of qualitative designs and can

be utilized in the integrative review process as this approach is compatible with the use of

varied data from diverse methodologies (Whittemore & Knafl, 2005). In this process,

extracted data is converted into data into systematic categories, facilitating the distinction

of patterns, themes, variations, and relationships (Glaser, 1978; Miles & Huberman,

1994; Patton, 2002, as cited in Whittemore & Knafl, 2005). This method consists of data

reduction, data display, data comparison, conclusion drawing, and verification (Miles &

Huberman, 1994 as cited in Whittemore & Knafl, 2005). At the end of this stage, each

piece of analyzed evidence is synthesized into an integrative summation.

The presentation stage is the final stage and involves reporting the conclusion

drawn from the review in a table or diagrammatic form (Whittemore & Knafl, 2005). The

results of this review capture the depth and breadth of the topic, contributing to a new

understanding of the topic being explored. Additional recommendations for further

research are expressed as well as potential implications for policy and practice initiatives

(Whittemore & Knafl, 2005). Lastly, any limitations of the review are discussed.

Benner's Novice to Expert

Benner's *Novice to Expert* (2001) may also be frequently referenced as many

current NRPs and nursing education programs use this as the foundation for their

education. Benner applied the Dreyfus model of skill acquisition to nursing. In this

model, a student passes through five levels of proficiency: novice, advanced beginner,

competent, proficient, and expert (Benner, 2001). Benner (2001) describes how these

different levels reflect changes in three general aspects of skill performance:

"One is a movement from reliance on abstract principles to the use of past

concrete experience as paradigms. The second is a change in the learner's

perception of the demand situation, in which the situation is seen less and less as a

compilation of equally relevant bits, and more and more as a complete whole in

which only certain parts are relevant. The third is a passage from *detached*

overserved to *involved* performer" (p. 13)

Benner (2001) emphasizes that nursing is an emerging profession, whose role

complexity and responsibility require long-term, continuing development.

New graduates enter the workforce as novices to advanced beginners. There is a

major implication for preservice and staff education in this stage is support in the clinical

setting as they are only beginning to perceive recurrent meaningful patterns in their

clinical practice (Benner, 2001). During the school-to-work transition of newly graduated

nurses, attention must be given to the acquisition of refined clinical judgement by

enabling comparison of the advanced beginner's judgements with those of the

experienced clinician- this is how a sense of salience, or connection to what is happening

(Cambridge Dictionary.com), is gained (Benner, 2001). This comparison can occur in

with a mentor or a similar relationship, but time and multiple examples will generally be

required.

Nurses graduate with little understanding of the strategies for clinical skill

acquisition beyond the advanced beginner or competent levels (Benner, 2001). The

author describes this as having a secondary ignorance: they do not know what they do not

know, and they have a limited understanding of how to go about learning it (Benner,

2001). Experience takes time to develop. Because of this, Benner (2001) stresses that

staff development programs need to promote clinical knowledge development so that each nurse can learn from clinical experience as an individual with limited background knowledge will lack the tools needed to learn from experience.

Search Methods

Guided by Whittemore and Knafl (2005), a thorough search of the literature was performed from June through August 2018 beginning with the utilization of the following search engines: Cumulative Index to Nursing and Allied Health Literature (CINAHL), the Cochrane Library, Joanna Briggs Institute, Education Resources Information Center (ERIC), PsychInfo, and Medical Literature On-Line (MEDLINE). Initial search terms included: *(a) nursing residency program and its abbreviation NRP, (b) new graduate, (c) transition to practice, (d) residency,* and *(e) internship.* Additionally, *(f) component* and *(g) nurse* were added as needed to increase the precision of the search results.

These terms were used together in various combinations in each database to maximize the articles located. Additionally, a Montana State University librarian was consulted to assist with the literature search and for reference during the conduction of the review. The librarian was also available as the first point of contact for assistance in locating an article in the event it was not available through the databases. A tracking log was maintained by the reviewer as literature was extracted for use.

Computerized databases are very effective and efficient. However, only 50% of eligible studies may be identified using the databases alone (Whittemore & Knafl, 2005). Therefore, the reference lists of selected articles were further mined for additional potential articles until evidence saturation occurred.

In order to avoid an inaccurate search or biased results, the literature search was well defined prior to initiation. The first step was the establishment of inclusion and exclusion criteria for the selection of literature. These criteria were used when reviewing article abstracts to determine if the publication had the potential for inclusion in this review. Whittemore and Knafl (2005) state that quality primary studies (both experimental and non-experimental) from peer-reviewed journals should be used in ordered to decrease the complexity of the evidence. To ensure that only the highest quality of literature was considered for review, initially only empirical literature was included. However, due to the low volume of publications for review, formal review of empirical studies were also included in the review. Additional care was given to the review of these studies to ensure the original studies had undergone the same rigorous quality evaluation that was completed in this review.

As the education and scope of practice for nurses varies across different countries, studies that have been conducted outside of the United States were excluded from this review. Licensed Practice Nurse (LPN) programs were also not included for this reason, as the education and scope of practice varies across different care settings and geographical locations. Studies that did not focus on acute care were excluded since there are distinct differences in acute clinical skills and traditional education when compared to nonacute clinical settings. Additionally, studies needed to be written in the English language unless an interpreted copy was available to be included.

The concept of nursing residency programs is relatively new and therefore still being developed. Consequently, all literature was considered relevant without any publication date restrictions.

Evidence Appraisal

Ganong (1987) and Cooper (1998) stress that as the integrative review process is "research of research", the process should therefore meet the same standards of primary research in methodological research (as cited in Whittemore & Knafl, 2005). Each article was individually appraised in a systematic manor to enhance rigor and decrease the chance of bias. Whittemore and Knafl (2005) explain how, because primary sources of an integrative review are often varied in methodologies as well as empirical and theoretical sources, no gold standard exists for calculating the quality scores (Jadad et al., 1998, Conn & Rantz, 2003, as cited in Whittemore & Knafl, 2005).

However, three overarching questions that apply to any study define the critical appraisal process (Cerhagen, de Vet, de Bie, Bores & van den Brandt, 2001, as cited in Melnyk & Fineout-Overholt, 2015). These three questions address the validity, reliability and applicability of studies and provide clinicians the means to interpret the quality of the studies as well as determine the applicability of the synthesis of multiple studies' results. The question regarding applicability was addressed in the initial mining of articles. The questions regarding validity and reliability were asked in within the Melnyk and Fineout-Overholt's rapid critical appraisal checklist that corresponded to the study type in order to evaluate the quality of each article being considered for the review (2015). Critical appraisal checklists guide the reviewer to assess various components of the study's design, such as sampling strategy or random assignment, that may influence the validity of the study results.

Validity of a study reflects if the results were obtained with sound scientific methods that address bias and/or confounding variables, which can compromise the

validity of the findings (Goodacre, 2008a, as cited in Melnyk & Fineout-Overhold, 2015). If it was determined that the results of the study were likely to be valid, one point was assigned. However, if there was concern about the validity of the results, no points were assigned. The second portion of the quality assessment asks what the results are and reviews the reliability of the data. Reliability is determined by assessing the intervention's effect (the effect size) and how precisely that effect was estimated. This step of interpretation evaluates how likely that the intervention will have the same effect when clinicians use it in their practice (Melnyk & Fineout-Overhold, 2015). If it was determined that the results of the study were likely to be reliable, one point was assigned. If the results were felt to be unreliable, no points were assigned.

Points were assigned based on if an article was determined to be valid and/or reliable with the total number of points calculated and used to assess the quality of the evidence within the article. A total of zero points indicated poor quality, one point indicated fair quality, and two points indicated a good quality of evidence. A "good" quality score of evidence indicates a low probability of bias and a high likelihood that the results are precise, replicable, and credible. Alternately a "poor" quality score of evidence would indicate a high chance of bias and a low likelihood that the results were accurate and able to be reproduced.

An evidence table was generated to summarize the significant components of the literature, along with design strengths and weaknesses (see Appendix A). The final steps of the review were iterative, until repeating information and themes emerged. At this time, study results were organized and final conclusions drawn, with the finding presented and disseminated.

CHAPTER THREE

RESULTS

<u>Overview</u>

Search results identified a total of 1148 potentially relevant articles. In the initial

review of inclusion criteria three articles were eliminated because they were not available

in English, 218 articles were excluded as they had not been conducted within the United

States, and 339 duplicates were removed. Additionally, 594 publications were eliminated

as they were found not to be relevant to the purpose of this review. Some repeating

reasons for article exclusion included: pertaining to nurse practitioner graduates, relating

to student nurse externships, addressing LPN programs instead of RN programs, not

focusing on acute care settings, and a generalization of NPRs without discussing

components. This left 26 prospective articles, which were then further evaluated.

Seventeen additional studies were eliminated for 1) duplication of another study, 2) for

not discussing specific components of NRPs, but instead NRPs in general, or 3) for

focusing on a single teaching method/item and not discussing the NRP as a whole. This

left a total of 9 articles, whose references were mined for additional articles. A further

four articles were found to fit inclusion criteria, bringing the total number of articles

meeting inclusion criteria to 13. The literature search is displayed in visual detail in the

Evidence Table in Appendix A. These articles were then evaluated for quality of

evidence as described in Chapter Two. Eleven articles were found to have good quality

of evidence, two fair quality of evidence, and none were found to have poor quality of

evidence. From the publications reviewed, several categories became very apparent and

were directly related to the model the NRP was derived from including: curriculum topics, program length, entrance education level, and preceptor/mentors.

<div align="center">Nursing Residency Program Models</div>

The NRP content, length of program, and preceptor/mentor use were all dependent on the underlying model of the NRP. The two types of models are those that follow a national model, such as the American Association of Colleges of Nursing (AANC)/ University HealthSystem Consortium (UHC) National Post-Baccalaureate Graduate Nurse Residency Program (Krugman et al., 2006) or the National Council of State Boards of Nursing's (NCSBN) Transition to Practice model program (Spector et al., 2015), and those that were developed internally by an organization. Of NRPs that were internally developed, the effect of the national model had a varying degree of impact. Some were adapted directly from a national model, others were developed in congruence with the national model's teaching topics and structure, and some were developed independently of the model's influence. NCSBN completed a randomized trial between the newly developed model and both limited and established internally developed existing programs (Spector et al., 2015). Established programs were defined as having six or more of the following "best practice" elements: (1) orientation to the organization as a whole, (2) institutional support throughout the first 12 months of practice, (3) opportunities for feedback and reflection, (4) trained preceptors, and educational curriculum that covers (5) patient-centered care, (6) communication and teamwork, (7) evidence-based practice, (8) quality improvement, (9) informatics, (10) patient safety, and (11) clinical reasoning (Hansen, 2015). Hansen (2015) and Spector et al. (2015)

found that internally developed, established NRPs are generally better, but not by much, than a third party NRP such as NCSBN's program and that the best internally developed programs had the following: a formal structure; six or more "best practice elements", as listed above; support of nursing executives; support beyond the first 6 months of practice; preceptor development; customization so the resident can learn specialty specific clinical knowledge; and time for residents to apply content, reflect, and receive feedback.

<u>Curriculum Topics</u>

The AACN/UHC model core content is divided into three general topics of leadership, evidence-based patient outcomes, and professional development, with critical thinking and communication woven throughout the curriculum (Krugman et al., 2006). The NCSBN's model has similar overreaching subjects with safety and clinical reasoning threaded throughout: patient-centered care, communication and teamwork, evidence-based practice, quality improvement, and informatics (Spector et al., 2015). All of the internally developed NRP curriculums had topics that fell within these categories, and most offered unit or population specific topic areas such as pediatric resuscitation and end-of-life cares. Spector et al. (2015) urge the customization of an NRP curriculum to include specialty content specific to the new graduate's area of work. Additionally, Poynton, Madden, Bowers, and Keefe (2007) and Cline, Frentz, Fellman, Summers, and Brassil (2017) urge organizations to be receptive to feedback from participants in order to make program adaptable and more adaptable. All studies reported utilizing and/or recommending at least two of the following teaching strategies for the curriculum: case studies, lectures/seminars, simulation activities, reflection, and role playing.

Program Length

The majority of NRPs are at least 12 months as the AACN/UHC model and the NCSBN model both utilize programs that are one year in length (Krugman et al., 2006; Spector et al., 2015). The length of internally developed programs varied, although most were also 12 months in length. Krugman et al. (2006) report that research outcomes of the AACN/UHC model suggest that transition into practice is not completed until 9-12 months after hire. Surveys completed during the NCSBN model development noted an increase in reported patient care errors, decrease in job satisfaction, and an increase in work stress in new graduates at the 6-month mark, reflecting a need for continued support for 9-12 months post hire (Spector et al., 2015). Cochran (2017) also notes that new graduates often experience a crisis period between months 5-7 and recommends at least a 12-month transition program. Those articles recommending an NRP of at least 12 months are as follows: Anderson et al., 2012; Cline et al., 2017; Cochran, 2017; Kramer et al., 2012; Krugman et al., 2006; Poynton et al., 2007; Smith, Rubinson, Echtenkamp, Brostoff, & McCarthy, 2016; Spector et al., 2015.

Entrance Education Level

The majority of programs did not specify if the NRP was restricted to RNs with a Bachelor of Science in nursing (BSN) or if program was open to all RN graduates. However, the AANC/UHC program was designed solely for BSN prepared RNs (Krugman et al., 2006). While not discussed in detail in this review, Cochran (2017) and Poynton et al. (2007) discuss how RNs with an associate degree in nursing (ADN) and BSN prepared RNs differ in technical skills and critical thinking levels and the importance of awareness in these differences. The authors urge the consideration of

separate cohort groups within the NRP to adequately accommodate the needs of both levels and assist with professional development plans for both groups (Cochran, 2017; Poynton et al., 2007).

Preceptor and Mentor Roles

All of the programs discussed the orientation period and having preceptors/mentors as an important part of the program. However, several of the studies stated that the preceptor and/or mentor role was an essential part of a successful NRP and recommend additional training as well as careful selection of nurses in these roles. Windey et al. (2015) emphasize that NRP preceptors and mentors must be chosen for their interpersonal skills as well as their technical skills and be trained to act as appropriate role models and resources for new nurses (as cited in Cochran, 2017). The nurse preceptor is part of the traditional orientation and helps to acclimate the new graduate to culture of unit and facilitates the completion of basic orientation competencies (Strauss, 2009). A mentor provides guidance outside of the orientation period and provides additional guidance and support through the new graduate's development. Articles that stated trained preceptors and/or mentors were essential part of successful NRP are as follows: Anderson et al., 2012; Cline et al., 2017; Cochran, 2017; Delack et al., 2015; Harrison & Ledbetter, 2014; Kramer et al., 2012; Krugman et al., 2006; Poynton et al., 2007; Smith et al., 2016; Spector et al., 2015; Strauss, 2009.

Summary

Through a thorough literature search, 13 articles were found to meet all inclusion criteria for this review. Two distinct types of NRP models were identified, a national

model and those that were developed internally by an organization. The model chosen

greatly affected the overall structure of the program including content and length of

program. The subcategories discussed in this review included: curriculum topics,

program length, entrance education level, and preceptor/mentors.

CHAPTER FOUR

DISCUSSION

Overview

The aim of this integrative review of literature was to explore the best practice components of NRPs. A better understanding of these factors will allow for more successful NRP implementation and provide sustainability to new and current NRPs. Through a rigorous literature search, 13 articles were found to meet all inclusion criteria. The number of articles that met inclusion criteria was slightly lower than expected, but not surprising due to the narrowed focus of this review and developing area of interest. Two distinctive types of NRP models were identified: those that follow a national model and those that were developed by an organization internally. The structure, content, and length of program were dependent on how the NRP was developed, with some variation amongst programs but remaining largely similar. The subcategories discussed in this review included: curriculum topics, program length, entrance education level, and preceptor/mentors.

Strengths

All thirteen included studies were reviewed using Melnyk and Fineout-Overholt's overarching questions on validity and reliability guiding by the corresponding rapid critical appraisal checklist before being organized into an evidence table (Melnyk & Fineout-Overhold, 2015). The majority of included research was determined to be of good quality, with two studies rating as fair quality. All studies were thorough and

descriptive in exploring current successful components of NRPs. There was a surprising amount of information available regarding internally developed NRPs and those following a national model.

Limitations

As with any research study, there were limitations associated with this specific integrative review. One of the major limitations in this project was time, as there was only approximately one calendar year to compose a comprehensive integrative review.

Additionally, NRPs are a relatively new area of study and therefore there may be studies currently underway that do not have publications available for review yet. After all of the literature meeting inclusion criteria was thoroughly reviewed, it was apparent that the evidence in this review was both quantitative and/or qualitative. NCSBN was the only study found to have a randomized trial between a new program and existing programs (Spector et al., 2015). Most NRP studies often have small samples and are of varying study designs, which makes them difficult to accurately compare.

Implications for Clinical Practice

The Joint Commission, the Institute of Medicine (IOM), and the Carnegie Study of Nursing Education call for robust transition to practice, or residency, programs for nurses (Benner, Sutphen, Leonard, & Day, 2010; IOM, 2011; The Joint Commission, 2002, as cited by Spector, et al., 2015). The need for NRPs and their effect on retention, nurse satisfaction, and patient outcomes has been well documented. Therefore, it is important for these NRPs to be as successful as possible. Some recommended resources

required for a successful NRP included the hiring of one to two program coordinators and potentially other educator, dependent on the volume of new graduates, to assist with the didactic and mentoring portions of the NRP (Krugman et al., 2006; Poynton et al., 2007; Smith et al., 2015; Strauss, 2009). However, it has been shown that NRPs are a cost-effective strategy to increase new graduate retention, with the increased retention rates offsetting the costs incurred with these additional positions (Anderson et al., 2012; Cochran, 2017; Harrison & Ledbetter, 2014; Kramer et al., 2012). Harrison and Ledbetter (2014) state that the retention of one or more additional new graduate nurses can result in the NRP paying for itself. A well-developed transition into practice program provides significant rewards for an institution through improved retention, commitment to the organization, and by the development of future nurse leaders (Krugman et al., 2006).

The purpose of this integrative review of literature was to explore the best practice components of NRPs. An exhaustive review of the applicable literature revealed two distinct NRP models that determine the structure, content, and length of the program: those that follow a national model and those that were internally developed by an organization. The knowledge of the different NRP options and their impact on new graduate, patient, and organizational outcomes can be used by healthcare organizations desiring to implement an NRP or evaluate an existing NRP.

After completion of this integrative review of literature, one extremely important component of a successful NRP was brought to light: the curriculum and learning strategies must be adaptable and customizable to the unique learning environment and needs of the new graduates. Unit specific content is recommended and used in both national models and internally developed NRPs and is crucial for new graduate success,

as practice environments can range greatly. The need for ongoing training and support

for preceptors and mentors as well as the process for selection of these individuals was

also identified in several of the articles. Some of the education topics recommended for

preceptor and mentor preparation included: education on assessing and teaching critical

thinking skills, adult learning principles, competency assessment, teaching methods,

conflict resolution, providing constructive feedback/recognition, socialization of new

graduates, and mentoring guidelines (Anderson et al., 2012; Harrison & Ledbetter, 2014;

Smith et al., 2015; Spector et al., 2015; Windey et al., 2015 as cited in Cochran, 2017). It

was also emphasized that it was vital to recognize preceptors for their invaluable role in

this transition process, either financially, clinically, or professionally (Anderson et al.,

2012; Delack, Martin, McCarthy, & Sperhac, 2015; Smith et al., 2015). A common

recognition identified was compensation within salary or a clinical advancement

program. Recommended strategies for the support of preceptors included preceptor

meetings and support groups, team precepting, and planned breaks from precepting to

prevent burnout (Anderson et al., 2012; Delack et al., 2015; Smith et al., 2015). When

designing or maintaining an NRP, additional consideration will have to be taken to ensure

this often-overlooked component is provided with the appropriate recourses.

Implications for the Clinical Nurse Leader Role

The Clinical Nurse Leader (CNL) is a leader and active member of the

interdisciplinary health care team whose role can vary across a range of settings. CNLs

oversee care coordination, put evidence-base practice into action, ensure patients benefit

from the latest innovations in care delivery, evaluate patient outcomes, assesses cohort

risk and have the decision-making authority to change care plans when necessary

(AACN, 2013). Being able to assess and understand the literature will allow the CNL

excel in these roles across any health care setting and fulfil the CNL competencies:

"facilitate the lateral integration of evidence-based care across settings and among care

providers to promote quality, safe, and coordinated care" and "demonstrate stewardship,

including an awareness of global environmental, health, political, and geo-economic

factors, in the design of patient care" (AANC, 2013, p. 20). The knowledge gained from

this skill set allows for the CNL to help provide leadership and drive the implementation

of evidence-based care into the practice setting, such as in the implementation or

maintenance of an NRP. Some additional competencies that the CNL may utilize in the

implementation and/or maintenance of an NRP include: "demonstrate the ability to

coach, delegate, and supervise healthcare team members in the performance of nursing

procedures and processes with a focus on safety and competence", "use coaching

techniques to assist individuals in developing insights and skills to improve their current

health status and function", and "demonstrate coaching skills, including self-reflection, to

support new and experiences interdisciplinary team members in exploring opportunities

for improving care process and outcomes" (AANC, 2013, p. 20-21). These skillsets will

make a CNL invaluable in the implementation and maintenance of an NRP.

<u>Implications for Research</u>

Although thirteen studies were reviewed, there is still room for additional study

on NRPs. Several articles included research suggestions on comparing different NRP

models directly. As mentioned, NCSBN was the only study found to have a randomized

trial between a new program and existing programs (Spector et al., 2015), so additional research in this area would be beneficial to expand on these results. Although out of scope for this review, having a partnership with a university was also mentioned in several articles with varying degrees of involvement. Poynton et al. (2007) and Krugman et al. (2006) recommend this partnership to ensure an NRP curriculum that is complementary rather than duplicative and state this relationship can also expand resources for both programs. Additionally, while several studies highlighted preceptors and mentors as one of the most important components of NRPs, many organizations lack the needed training programs and educational requirements for these individuals (Anderson et al., 2012; Cochran, 2017; Delack et al., 2015). A review of best practice training and support measures for NRP preceptors and mentors could yield information critical to the initiation and maintenance of NRPs.

Summary

The purpose of this integrative review of literature was to explore the best practice components of NRPs. A total of 13 publications were located that met inclusion criteria for this review. Best practice components include the NRP model, curriculum topics, program length, entrance education level, and preceptor/mentors. Information on best practice components of NRPs and their impact on new graduate, patient, and organizational outcomes can be used by healthcare organizations desiring to implement an NRP or evaluate an existing NRP in order to foster a successful transition for new graduate nurses.

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APPENDIX A

EVIDENCE TABLE

Citation: Author, year, title	Study Design/ Methodology	Participants / Settings	Purpose/ Research Question	Results/Findings Factors Discussed	Strengths/ Limitations	Strength of Evidence (poor, fair, good)
Anderson, G., Hair, C., & Todero, C. (2012). Nurse residency programs: An evidence-based review of theory, process, and outcomes	Systemic Review. Guiding approach: five general steps for evidence-based medicine	20 studies met criteria for review	What is the best design for a new NRP and what variables have been used to measure the efficacy of this educational intervention?	1.) Two styles of transition programs reviewed: traditional orientation 3-4 months including orientation with preceptor, and comprehensive NRP of 12-24 months including orientation & additional classes; 2.) Three content areas: leadership, patient outcomes, & professional roles- which reflect priorities of original AACN/UHC pilot program. Also customizable content so relevant to clinical population and to nursing practice situations 3.) Best teaching & learning strategies: pairing with trained preceptors,	Strengths: 20 studies used in review. Limitations: most studies were quasi-experimental, one-group design; wide variation in content, teaching, and learning strategies made comparison across studies difficult	Quality level of Review: Good; Quality evaluation completed within the review: quality appraisal transparent and very detailed. Quality solely determined by hierarchy of evidence in Melnyk & Fineout-Overholt

				building cohort relationships, discussion, & using simulation scenarios 4.)Need for evidence-based high-quality training for nurse preceptors		
Beecroft et al. (2004). Bridging the gap between school and workplace: Developing a new graduate nurse curriculum	Benner's novice-to-expert framework utilized.	Group interviews consisted of nurse managers, previous new graduates hired before NRP implementat ion, & preceptors of new graduates	Describe development of an evidence-based new graduate nurse curriculum that is derived from (1) the duties and tasks that RNs actually perform in the clinical setting, (2) Benner's novice-to-expert framework, & (3) group interview	6 month program. Ongoing data analysis and adjustment of content & teaching strategies. Seven key concepts from VPs vision threaded throughout novice-to-expert continuum: critical thinking, family-centered care, leadership, research, socialization, self-care, and technical skills. Successful implementation of curriculum based on tasks and duties RNs actually perform at this organization and the evidence-based foundation	Strengths: Multiple stakeholders within the organization involved. Clear data on performance on content areas and time adjustments. Limitations: One organization	Quality Level: Good

			information from major nursing stakeholders	surrounding these topics.		
Cline, D., La Frentz, K., & Fellman, B. (2017). Longitudinal outcomes of an institutionally developed nurse residency program	Retrospective study; Casey-Fink Graduate Nurse Experience Survey was utilized	Individuals with less than 12 months experience as an RN in a hospital in the U.S. who participated in the institutional NRP & completed surveys; setting: comprehensive cancer center with participants assigned to a diversity of practice settings.	Present a 10-year retrospective review of outcomes from an internally developed nurse residency program.	Internally developed NRP- recommends considering internally developed NRP while remaining consistent with fundamental requirements of NCSBN & CCE; 12 month program separate but complimentary to orientation; Content areas: socialization, reflection, delegation, quality, evidence-based practice, and conflict management;	Strengths: Large number of participants. Limitations: one organization; questions varied slightly through years; no linkage between pre & post scores due to anonymity	Quality Level: Good
Cochran, C. (2017). Effectiveness	Systemic Review.	15 peer-reviewed articles met	1.) Determine effectiveness of NRPs in	1.) NPRs are cost-effective strategy to increase new graduate	Strengths: 15 peer-reviewed	Quality level of Review: Good; Quality

and best practice of nurse residency programs: A literature review		criteria for the review	reducing the attrition of new nurses; 2.) If NRPs are effective, identify best practice in supporting newly licensed nurses during the transition to professional practice in the acute care setting	nurse retention. 2.)NRPs should incorporate: delegation, prioritization, conflict resolution, communication skills, leadership, critical-thinking skills, professional socialization, case studies, simulation, role play, reflection and peer discussion. 3.) Importance of preceptor and mentor support and development. 4.) ADN & BSN new graduate nurses differ in technical skills and critical thinking levels	studies included. Limitations: Various study designs made comparison difficult	evaluation completed within the review: transparent quality review. Critical Appraisal Skills Programme tools used for critical analysis.
Delack et al., (2015). Nurse residency programs and the transition to child health nursing practice	Summary of discussions of the 2013 Institute of Pediatric Nursing forum, summary of	Forum consisted of 62 pediatric nurse leaders, representing 13 pediatric nursing	To summarize discussions during forum and provide recommendations for addressing	1.) NRP content: professionalism; family-centered care; content for clinical competence, coordinating care with communication, leadership, and data	Strengths: Large number of organizations represented by nursing leadership;	Quality Level: Fair

	discussion verified by participants via email	organizations and 22 children's hospitals	issues related to NRPs	management; lifelong learning; & work-life balance. 2.) Evaluation of NRPs difficult because variation in content & teaching/learning strategies used	Limitations: No studies/data outside summary of discussion; no frontline staff/NRP participants involved in discussions	
Harrison, D. & Ledbetter, C. (2014). Nurse residency programs: outcome comparisons to best practices	Cross-sectional, descriptive design. Quality improvement study	Convenience sample 3 sites within a single health system	Compare three sites that use different NLRN programs relative to first-year turnover, outcomes measured by the Case-Fink Graduate Nurse Experience Survey (CFGNES), and intent to stay	NLRN programs had orientation, didactic content, and simulation usage. Content included leadership, patient safety, and professional development. Mentor/support varied between groups with NRP being only program with mentor & other sites having support groups. All sites had similar turnover & CFGNES scores. Intent to stay was higher with a	Strengths: Review and comparison of three different programs, data easily displayed. Limitations: convenience sample. One measurement taken at one-year mark instead of multiple measurements over	Quality Level: Good

				NRP, but could be multifocal.	course of programs.	
Kramer, et al. (2012). The organizational transformative power of nurse residency programs	Qualitative study, mixed method	907 nurses interviewed: newly licensed registered nurses (NLRNs), experienced nurses, managers, and educators on clinical units with confirmed "very healthy work environments" in 20 Magnet hospitals.	What people, components, process and actives of Nurse Residency Programs (NRPs), and the work environment are instrumental in the transition and integration of NLRNs into the professional practice role and into professional communities?	NRPs positively impact the professional socialization of NLRNs and lead to transformative changes in the organization. 7 major challenges identified by NLRNs: delegation, prioritization, managing patient care delivery, autonomous decision-making, collaboration with other disciplines, constructive conflict resolution, and utilizing feedback to restore self-confidence.	Strengths: large number of nurses interviewed at 20 different Magnet hospitals. Limitations: difficult to directly compare NRPs due to several different models being utilized	Quality Level: Good
Krugman, et al. (2006). The national post-baccalaureate graduate nurse residency	Framework used: Benner & Benner, Tanner, & Chesla	6 pilot studies across different organizations; BSN	1.) Establish a national model to obtain reimbursement to support	NRP content (AACN/UHC model): leadership; evidence-based patient outcomes; professional role	Strengths: 6 different study areas of varying geographical areas	Quality Level: Good

program: A model for excellence in transition to practice		prepared nurses entering into first year post graduation	NRPs; 2.) To improve the quality of care and safety of patients though well-prepared, confident, and committed baccalaureate nurse graduates	development with critical thinking and communication woven throughout the course; 12 month program; turnover rate of 8% after program completion		
Letourneau, R. M. & Fater, K. H. (2015). Nurse residency programs: An integrative review of the literature	Integrative Review of the literature: Whittemore & Knafl's Methodology	25 articles: 10 empirical & 15 reported on program development	1.) What is the current state of NRP programs in light of the IMO (2011) and JC (2005) recommendations for newly licensed nurses? 2.) What future research is needed regarding NRPs in the acute care setting and	15 internally developed NRPs & 4 using national model (AACN/UHC). Findings support NRPs specifically designed for newly licensed nurses. Current emphasis on organizational priorities pertaining to adjustment to work environment and focus on retention, quality of nurse performance, & confidence. Several differences in associate and	Strengths: Variety of NRPs reviewed in 25 studies. Limitations: Small convenience samples and nonexperimental design on empirical studies reviewed	Quality Level: Good

			their relevance for the teaching/learning process in nursing education?	baccalaureate RN preparation. Program length: 12 weeks to 15 months. 2 studies at 12 weeks, rest >8 months.		
Poynton, M. R., et al. (2007). Nurse residency program implementation: The Utah experience	None listed	171 new graduate nurses completed the AACN/UHC adapted program in one hospital in Utah	Identify lessons to assist leaders in designing and implementing a NRP in own institutions	Practical components from a successful implementation: adaptive curriculum, promotion of autonomy, mentoring, and meeting the needs of participants with associate degrees.	Strengths: Described successful implementation of national NRP model. Limitations: single organization, no data to support narration	Quality Level: Fair
Smith, J., et al. (2016). Exploring the structure and content of hospital-based pediatric nurse residency programs	None listed	Survey sent to 336 hospitals with at least one certified pediatric nurse; 67 responses with 45	Present the results of the national survey that explored the characteristics of pediatric nurse residency programs (i.e.	1.) Majority of NRPs were internally developed and a year in length. 2.) Most common NRP content: critical thinking, stress management, small group support, professional role transition, pediatric	Strengths: Nation-wide survey of varying locations & hospital sizes. Limitations: low	Quality Level: Good

			having a NRP	structure, faculty, preceptors, content, educational strategies, outcomes) as well as the benefits and challenges of these residency programs	resuscitation, and evidence based practice. 3.) Mentoring from designated, experienced preceptor was a critical component	response rate
Spector et al. (2015) Transition to Practice Study in Hospital Settings	Longitudinal, randomized, multisite design	Multisite: 105 hospitals in three states: Ohio, North Carolina, and Illinois	1.) How effective is NCSBN's TTP program in terms of safety, competence, stress, job satisfaction, and retention when compared with a control group of various onboarding methods and	Few statistical differences between two groups although hospitals using established instead of limited programs had higher retention rates, fewer patient care errors, higher competency levels, lower stress levels, and better job satisfaction. NCSBN TTP included trained preceptors, feedback & reflection, and the following curriculum	Strengths: Large, multisite, randomized study. Longitudinal, with data displayed for easy comprehension. Limitations: potential for selection bias (volunteer bias) as	Quality Level: Good

				models: patient-centered care, communication and teamwork, evidence-based practice, quality improvement, and informatics with safety and clinical reasoning threaded throughout.	institutions volunteered to participate in study.
			programs customarily used by hospitals enrolled in the study? 2.) Do transition to practice programs make a difference in new graduate outcomes in terms of safety, competence, stress, job satisfaction, and retention?		
Strauss, M. B. (2009). Easing the transition: A successful new graduate program	None listed	229-bed community hospital in Massachusetts	Describe the Medical-Surgical New Graduate Nursing Program at Winchester Hospital	1.) 12 week program with clinical and didactic components 2.) Aim to develop: critical thinking & clinical judgment skills, priority setting, organization skills, technical skills. 3.) Weekly meetings and evaluations every 3	Strengths: The growth/development of a NRP over several years. Limitations: Little data in article,	Quality Level: Fair

	months. 4.) Feedback used to foster growth within program	one organization