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The Influence of Nurse Residency Programs on Retention Rates of New Graduate Nurses

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THE INFLUENCE OF NURSE RESIDENCY PROGRAMS ON RETENTION RATES OF NEW GRADUATE NURSES

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Abstract

The purpose of this study was to examine the influence of nurse residency programs (NRPs) on retention rates. This study was an evidence synthesizing project including data analysis, a comprehensive literature review, and a critique of the literature. This study was conducted through a search strategy using online databases. Nine pieces of evidence were chosen for review and critique. The need for confident and intelligent nurses is extremely evident in today's healthcare. New graduate nurses account for a majority of the nursing workforce today. In order to meet this demand, new graduate nurses need to be adequately trained and prepared for the transition from student nurse to new professional nurse. Nurse residency programs have proven to be effective in supporting the growth, development, and retention of new graduate nurses.

Key words: *nurse residency programs, new graduate nurses, retention rates*

DEDICATION

I dedicate this project to my professors and mentors who have imparted kindness, guidance, and wisdom on me during this graduate program. Most of all, I dedicate this project to my husband and parents, who have supported me in my academic endeavors, encouraged me through the long hours of this assignment, and who have been by my side every step of the way.

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INTRODUCTION

New graduate nurses account for a majority of the nursing workforce today. Not only are they the majority, new graduate nurses also account for the highest numbers of nurses entering and exiting the profession (Van Camp & Chappy, 2017). As the generation of older adults increases, it has been projected that the need for registered nurses (RNs) will increase over the next 10 years (Cochran, 2017). Unfortunately, research done by Pittman, Herrera, Bass, and Thompson (2013) reveals that 35 to 65% of nurses change jobs within their first year of employment. Healthcare organizations need methods to keep new graduate nurses in the workforce to offset staffing shortages.

Originally in 1999, the University HealthSystem Consortium (UHC) and American Association of Colleges of Nursing (AACN) partnered to address the nursing shortage and the plan for the development of the Vizient/AACN nurse residency model began (Willingham, 2018). However, the issue of the nursing shortage is still prevalent. In 2017 a ten-year panel study of new nurses found that 17.5% percent quit within their first year (Vizient, 2018). As stated by Hopson, Petri, and Kufera (2018), the problem of nursing retention is a critical issue and it cannot be ignored. There are startling indicators surrounding the need for nurses today. The Bureau of Labor Statistics found that by 2020, nursing positions will increase by 26% (Al-Dossary, Kitsantas, & Maddox, 2013). Despite the need for more nurses, current general nursing turnover rates of 13% and new graduate nurse turnover of 18 to 50% (Cochran, 2017). In order to meet this demand, new graduate nurses need to be effectively educated and prepared for the transition from student nurse to new professional nurse.

Background and Need

There appears to be a wide gap in the transition from preparation to practice. New nurse graduates consistently report that their general nursing education did not provide them with the necessary skills to successfully transition into practice (Pittman et al., 2013). Ackerson and Stiles (2018) reported that stress appears to be a common theme among new RNs. Specifically, the complexity of the environment often leads to high stress levels for the new RN and as a result leads to higher turnover. According to Kramer, Halfer, Maguire, and Schmalenberg (2012a), part of this issue is the complex work environment in which new graduate nurses are entering. In addition to the complex work environment, establishing a culture of retention and fostering healthy clinical settings are two major challenges confronting the nursing workforce today. Al-Dossary et al. (2013) suggested that qualities of confidence, strong clinical decision-making, and leadership skills are essential for new graduate nurses to effectively perform in clinical practice, and also proposed that nurse residency programs are one way to promote professional growth and help reduce turnover of new graduate nurses. Therefore, this evidence-based practice project was focused on examining the influence of nurse residency programs (NRPs) on developing effective clinical practice in new graduate nurses.

New graduate nurses encounter several crucial transitions as they enter their first professional nursing careers. The transition to the RN role can leave new graduate nurses feeling stressed, and many of them struggle with the difficulty of adjusting to the reality shock of caring for multiple patients with highly complex cases (Van Camp & Chappy, 2017). Anderson, Hair, and Todero (2012) claim that as new graduate nurses enter the profession, they face high patient acuity, nursing shortages, high RN turnover, burnout, excessive overtime demands, reduced new RN orientations, and at times, heavy use of agency or travel nurses to fill gaps. Furthermore, this

causes increased job stress and dissatisfaction, lack of peer support, and limited interest in professional opportunities, which have all have been found to contribute to attrition rates of new graduate nurses.

Nurse residency programs have been a talking point in nursing for the past several years. The use and implementation of NRPs has demonstrated effectiveness in the retention of new graduate nurses. There are several designs and definitions of NRPs. Van Camp and Chappy (2017) defined NRPs as structured post-licensure programs adopted by health care organizations that incorporate didactic education, clinical support by an RN nurse preceptor, and mentorship to bridge the practice gap, with goals to decrease turnover rates and augment patient safety and care quality. Ackerson and Stiles (2018) defined nurse residencies as programs focused on not only providing additional skills and knowledge, but also the peer support and mentorship needed for the transition.

In the early 2000s, many organizations began incorporating NRPs in an effort to help close the preparation-practice gap (Van Camp & Chappy, 2017). In 2002, the Joint Commission recommended the development of nurse residency programs as planned, comprehensive periods of time during which nursing graduates can acquire the knowledge and skills to deliver safe, quality care that meets organizational or professional society defined standards of practice (IOM, 2010). The Institute of Medicine (IOM) has also recommended the implementation of NRPs. In 2010, the IOM supported the implementation of a transition-to-practice program for nurses after their completion a prelicensure or advanced practice degree program or when they are transitioning into a new clinical practice area (Willingham, 2018).

The implementation of NRPs, as a way to transition new graduate nurses into practice by providing them with a rich educational experience and support, has gained support from the

AACN, the National Council of State Boards of Nursing, The Joint Commission, the Robert Wood Johnson Foundation, and the Institute of Medicine (Van Camp & Chappy, 2017). These professional organizations continue backing the use of education, support, and mentorship to help bridge this practice gap and believing in the need for NRPs today. The Vizient/AACN NRP evidence-based program focuses on leadership, patient outcomes, and professional development. Furthermore, the Vizient/AACN program, which is considered the gold standard for NRPs, results in decreased turnover, better use effective decision-making skills, enhanced clinical nursing leadership and improved incorporation of research-based evidence into practice (Willingham, 2018). Benefits that have been reported by its program participants include retention, commitment, confidence, skill, clinical leadership, professionalism, interprofessional team building, and evidence-based practice (Willingham, 2018). The most signature outcome is retention. In 2010, retention with the Vizient/AACN NRP was 96.1% and latest results from 2016 report retention at 93.3%, which are much higher than the national average for nurse retention in the first year which is between 73-80% (Willingham, 2018). It is safe to say that the Vizient/AACN is a structured and supportive program designed to help new graduate nurses effectively transition into their practice setting.

In general, residency programs provide several benefits to new graduate nurses. Friday, Hollerbach, Zoller, Jones, and Knofczynski (2015) suggested that residency programs should focus on reducing role stress, enhancing job satisfaction, developing clinical competence and interprofessional skills, expanding critical thinking, using experienced mentors, and increasing organizational commitment through a sense of belonging and improved self-esteem. This evidence-based practice project examined the influence of nurse residency programs for

determination and use of best practices for retention of new graduate nurses in acute care settings.

Statement of the Problem

New graduate nurses need to be supported as they transition from student nurse to professional nurse. Ackerson and Stiles (2018) stated that over one million nurses are expected to retire in the next 10 to 15 years, that nurse vacancies continue increasing over recent years, and that the national average one-year turnover rate is 17.1%. Costs associated with nurse turnover range from $10,000 to $88,000 per nurse, depending on factors such as clinical specialty or geography (Pittman et al., 2013). Therefore, retaining new nurses is crucial to help decrease turnovers, vacancies, and organizational cost. A major problem in today's nursing workforce is that new graduate nurses are consistently leaving their first jobs within the first year. Healthcare institutions are facing challenges with retaining new graduate nurses. In attempt to offset the preparation-practice gap and high turnover rates, nurse residency programs (NRPs) were created to ease new graduate nurse's transition into their professional nursing careers. While conducting a systematic review, Van Camp and Chappy (2017) found that new graduate nurses doubt their clinical knowledge, and lack self-assurance in performing nursing skills, critical thinking, organizing, prioritizing, and communicating effectively. For these reasons, many new graduate nurses decide to leave their first nursing careers. Successful residency programs should incorporate the teaching of delegation, prioritization, conflict resolution, communication skills, leadership, critical-thinking skills, and professional socialization to advance the new nurse through the stages of transition to independent practice (Cochran, 2017). In the endeavor of offsetting the preparation-practice gap and high turnover

rates, nurse residency programs (NRPs) were created to ease new graduate nurse's transition from student to professional nurse.

Purpose of the Study

There is a lack of synthesis of the evidence regarding the influence of nurse residency programs on retention rates and on providing adequate support to new graduate nurses. The purpose of this evidence-synthesizing project was to review and critique the literature in order to examine the influence of nurse residency programs on retention rates and the transition of new graduate nurses into professional practice. This capstone project focused on defining what nurse residency programs are, and what the influence of NRPs are in retaining new graduate nurses and preparing them to enter the professional workforce.

Evidence-Based Practice Question

The evidence-based question for this project is, what is the influence of participation in nurse residency programs on retention rates of new graduate nurses compared with those of new graduates who did not participate in a nurse residency program?

Significance to Nursing Education

Even though approximately 90% of nurse education leaders in the United States believe that new graduate nurses are adequately prepared to enter the workforce and practice, 90% of nurse education leaders in the hospital setting disagree (Al-Dossary et al., 2013). The transition and journey from education to professional practice can be very stressful for new graduate nurses. NRPs provide advantages for new graduate nurses, organizations, and patients (Al-Dossary et al., 2013). Nurse residency programs are generally recognized for helping enhance the integration of new graduate nurses in the workforce (Cline, La Frentz, Fellman, Summers, & Brassil, 2017). Nursing education and health care organizations could promote clinical

collaboration in attempt to offset the transition gap. Bernard and Martyn (2018) suggested the necessity for academic institutions and health care organizations to effectively integrate the two cultures to meet the need for educated and competent nurses. Proactive and thoughtful planning is critical. The increasing need for nurses is not unnoticed. The Bureau of Labor Statistics reports that employment for RNs is expected to grow to 26% by 2020 (Al-Dossary et al., 2013). There is a need for effective education and training for new graduate nurses. Nurse residency programs were created to help bridge the gap from student to independently-practicing nurse.

Definition of Terms

Nurse residency program. A program within a hospital or healthcare institution created to assist in the transition from student nurse to professional nurse, usually lasting for one year. The program most likely involves monthly seminar sessions, orientation, mentorship, an evidence-based practice project presentation, delegation, reflection, and conflict management.

New graduate nurses. Registered Nurses (RNs) who are beginning their professional careers and who have graduated from a nursing program within a year of starting their first nursing job. An individual with less than twelve months of RN experience or a nurse who has never worked in a U.S. hospital.

Retention. The percentage of Registered Nurses (RNs) that leave a participating hospital in a given year. Retention focuses on preventing nurse turnover and keeping nurses in an organization's employment.

Chapter Summary

Stress appears to be a common theme among new RNs. Specifically, the complex healthcare environment and high patient acuity often leads to high stress levels for the new RN and as a result leads to high turnover during their first year. Authors have found that many new graduate nurses doubt their clinical knowledge, and lack self-assurance in performing nursing skills, critical thinking, organizing, prioritizing, and communicating effectively. Without adequate preparation and support, many new graduate nurses decide to leave their first nursing careers. Nurse residency programs were created to offset this lack of preparation into practice. Collaboration between nursing education and health care organizations could promote clinical partnership in attempt to offset the transition gap for new graduate nurses. This chapter introduced nurse residency programs, discussed the background and problem of new graduate nurse retention, and identified the significance to nursing education related to NRPs. This evidence-based practice project focused on defining what nurse residency programs are, and what the influence of NRPs are in retaining new graduate nurses and preparing them to enter the professional workforce.

CHAPTER II

METHODS

Nurse Residency Programs (NRPs) were created to offset the preparation to practice gap of new graduates and to be an effective strategy to increase new graduate nurse retention. Cochran (2017) suggested that NRPs meet the need for supporting new graduate nurses for successful transition from academia to professional practice. Bernard and Martyn (2018) claim that the number of young registered nurses (RNs) less than 35 years of age in the workforce is expected to increase by more than 39% by 2025 and suggest that there is a critical need for academic-practice partnerships to support the nursing workforce. This evidence-synthesizing project examined the influence of these transition to practice programs and identified other recommendations for new graduate nurses.

The literature was reviewed and critiqued in order to examine the influence of nurse residency programs on retention rates and the transition of new graduate nurses into professional practice. Implementing NRPs appears to be one of the best strategies in supporting new graduate nurses in their transition to professional practice, however, there is a lack of evidence synthesis regarding the influence of NRPs on retention rates and support for new graduate nurses. The evidence-based practice question for this project is, what is the influence of participation in nurse residency programs on retention rates of new graduate nurses compared with those of new graduates who did not participate in an NRP?

Data Collection Procedures

A review of the literature was conducted to examine the influence of NRPs on the transition of new graduate nurses into professional practice. A search was conducted using databases including the Cumulative Index of Nursing and Allied Health Literature (CINAHL)

and Ovid Nursing Journals. Limits were set when searching the databases. A combination of key words was used, including *new graduate nurses, nurse residency programs*, and *retention*. A span of six years from 2012-2018 was used for selection of evidence.

Studies evaluating the influence of nurse residency programs on new graduate nurse retention rates were included in this project. Articles were included if they involved an NRP specifically for new graduate nurses in an acute care hospital setting in the United States. Articles from outside of the United States were excluded. The research also had to address retention or turnover rates in the outcomes. Included in this evidence synthesizing project were academic journals and systematic reviews. Articles were excluded if the NRP focused on a specialty area such as women's health or critical care. Case reports, dissertations, and non-English articles were excluded. A literature search strategy was employed, limits applied, and results recorded.

Of the results, the findings were examined for repeat articles and abstracts were reviewed for inclusion-exclusion criteria. The relevant articles were examined, and several were eliminated. Eliminated articles either described programs that were not a formal NRP or were focused on a specialty area. Of the articles selected, some are systematic reviews, and several addressed a longitudinal study of the effect of NRPs. Following detailed review and examination, the final number of studies included in this project is nine (Figure 1).

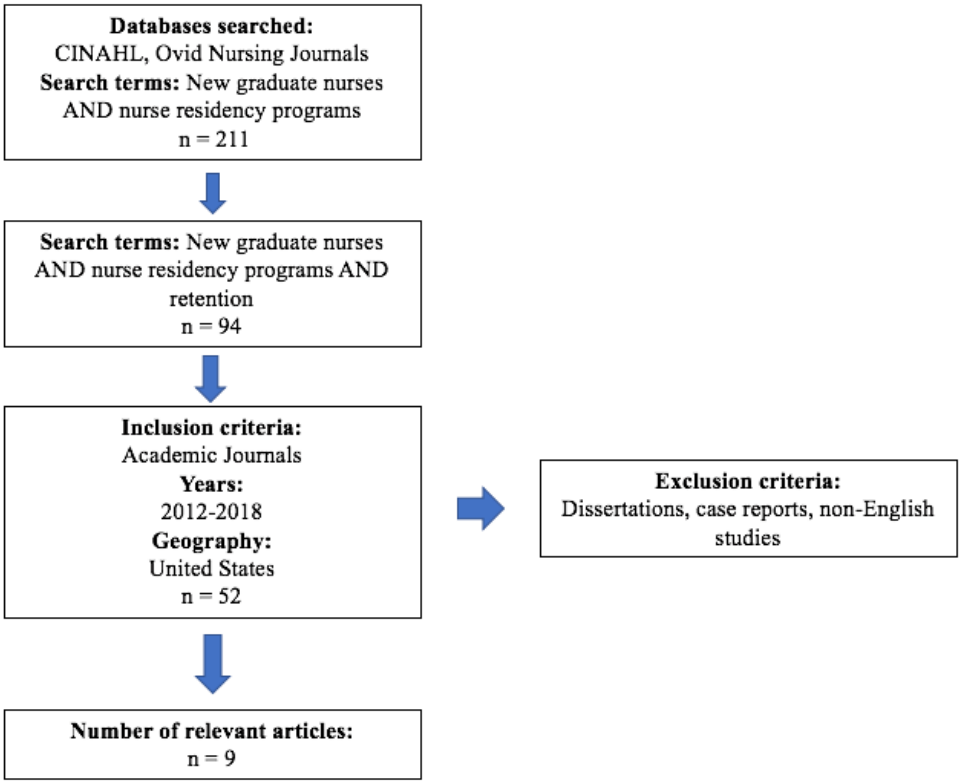

Figure 1. Database search strategy.

Data Analysis Procedures

The data were analyzed for level of evidence and quality rating using the Johns Hopkins Evidence Based Practice Model (JHEBP) and Guidelines (Dang & Dearholt, 2018). The JHEBP level and quality guide categorizes evidence from levels I to V and rates the quality from grades A to C. Level I includes experimental studies, randomized control trials (RCT), explanatory mixed method studies with a level I quantitative study, and systematic reviews of RCTs, with or without meta-analysis. Level II includes quasi-experimental studies, explanatory mixed method studies with a level II quantitative study, and systematic reviews of a combination of RCTs and quasi-experimental, or quasi-experimental studies, with or without meta-analysis. Level III includes quantitative non-experimental studies, systematic reviews of a combination of RCTs,

quasi-experimental and non-experimental studies, or quasi-experimental studies only, with or without meta-analysis, exploratory, convergent, or multiphasic mixed methods studies; and explanatory mixed method studies that include level III quantitative studies. In addition, level III includes qualitative studies and meta-syntheses. Level IV evidence is the opinion of respected authorities and/or nationally recognized expert committees or consensus panels based on scientific evidence, which includes clinical practice guidelines, consensus panels, and position statements. Level V evidence includes integrative reviews, literature reviews, quality improvement projects, case reports, or the opinion of experts who are nationally recognized based on experiential evidence. All studies are graded on their quality with an A-C letter scale. High quality evidence is given an A grade if it has sufficient sample size, and is clear, consistent, and generalizable. Good quality evidence is given a B rating if it has sufficient sample size, fairly definitive conclusions, and reasonably consistent recommendations. Evidence with low quality or major flaws is given a C grade if the sample size is insufficient, inconsistent, and inconclusive. The evidence presented in this project will be critiqued based on the structure from the JHEBP model.

Chapter Summary

In this chapter, the methods and search strategies used for the project were reviewed. Data collection procedures, that included data reduction methods with inclusion and exclusion criteria, were discussed. The evidence-based practice protocol from the JHEBP Model was presented as the guideline for classification of the level and quality of the evidence. From the extensive search, relevant studies were identified and following detailed review and examination, the final number of studies included in this project is nine.

CHAPTER III

LITERATURE REVIEW AND ANALYSIS

It is known that the entry-into-practice period is challenging for new graduate nurses. The healthcare workforce currently experiences many nursing shortages. These shortages are expected to increase by more than 39% by 2025 (Pittman et al., 2013). Nurse Residency Programs (NRPs) were created to offset the preparation to practice gap of new graduates and to be an effective strategy to increase new graduate nurse retention. Nurse residency programs focus on reducing role stress, enhancing job satisfaction, developing clinical competence and interprofessional skills, expanding critical thinking, using experienced mentors, and increasing organizational commitment through a sense of belonging and improved self-esteem (Friday et al., 2015). NRPs have gained increasing attention in recent years because of the need to support new nurses as they enter their nursing careers. The need for reliable support and consistent NRPs is essential to help retain new graduate nurses in the workforce.

The purpose of this evidence-synthesizing project was to examine the influence of nurse residency programs on the transition of new graduate nurses into professional practice. The literature review addressed three areas related to the influence of nurse residency programs on retention rates. In the first section, research evidence related to longitudinal outcomes of nurse residency programs will be addressed. In the second section, there will be a discussion of research evidence related to the impact of work environment and development of skills for new graduate nurses in nurse residency programs. Finally, the third section discussed research evidence related to the value of implementing nurse residency programs. The evidence-based practice question for this project is, what is the influence of participation in nurse residency

programs on retention rates of new graduate nurses compared with those of new graduates who did not participate in an NRP?

Longitudinal Outcomes of Nurse Residency Programs

Friday et al. (2015) performed a longitudinal, descriptive study that examined the value of providing both a prelicensure extern program and post-licensure program on the retention and satisfaction of new graduate nurses. In order to assess the value of these programs, the authors used The Casey-Fink Graduate Nurse Experience Survey (CFGNES) to obtain results, a survey tool which was originally developed by Casey, Fink, Krugman, and Propst (2004). The CFGNES was developed, piloted, and revised to measure new graduate nurses' experiences on entry into the workplace, then through the transition into the role of professional nurse. From their own work with the tool, Casey et al. (2004) used exploratory factor analysis and reported that five factors emerged: support (α = .90), patient safety (α = .79), stress (α = .71), communication and leadership (α = .75), and professional satisfaction (α = .83). The Casey-Fink survey is measured in five sections, where the first section relates to the graduate nurse's level of comfort of performing common nurse tasks independently. The second section measures five areas of stressors in the new nurse experience, composed of a 24-item Likert-style scale instrument using 4-point balance response format (strongly disagree to strongly agree), but the questions are only answered if the participant is under personal stress, because the focus is on personal relationships, not job performance. The third section of the tool focuses on job satisfaction and uses a nine-item Likert-style scale with responses ranging from 1 (very dissatisfied) to 5 (very satisfied), whereas sections four and five contain open-ended questions regarding the transition to practice and collect demographic information. Casey et al. (2004), the

original developers of the tool, have determined the internal consistency of the tool to be estimated at $\alpha = .89$, and claimed reliability estimates for the five factors ranged from .71 to .90.

The study took place in a 630-bed teaching hospital and level I trauma center in the Southeast United States. During monthly classroom instructional sessions, study participants were asked to complete the four surveys at the beginning of their post-licensure program, and at three, six, and 12 months. A convenience sample of 60 new graduate nurses, was used to be participants in the voluntary study. Several students did not attend the required classroom sessions where data collection was scheduled. Results were only included in the final analysis of participants who completed the four surveys, which of the original 60, only 46 of the original participants completed all four surveys (77%). Of the forty-six participants, 37 were female and nine were male, 25% of participants specialized in adult medical/surgical, and 39.1% of participants chose a critical care specialty. Since the researchers were attempting to determine the value of providing both a prelicensure externship program and a post-licensure NRP on retention, they also accounted that only eleven of forty-six (20%) participated in a prelicensure extern program. The prelicensure nurse extern program, which usually takes place during the summer before a student's last year of nursing school, was designed to provide nursing students with real-world experiences by pairing carefully selected participants with experienced nurses, who work side by side for three to twelve weeks.

A repeated-measures multivariate analysis of variance (MANOVA) test was conducted to determine if the prelicensure extern program showed differences on any of the five factors: support, patient safety, communication and leadership, professional satisfaction, or job satisfaction. The researchers discovered noteworthy findings related to new graduate nurse retention. Results were examined based on the extern group, those who completed the previous

prelicensure extern program, and the non-extern group, those who only completed the post-licensure NRP. For both groups, overall retention rates were 95% at one year and 85% at two years. For the extern group, retention rates were 92% at one year, and 77% at two years. Interestingly, for the non-extern group, retention rates were much higher than the extern group at 96% for the first year, and 91% for the two years. Retention rates at two years is still higher compared to the national average. Of note, the 30-month overall retention rate dropped to 68%. Clinical significance was noted among the extern group. New graduate nurses who completed extern program scored higher at three time periods on three factors of the CFGNES: support, leadership/communication, and job satisfaction. Even with a small group size, the loss rate was higher in the extern group, where two externs left within the first six months of residency. Therefore because of the small sample size, the authors were not able to report improved outcomes for new graduate nurses who also participated in nurse extern programs.

Based on the JHEBP model guidelines, this study done by Friday et al. (2015) was a level III, quality B study. This was a longitudinal, mixed methods study because it has measurable data, using both quantitative and qualitative methods in the design. Using both methods provides for a better understanding of research problems than using either approach alone (Dang & Dearholt, 2017). The purpose was clearly stated, and the literature review was current. There was no manipulation of the independent variable. The instrument used was noted to be a reliable tool. This is a descriptive study, so no conclusions and no inferring can be made from the evidence. In descriptive studies, authors attempt to describe the answers to these questions in precisely measured terms. The authors used open-ended questions to gather evidence and did address study limitations. Some threats to internal and external validity were noted. Threats to internal validity include selection bias and history surrounding the time of the study. External

validity was threatened with the selection effect and small sample size, so the study findings cannot be generalizable.

Cline et al. (2017) identified a need to assess longitudinal outcomes of nurse residency programs. The purpose of their quasi-experimental study was to present a 10-year retrospective review of outcomes from an internally developed nurse residency program. This residency program was established in 2005 at a comprehensive cancer center in the Southern United States, to be a separate but complementary component to their formal clinical nursing orientation program. The comprehensive curriculum includes leadership skills and support designed to build confidence, enhance professional relationships, and assist in the transition into the role of RN. Unique elements in the program include oncology-specific content, such as oncologic emergencies and end-of-life care, and an emphasis on compassion fatigue. This NRP assigns individuals to cohorts based on hire dates, where they attend an 8-hour, paid education day once a month, for twelve months, focusing on supporting the transition into professional nursing.

The Casey-Fink Graduate Nurse Experience Survey (CFGNES) survey was administered to new graduate nurses participating in the residency program from summer 2005 to November 2014. As previously discussed, the CFGNES, with a Cronbach's alpha of .89, consists of 41 questions divided into five sections: demographics, skills and procedure performance, work environment and role transition, job satisfaction, and comfort and confidence. In this study the survey was administered twice, at the beginning of the program to gather baseline data for each cohort and at the completion of the program. The survey was anonymous and voluntary. A total of 1,638 surveys from new graduate nurses were included for analysis. Of note, the demographics of the residents from this study included a high level of diversity and baccalaureate-prepared nurses, and less than 10% were 41 years and older. To assess the effect

of the Casey-Fink survey scores on retention rates, linear regression models were conducted with the dependent variable being the retention rate at the post-assessment and the independent variable being the Casey-Fink Survey scores at pre-assessment, using Stata v14.1 to conduct the statistical analysis.

Following appropriate Institutional Review Board (IRB) approval and informed consent, Cline et al. (2017) performed a retrospective analysis. Results were reported across 31 cohorts from the nine years of study. Outcomes of the Casey-Fink survey comparing pre-participation and post-participation scores across the five domains specifically support, patient safety, stress, communication and leadership and professional satisfaction were reported. Pre-participation and post-participation scores from this institution were compared across these domains using a two-sample *t* test ($p < .5$), and results indicated statistically significant change in scores in all domains except stress ($p = .05$). Interestingly, the stress domain addresses external stressors, including finances, personal life and relationships, student loans, living situation, and child care. These are aspects that the NRP and work environment may not necessarily influence, but certainly may sway. Job performance was identified as having the largest change from baseline (16.8%) to program completion (7.8%), indicating more than a 50% decrease in stress related to job performance. Communication, leadership, and patient safety scores demonstrated the most favorable improvement, with mean score from 2.88 to 3.24 ($p < .001$), indicating improved confidence in organizing and prioritizing patient care and comfort with safely completing the components of the patient care assignment. Both communication and patient safety are key components of institutional and clinical orientation. Intriguingly, the scores in support and professional organization domains showed moderate, but statistically significant decline during the course of the NRP. Mean scores in the support domain decrease from 3.36 to 3.29 ($p = .002$)

and mean scores in the professional satisfaction domain decreased from 3.53 to 3.41 ($p < .001$). One indication for this decreased score may be related to the transition to independent practice, without a preceptor during the course of the first year of practice. Of note, support scores have been consistently higher on the postscores since 2014 when a patient experience simulation was added, engaging actual patient volunteers in the simulation laboratory experience for residency participants.

Cline et al. (2017) also assessed retention rates of new graduate nurses. A regression model was used the assess the effect of Casey-Fink Survey scores on retention rates demonstrated one statistically significant relationship, that between responses on the support domain and one-year retention data. For every additional unit in support, one-year retention increased on average of 0.21 ($p = .041$) suggesting that increased perception of support may be related in improved retention at one-year post hire. The author's suggested based on these findings, that retention decreased over three to five years, which may be reflective of the trends related to mobility of the nursing workforce, as well as the return to school for career advancement. Outcomes related to retention rates are consistent with findings in the literature, which reflect a high retention rate greater than 90% at one year.

Based on the JHEBP model guidelines, this was a level II, quality A study. This quasi-experimental study was defined as level II because the evidence has some degree of investigator control and some manipulation of the independent variable but lacks random assignment to groups since it was a voluntary survey. The purpose was concise and clearly stated, and the literature review was current. There was some manipulation of the independent variable. The instrument used was noted to be a reliable tool. Study limitations were appropriately addressed. Some minor threats to internal and external validity were noted. Threats to internal validity

include selection bias of a convenience sample and history surrounding the time of the study. External validity was threatened with the lack of age variability, related to the focus on new graduate nurses and those with less than one year of nursing experience. With the ten-year span of data collection, some limitations included variability in the questions asked over the years, no pre-data collected before the summer 2005 cohort, and changes in the nurse residency program curricula, so each cohort had a slightly different curriculum. Results from the paper survey were manually entered into electronic data which creates possibility for human error, although the authors noted that multiple audits were performed to reduce the likelihood of such error.

Nevertheless, due to the sufficient sample size for this study, findings were consistent and generalizable. Results of the evidence suggest that internally developed residency programs may be equally effective as prepackaged programs, in providing the comfort, confidence, and retention of new graduate nurses. The nursing profession benefits as a whole from a highly educated and well-trained workforce. Implementing residency programs with specific objectives and content, contributes to strong retention at one-year post hire and may also contribute to institutional retention of residency program participants further in their career.

Nurse residency programs were created to provide sustained developmental support to graduate nurses in retention and satisfaction as they transition to the profession. Goode et al. (2013) performed a mixed-methods, descriptive study, and also used the Casey-Fink Graduate Nurse Experience Survey to evaluate new graduate nurses experience in a nurse residency program. As previously mentioned, the CFGNES is a reliable tool, with a Cronbach's alpha of .89 (Casey et al., 2004). The purpose of this study was to examine outcomes from ten years of research on a post-baccalaureate new graduate nurse residency program and to report lessons learned. Goode et al. (2013) performed a study guided by two overall questions: how did the

residents change across the program and, what was the retention rate of the residents? The authors performed a literature search to determine if a standardized, evidence-based curriculum was best practice for implementing NRPs. The University HealthSystem Consortium (UHC)/American Association of Colleges of Nursing (AACN) residency was created to serve as model for more broadly based NRPs. The history, curriculum essentials, accreditation process, and research outcomes of the UHC/AACN residency were all provided. This specific UHC/AACN NRP curriculum was composed of three core areas of content: leadership, patient safety and outcomes, and nurse-sensitive outcomes. The curriculum also included a requirement of completing an evidence-based practice project during the NRP. The Casey-Fink survey was used at beginning, middle (6 months), and end of the program (1 year). The Graduate Nurse Residency Program Evaluation (GNRPE) was completed at the end of the program and was composed of three sections: evaluating recruitment and welcome to institution and residency, evaluation of program objectives, and views of the program. Subjected to factor analysis, five satisfaction dimensions appeared: recruitment and welcome (α = .78), program goals (α = .95), program topics (α = .93), professional growth (α = .94), and program faculty (α= .94).

Data were gathered over ten years and collected from 1,106 participants in the NRP. Across the program, retention rates increased from 88% in the first annual evaluation to the current rate of 94.6%. Across the designated time span, significant increases in overall confidence, competence, organization, prioritization, and communication-leadership factors were identified consistently across the years of the evaluation. Several reports estimated turnover for all nurses at 27% in the first year of employment and at 13% for new graduates. New graduates learned to organize and prioritize their work and they learned essential leadership and communication skills, that enhanced the work of the interdisciplinary team. As stated by Goode

et al. (2013), a defined evidence-based curriculum that is consistently reviewed and updated to meet the needs of the new graduates and the rapidly changing healthcare environment is imperative. The authors from this study found that in the UHC/AACN one-year residency, new graduate nurse's organization and prioritization skills and learned essential leadership and communication strategies which enhanced the collaboration between the interdisciplinary team.

Based on the JHEBP guidelines, this study done by Goode et al. (2013) was a level III, quality B piece of evidence. This study was a non-experimental, mixed methods, descriptive study because it involves both quantitative and qualitative elements. Descriptive studies are used to describe a phenomenon, which in this case was describing the implementation of standardized and accredited NRPs. There was no random assignment to groups and no control group. The authors evaluated articles published on the UHC/AACN residency, but also evaluated new graduate nurses with the Casey-Fink survey using statistical analysis. Of note, this study did have some evaluation issues and limitations. It is unclear which years were included in the ten years of research. As with any survey-based data collection method, it was difficult to have willingness of the new graduate nurses to participate throughout the evaluation. Over-time comparisons required that participants participate during all data collection points, but the decline in participation forced analysis to only be performed on 40% of residents. Another threat to the validity of this study was the small amount of evidence included in the literature review. Overall, interesting insight for the implementation of standardized nurse residency programs was discussed. NRPs with a focus on quality, safety, and evidence-based practice can enrich the culture of hospitals where nurse new graduate nurses provide care.

The Impact of Work Environment and Skill Development of New Graduate Nurses

Work environments, healthy or unhealthy, can have a major impact on new graduate nurses. Al-Dossary et al. (2013) performed a longitudinal, mixed methods, systematic review to provide an assessment of how nurse residency programs influence new graduate nurses' clinical decision making and leadership skills. The study was conducted using online databases of scientific literature over a span of 33 years, between 1980 to 2013. The search terms used were *decision making, clinical decision making, clinical leadership, leadership, nursing, new graduate nurse, residency*, and *residency programs*. Only peer-reviewed journal articles published in English were included. 756 original studies were identified, and 59 studies were identified when the key words *nursing* and *residency program* were used. When the search was restricted using more precise key words such as *residency programs* and *decision-making*, 32 studies were retrieved. Finally, 17 studies were identified when using the key words *residency programs*, *clinical*, and *leadership*. Of these, only 13 studies on NRPs met the inclusion criteria and were chosen for final review.

Al-Dossary et al. (2013) discovered that the transition from student nurse to professional nurse produces reality shock of the relationships, roles, responsibilities, knowledge, and performance expectations required in the professional practice setting. Therefore, the new graduate nurse's journey from education to practice can be extremely stressful and challenging. Increased stress levels are linked with the inability of new nurses to properly transition from education into practice, leading to negative consequences such as increased turnover and unsafe patient care. The authors identified the effectiveness of NRPs in promoting new graduate nurses' skills, clinical competence, confidence, retention, and satisfaction. Interestingly, while there is agreement that new graduate nurses need knowledge and competencies beyond those

developed from nursing schools, there is no agreement on the best approach for acquiring new nursing competencies. According to, Al-Dossary (2013), NRPs have been found to contribute significantly to the success of the new graduate nurse with additional support, mentoring and guidance as they transition into practice.

Based on the JHEBP model, this mixed methods, systematic review was rated as a level II quality, grade B. This level II study was a systematic review of a combination of RCTs and quasi-experimental studies. The purpose of the study was clearly defined and the search for the systematic review was comprehensive and reproducible. Key search terms were stated, multiple databases were searched and identified, and the inclusion and exclusion criteria stated, but there was no flow diagram of the search strategy presented. Details of the included studies were presented, however there was no mention of the methods of how the strength of evidence was appraised. The included studies had some variation in their overall design, research focus, and findings. The authors did include a section addressing the limitations of the study and also made recommendations for future studies. The literature had some considerable inconsistencies in the description and content of NRPs, making it difficult to evaluate their impact. The variation and limited research findings do not provide sufficient evidence from which to identify best practices for nurse residency programs. Interestingly, the authors did identify some relationship between NRPs and new graduate nurse clinical decision-making and leadership skills. However, there is limited generalizability because of the limitation of research methods and small sample sizes. The authors identified a need for proper designed quasi-experimental studies and mixed method designs. The conclusions were based on results and flowed logically from the systematic review question. This study by Al-Dossary et al. (2013) did support the implementation and

standardization of NRPs for new graduate nurses to promote the development of competencies, and to support their transition process while promoting a positive clinical learning environment.

As previously discussed, new graduate nurse retention is a key issue in today's nursing workforce. Kramer et al. (2012a) performed a longitudinal, descriptive, qualitative study to examine the effects of nurse-confirmed healthy work environments (HWEs) and multistage nurse residency programs. Establishing healthy work environments and a culture of retention appear to be effective components of lessening nurse turnover. As defined by Kramer et al. (2012a), HWEs enable and facilitate essential nursing processes, the force of natural laws, and ultimately result in improvement in patient outcomes. Furthermore, another way to define HWEs is by equating them to nurse job satisfaction. Four general categories of job satisfiers have been identified: organizational components, structural conditions, interpersonal relationships, and professional factors such as autonomy, interdisciplinary collaboration, and career development and advancement.

Newly Licensed Registered Nurse (NLRN) professional socialization programs have developed and flourished in recent years. According to Kramer et al. (2012a), the professional socialization model consists of three stages, each with its own theme, goal, and expected role performance. "Knowing" is the academic preparation stage, characterized by knowledge, role, and skill acquisition. "Becoming" is the transition stage, which tends to be two to three months of nursing experience and has three goals: stress management, skill competence, and dependent practice. "Integrating/Affirming" is the theme of the third stage, which is usually extended over nine to 12 months with a goal of independent performance of the dominate professional roles. The author's longitudinal, descriptive study was used to examine the impact of excellent

organizational structures and multistage NRPs on professional nurse practice and transition processes, and on the outcome, NLRN three-year retention rate.

In 2001, Kramer et al. (2012a) developed the Essentials of Magnetism (EOM) tool to measure the work processes and relationships that constitute healthy and productive clinical unit work environments. Therefore, in order to obtain an overall picture of how clinical nurses perceive if they practice in safe clinical environments that provide quality patient care, a National Magnet Hospital Profile (NMHP) was established by using samples from the EOM administration to clinical nurses in more than 1,000 hospitals (n = 253 Magnet hospitals). Kramer et al. (2012a) performed an extensive data collection process for this study. The sample of this study included 5,316 new graduate nurses in 28 Magnet designated hospitals. The EOM was administered to 12,233 experienced nurses (new graduate nurses excluded) working on 717 units in 40 selected hospitals. Results identified in this study were based on responses from 10,752 nurses practicing on 540 units in 34 hospitals, meeting the 40%-unit response rate requirement for valid data aggregation. The NRP sample consisted of three groups: four hospitals that had NRPs consisting of a clearly defined, two-stage transition plus integration program ranging in length from 10 months to 12 years; 14 hospitals with NRPs ranging in length from eight months to one year, with a definite transition-stage program and some evidence of integration stage components; and 10 hospitals with transition stage only NRPs ranging in length from two to five months. Correctional analyses were completed on NLRN retention rates at six months and one, two, and three years post hire, based on the number of employed months. The number of months employed was the interval level data used to test direct and interactive (univariate and multivariate) relationships (contrasts) between and among multiple independent and dependent variables. 28 of the 34 hospitals submitted three-year retention data for 5,316

NLRNs employed from 2006 through 2008 and data were provided for 85.6% of the NLRN sample (n = 4,555) employed during these three years. Of note, 70% of the sample (n = 3,188) was prepared at the baccalaureate level. Kramer et al. (2012a) suggested that the most consistent, significant finding in this study was that healthy unit work environments make a difference. Additionally, the authors proposed that NRPs, regardless of length or number of stages are effective in retention, and NLRNs practicing on units with very healthy work environments (VHWEs) reported higher professional work satisfaction, less environmental reality shock, expectations more in line with role conceptions and have higher retention rates.

Based on the JHEBP model, this study performed by Kramer et al. (2012a) was identified as a level II, quality A study. This was a level II, quasi-experimental, descriptive study with some degree of investigator control, some manipulation of the independent variable, and a lack of random assignment to groups. The researchers identified what was known and unknown about the problem, the purpose of the study was clearly presented, the sample size was sufficient based on study design and rationale, the data collection methods were clearly described, and reliable instruments were used. As previously mentioned, there were adequate response rates in the surveys used (>40%). Study limitations were identified and addressed, suggestions for future studies were presented, and conclusions were appropriately based on results. Therefore, the authors suggested that healthy work environments and NRPs are linked to new graduate nurse retention.

A third study, also done by Kramer et al. (2012b), referred to the impact of work environments on new graduate nurses. The researchers performed a five-year, qualitative study to assess the impact of HWEs and NRPs on new graduate nurse transition and integration into professional practice. HWEs are related to increased patient safety and improved patient

outcomes. The purpose of their study was to elicit from Newly Licensed Registered Nurses (NLRNs) and experienced nurses practicing on clinical units with confirmed Very Healthy Work Environments (VHWE), the components and strategies of NRPs effective in NLRN integration into the role of professional nursing. Kramer et al. (2012b), defined healthy work environments (HWEs), as unit environments that enable nurse engagement in the eight professional practice processes and relationships identified as essential to quality patient care. The question that guided research for this study was, what NRP components and strategies do NLRNs and clinical nurses practicing on clinical units with VHWE identify as effective in NLRN transitioning and integrating into professional practice? Geographical location, type of hospital, and community size guided the sample selection for the original 40 Magnet hospitals, and for the split of the 40 hospitals into 20 transition and 20 integration stage hospitals. To be selected for the 40-hospital sample, hospitals had to have NRPs operative for at least three years. Half of the hospitals were selected because they had published NRPs and the other half of the hospitals had hospital-developed programs. Of note, six of the original 40 hospitals were dropped from the research program because of unit response rates less than 40%. This decreased the pool for sample selection in the remaining studies from 40 to 34 hospitals. Kramer et al. (2012b) reported a final selection of 20 hospitals for this qualitative study.

Site visits of an average of two and a half days were made by investigators to each of the 20 hospitals selected from the sample. The purpose of these visits was to conduct interviews and make participant observations. Data were collected in three-month segments from October to mid-December 2009, February to March 2010, and from April to mid-June of 2010. Kramer et al. (2012b) selected units for interviews based on two criteria: They regularly employed NLRNs, and they had "experienced-nurse confirmed" VHWE. To be selected, a hospital had to have at

least five clinical units meeting the two criteria discussed. The 20 hospital site visits resulted in 82 participant observations and 907 interviews with 330 NLRNs, 401 experienced nurses, 138 nurse managers practicing on 174 VHWE units. The number of units per hospital ranged from five to 14, with a mean of nine. At the time of the interview process, 236 of the 330 NLRNs were between nine- and twelve-months post hire. Almost 80% of the NLRNs were prepared at the baccalaureate level.

Kramer et al. (2012b) found that NLRNs consistently identified seven management skills as areas of very high concern during their transition and integration into professional practice: delegation, collaborative nurse–physician (RN/MD) relationships, feedback to promote self-confidence, autonomous decision making, prioritization, constructive conflict resolution, and getting work done and using the nursing care delivery system. These seven issues of concern were used to construct the interview schedule and served as the basis of selection for participant observations. Individual and small group interviews were conducted with two to four NLRNs and experienced nurses on each of the selected VHWE units. Nurse managers from these units were also included and group-interviewed. Data was analyzed using constant comparative analyses, data were compared and analyzed, and tentative categories, abstractions of phenomena observed were formulated for each of the seven issues. Meta-analysis and meta-synthesis procedures were used to analyze the content of participant observation notes and interview transcriptions. In order to be classified as “effective”, a strategy or component had to be cited by at least half of the interviewees on half the units in a hospital. Interviewers were careful not to suggest or lead interviews into confirming strategies already identified by other interviewees. Almost all interviewees agreed that the seven main areas of concern were the major problem areas encountered by NLRNs. Effective strategies for delegation, prioritization, and

collaborative RN/physician relationships were frequently begun in transition and continued through integration stage. Strategies in some of the seven areas, such as restoration of self-confidence through feedback, had a different focus in the transition than in the integration stage. In transition, feedback was related to NLRNs skill performance or specific patient care activities and in Integration, feedback was more often focused on how well NLRNs provided care and managed clinical situations for multiple patients, simultaneously. The authors of the study reported that the development of two-stage, transition plus integration NRPs, should not just be an option, but a necessity. Kramer et al. (2012b) found that NRPs were highly valued by nearly all interviewees. Furthermore, the authors found that professional socialization programs such as NRPs, assist newly licensed nurses through skill acquisition, guide evolutionary stages of professional judgment, and eventually lead to effective performance of the professional role.

This qualitative study done by Kramer et al. (2012b) was classified as a level III, quality A study. This study was a level III qualitative study with rich narrative data that was used to uncover themes and with a problem described from the point of view of those experiencing it. The study reported efforts to enhance and evaluate the quality of the data. Information was transparent and there was insightful interpretation. There was a clearly identified and articulated purpose, research question, justification for methods used, and a phenomenon that is the focus of the research. The study sample participants were representative, and their characteristics were discussed. The data analysis was appropriately described, and sample size was adequate for the study design. Findings, including direct quotes, were used to support the narrative data. However, the authors did not report limitations or recommendations for future studies yet did clearly identify conclusions. Overall, this study performed by Kramer et al. (2012b) discussed

important components for the need of healthy work environment units for the transition of new graduate nurses into professional practice.

The Value of Implementing Nurse Residency Programs

Researchers have praised the implementation and value of nurse residency programs over recent years. NRPs were designed as structured programs to assist in the transition from nursing school to professional practice. Organizations have reported considerable cost savings and several reported decreased nurse turnover rates with the use of NRPs. Pittman et al. (2013) performed a descriptive, mixed methods study to determine the prevalence of hospital nurse residencies and the factors associated with them. Questions that guided their research included how widespread hospital residencies are, what types of hospitals have them, how they are funded, and what barriers exist to greater adoption rates. In order to assess this, Pittman et al. (2013) administered a web-based survey to chief nursing officers (CNOs) and chief nursing executives that were members of the American Organization of Nurse Executives (ANOE). Of the 2,513 nurse leaders invited to participate, only 353 responded (15.7%), so the authors decided to exclude CNOs from the study, leaving a total of 219 nurse leaders (9.7%) each representing a single hospital. Hospitals were classified by geography, ownership, and size. Respondents represented rural hospitals (24.3%), urban hospitals (75.7%), of which the majority were nonprofit institutions (69.2%). Nurse leaders were asked if the NRPs offered at their institutions were either optional or mandatory, for RNs or advanced practice RNs, internally or externally developed, and funded internally or externally. Questions were also asked on continuing education or additional training opportunities offered during the NRP.

Pittman et al. (2013) performed statistical analysis on questions regarding residency prevalence, design, and alternative training programs. Chi-squared testing (x^2 test) was also

performed on the differences between hospitals with, and other nurse residency programs. Of the hospitals with NRPs offered, only 7.2% indicated that the programs were mandatory. Interestingly, Pittman et al. (2013) found that most institutions developed their own residency programs, only 32% reported the use of an externally develop NRP, and only one-fifth of hospitals received external funding. The authors found that several hospitals with residency programs also offered other training programs including leadership training (82.3%), quality and safety training (98.7%), and training on interdisciplinary team-based care (58.2%).

Based on the JHEBP model, this study was a level II, quality B study. This study was classified as a level II because it is a cross-sectional survey with quantitative analysis. The purpose of the study was clearly stated, and the literature review was current. Data collection was clearly described, and results were presented clearly in both narrative form and with the use of tables and figures. Statistical tests were used in the data for analysis. This study was graded as quality B, because there were several limitations listed. Some threats to internal validity could be historical events that may have contributed to data representation during the years included in the study and the potential for response bias because of the use of web-based surveys. Another threat to internal validity and limitation to this study is that the authors used a convenience sample of nurse leaders who were members of AONE in July of 2011. The authors did present some recommendations for future studies including the focus of nurse educational progression, increasing the number of baccalaureate prepared nurses to 80%, doubling the number of nurses with a doctoral degree, and advancing a culture of life-long learning. One conclusion to be made was that institutions where the NRP was internally designed and funded ended up with more financial burden and added cost, so the use of externally developed NRPs is more cost efficient.

However, with the low response rate and small convenience sample the results of this study were not generalizable to the general population and warranted further studies.

Another study evaluating the value of nurse residency programs was done by Bernard and Martyn (2018) who highlighted the current and future state of nursing education, the effect of academic-practice partnership, and demonstrated the benefit of a unified approach to NRPs. The purpose of their study was to evaluate the Emory Healthcare Nursing program and their new model for nurse development. In 2016, Emory Healthcare (EHC) and the Emory School of Nursing executives committed to a strong partnership to bring both organizations together as a strategic priority. Emory Nursing has been successful because their leaders have made academic-practice nursing partnerships a priority. EHC implemented and continues to operate with a yearlong NRP for post baccalaureate nurses entering into practice. Their NRP supports new graduate nurses throughout the continuum of care. According to Bernard and Martyn (2018), the goal is that their academic-practice partnership will enhance outcomes, drive the actualization of academic nursing, and lead to a full partnership in health care transformation. The authors developed three important concepts, along with specific tactics, to drive future nurse residency programs. The first concept was that residency initiation should begin during the academic experience; extend to the practice setting; and conclude after full transition-to-practice, believing that this demonstrates commitment to nurses' success early on in their careers and prepares them for future roles. The second concept they developed was that creativity and innovation drives an organic approach to residency design. Along with this, Bernard and Martyn (2018) believe that customized programs are more beneficial to meet specific learning needs, which requires academic and health care partners to work together. The third concept was that NRPs in the future will need to include resiliency training to mitigate role stress. Along with

other NRPs, new graduate nurses in the Emory program report high levels of stress during their first year of nursing, so there is a clear need to address nurse role stress issues during education as well as during the residency program (Bernard & Martyn, 2018).

Based on the JHEBP model, this study was classified as a level V, quality A study. This was a level V, literature review, with some expert opinions included. The subject matter to be reviewed is clearly stated, the literature reviewed is relevant and up-to-date, and there is meaningful analysis of the conclusions across the included articles. The authors also presented recommendations for future practice and studies. The objectives were clear, there were consistent results presented across the study, and consistent recommendations made. Bernard and Martyn (2018) discussed the challenges of bringing the two cultures, academic and practice together as a partnership. They identified differences with organizational charts, available resources, performance metrics, and priorities all leading to the challenges of building a collective culture. Early integration of these academic and practice paradigms generate unification in the art and science of nursing and serve as a foundational platform for lifelong learning (Bernard & Martyn, 2018). Overall, the authors presented valuable conclusions to the use of NRPs that contribute to transforming health care quality, safety, and engagement for the betterment of individuals and communities that depend on care.

New graduate nurse retention is crucial to help decrease turnover and vacancy rates, and organizational cost. Understanding the value of nurse residency programs is important to help retain new graduate nurses in the workforce. Ackerson and Stiles (2018) performed a literature review with the purpose of exploring literature regarding the implementation of NRPs in acute care setting and their ability to retain nurses. The authors used several databases with the key words*: nurse residency programs, retention rates (RR)*, and *nursing turnover*. Inclusion criteria

for their search included primary research, peer-reviewed articles, all within a ten-year time frame of their study. Articles were included if they involved an NRP specifically for new graduate nurses in acute care hospitals in the United States and were excluded if NRPs were not in a hospital setting, included more than just new graduate nurses, or if they were solely focused on one nursing specialty. The authors search resulted in a mix of quantitative and qualitative studies. After their search was applied with limits set, and reviewed for inclusion and exclusion criteria, a total of 42 articles were selected to be included in their review.

Following a detailed screening of the 42 articles, 26 articles were selected to fit the review criteria. Ackerson and Stiles (2018) provided a detailed record of their data collection method and strategy. Of the 26 selected articles, the majority used descriptive designs (n = 21; 80.8%), followed by mixed methods (*n* = 2; 7.7%), outcome (*n* = 2; 8%), and quasi-experimental (*n* = 1; 3.8%). Interestingly, internally developed programs were reported in nine (34.6%) of the studies and seventeen (65%) studies reported using established programs, the majority of which (*n* = 10; 59%) used the University HealthSystem Consortium/American Association of Colleges of Nursing Program (UHC/AACN). According to Ackerson and Stiles (2018), of the studies that reported retention rates, regardless of the NRP used, all reported improved RR and only small differences were noted in RR between internally developed NRPs and established NRPs. Interestingly enough, the success in keeping new graduate nurses was noted at the one-year mark. The authors discovered documentation of positive outcomes for first year retention rates, but a minimal effect of traditional 12-month NRPs on two-year retention rates. A noteworthy aspect mentioned in this study is the financial aspect of NRPs. Ackerson and Stiles (2018) noted that return on investment compares the cost of implementing and sustaining the program to the net benefits of the NRP. A positive return on investment was revealed because many NRPs in

acute care settings are successful in retaining new graduate nurses, which decreases organizational costs. Of note, although NRPs can be expensive, findings demonstrate savings in recruitment and replacement costs result in favorable investment returns. Furthermore, even though retention was not sustained after one-year, organizational savings were still high.

Based on the JHEBP model, this study performed by Ackerson and Stiles (2018) was identified as a level II, quality A study. The authors clearly identified what was known about the problem and the purpose of their study was clearly presented. The literature review was current, the sample size was adequate for the study design, data collection methods and the use of online databases for their search strategy were all described. Study limitations were honest, identified, and addressed. One limitation noted was that most studies used were descriptive and comparison studies, and although they are informative and provided information toward understanding the benefits of these programs, these types of studies do not evaluate the effect of an NRP on nurse retention. Even with some limitations, the study done by Ackerson and Stiles (2018) provided evidence of the emerging trends regarding the benefits of NRPs to new graduate nurses.

Chapter Summary

This chapter discussed nine studies reflecting evidence on the implementation of nurse residency programs on retention rates. The Casey-Fink survey was a consistent and reliable tool to measure the new graduate nurse experience. The three longitudinal studies discussed all examined outcomes of nurse residency programs over time. The effects of offering both an extern program and residency program did not improve transition factors, however, it was noted that supporting new graduate nurses with mentoring and professional guidance is well documented in the literature. Retention rates for new graduates increased considerably in hospitals with participating NRPs. Financial benefits and organizational costs savings are

evident with the use of NRPs. Valuable conclusions can be made regarding the use of NRPs, including contributions to transforming health care quality, safety, and engagement for the benefit of individuals and communities that depend on healthcare. As previously discussed, implementing residency programs with specific objectives and content, support and mentorship, contributes to strong retention at one-year post hire and may also contribute to institutional retention of residency program participants further in their career.

CHAPTER IV

RESULTS AND SYNTHESIS

Nurse Residency Programs (NRPs) were created to offset the existing gap of new graduate nurses' transition into professional practice and to be an effective strategy to increase new graduate nurse retention. The need for consistent and reliable NRPs is fundamental in maintaining new graduate nurses in the workforce. The purpose of this evidence-synthesizing project was to examine the influence of nurse residency programs on the transition of new graduate nurses into professional practice. The evidence-based practice question for this project was, what is the influence of participation in nurse residency programs on retention rates of new graduate nurses compared with those of new graduates who did not participate in an NRP?

Synthesis of Results

The literature review addressed three areas related to the influence of nurse residency programs on retention rates. After reviewing results from the evidence, three overall themes were identified relating to the influence of NRPs on retention rates. The three overarching themes included longitudinal outcomes of nurse residency programs, the impact of work environment and development of skills for new graduate nurses in nurse residency programs, and the necessary value of implementing nurse residency programs. The data were each analyzed and appraised for level of evidence and quality rating using the Johns Hopkins Evidence Based Practice Model (JHEBP) (Dang & Dearholt, 2018). The JHEBP level and quality guide categorizes evidence from levels I to V and rates the quality from grades A to C. Overall, nine sources related to the influence of NRPs on new graduate nurse retention were identified, reviewed, and critiqued based on the level and quality of evidence. This project only included level II, level III, and level V sources. Five sources were identified as level II, with an overall A

quality rating, three sources were identified as level III, with an overall B quality rating, and one source was identified as level V, with an overall A quality rating (Table 1).

Evidence Level	Number of Sources	Author & Year of Publication	Overall Quality Rating
II	5	Ackerson & Stiles (2018) Al Dossary et al. (2013) Cline et al. (2017) Kramer et al. (2012a) Pittman et al. (2013)	A
III	3	Friday et al. (2015) Goode et al. (2013) Kramer et al. (2012b)	B
V	1	Bernard & Martyn (2018)	A

Table 1. Level and quality table.

After the literature review and analysis, the results were synthesized. The five level II sources were given an overall A quality rating because there were consistent and generalizable results presented, the sample sizes were sufficient for the study designs, and the authors provided consistent recommendations based on comprehensive literature reviews which allowed for definitive conclusions. The three level III sources were given an overall B quality rating because overall the evidence was well-discussed, yet there were some threats to internal and external validity that did not provide entirely consistent results. The authors of the level III sources did provide transparency of how data were collected, used multiple sources to validate evidence, provided some fairly definitive conclusions, and linked the data and knowledge to a fairly comprehensive literature review. Lastly, the only level V source was given a quality A rating. This quality A rating was given because the literature reviewed is relevant and up-to-date, and

there is meaningful analysis of the conclusions across the included articles. The objectives were clear, there were consistent results presented across the study, and consistent recommendations were mentioned. The authors of the level V source demonstrated clear expertise in the field and on the subject matter.

The five sources identified as level II all discussed high quality results. It was previously discussed that the transition from student nurse to professional nurse produces reality shock of the relationships, roles, responsibilities, knowledge, and performance expectations required in the professional practice setting. Therefore, the new graduate nurse's journey from education to practice can be extremely stressful and challenging. A few of the authors used The Casey-Fink Graduate Nurse Experience Survey (CFGNES) to obtain results, a survey tool which was originally developed by Casey et al. (2004). The CFGNES was originally developed to measure new graduate nurses' experiences on entry into the workplace, then through the transition into the role of professional nurse and has proven to show important factors with the use of NRPs. From their own work with the tool, Casey et al. (2004) used exploratory factor analysis and reported that five factors emerged: support ($\alpha = .90$), patient safety ($\alpha = .79$), stress ($\alpha = .71$), communication and leadership ($\alpha = .75$), and professional satisfaction ($\alpha = .83$). The authors of the studies who used the CFGNES all identified factors similar to the tool itself. Common themes in the level II sources included the identification of high stress levels in the nursing profession, the improvement of competence and increased confidence through NRPs, and the benefits of the mentorship and support received from NRPs.

As previously stated, stress levels were a common theme among these sources. The authors of the five level II sources all discussed that increased stress levels are linked with the inability of new nurses to properly transition from education into practice, leading to negative

consequences such as increased turnover and unsafe patient care. The authors of the level II sources identified the effectiveness of NRPs in promoting new graduate nurses' skills, clinical competence, confidence, retention, and satisfaction. According to the authors of the five level II sources, because of the additional support, mentoring and guidance as provided for new graduate nurses, NRPs have been found to contribute significantly to their success as they transition into professional practice. Outcomes suggested that internally developed NRPs, as discussed in some of the articles, may be equally effective as prepacked residency programs in supporting new graduates' retention. Overall, the authors of the level II sources also discussed higher retention rates for new graduate nurses with the implementation of NRPs. Regardless of the length, time-frame, or structure, the authors proposed that NRPs are effective in retaining new graduate nurses, that they report higher professional work satisfaction and confidence related to support and mentorship, and overall decreased stress levels.

This evidence-synthesis project also included three level III pieces of evidence. The three pieces of evidence were given an overall B quality rating. The level III pieces of evidence were all mixed methods studies, using both qualitative and quantitative methods in the design. All three sources included a clearly stated purpose, current literature review, and the use of a reliable tool. One major theme discussed in all three sources was the improvement of communication techniques. Communication was improved among nurse to physician relationships and the authors also discussed improvement in effective communication among new graduate nurses. Significant increases across time in overall confidence, competence, organization, prioritization, and leadership factors have been consistently identified in the three sources. Of note, better outcomes were found in Magnet hospitals. New graduate nurses from Magnet hospitals reported significantly more in overall confidence and competence, and in the organization, prioritize,

communication, and leadership factors. However, all three sources had threats to internal and external validity. Therefore, due to the descriptive nature and small sample sizes of the three level III sources, the authors were not able to report specific conclusions for the use of NRPs for new graduate nurses.

Lastly, the one level V source was given an overall A quality rating. The authors, Bernard and Martyn (2018) discussed the challenges of bringing the two cultures, academic and practice together as a partnership within Emory Healthcare and the Emory School of Nursing. With their expertise in the nursing profession, they identified differences with organizational charts, available resources, performance metrics, and priorities all leading to the challenges of building a collective culture with healthcare and nursing education. The major theme of this level V source was the value and improved collaboration with the use of NRPs. The authors believe that the integration of academic and practice programs generates a foundational platform for lifelong learning for the art and science of nursing. They believe that customized programs are more beneficial to meet specific learning needs, which requires academic and health care partners to work together. Of note, along with other NRPs that have been discussed, new graduate nurses in the Emory program reported high levels of stress during their first year of nursing. Overall, the authors from the level V source presented valuable conclusions to the use of NRPs that contribute to transforming health care quality and safety both new graduate nurse retention and improvement of patient outcomes.

Chapter Summary

This chapter focused on the discussion of the number of articles at each level and their overall quality rating included in this evidence-synthesizing project. A synthesis of the evidence at each level was also presented. The purpose of this project was to examine the influence of

nurse residency programs on the transition of new graduate nurses into professional practice. The chapter discussed the quality rating of the five level II sources, the three level III sources, and the one level V source. After reviewing results from the evidence, themes were identified from each level relating to the influence of NRPs on retention rates. Common themes in the level II sources included the identification of high stress levels in the nursing profession, the improvement of competence and increased confidence through NRPs, and the benefits of the mentorship and support received from NRPs. The level III sources discussed the improvement of effective communication, among nurse to physician relationships and among new graduate nurses themselves. The major theme of the level V source was the identified value and improved collaboration with the use of NRPs. Overall, the implementation of NRPs appears to have influence on improved communication skills, decreasing stress levels, stimulating confidence and competence, and retaining new graduate nurses.

CHAPTER V

DISCUSSION AND CONCLUSION

The adoption of nurse residency programs (NRPs) within healthcare institutions seems to be the most effective way of retaining new graduate nurses and bridging the gap from preparation to professional practice. NRPs have been implemented in several academic medical centers, comprehensive cancer centers, and small community hospitals. Longitudinal and descriptive studies have been done by several authors to examine outcomes of nurse residency programs. The evidence suggests that retention rates for new graduates increased considerably in hospitals with participating NRPs. NRPs may also contribute to institutional retention of residency program participants further in their career. Healthcare institutions need to consider the implementation of nurse residency programs to fill the expected nurse staffing shortages over the next decade.

The purpose of this evidence-synthesizing project was to examine the influence of nurse residency programs on the transition of new graduate nurses into professional practice. The evidence provided consistent results that support the need for a practice change to implement structured NRPs. The evidence-based practice question for this project was, what is the influence of participation in nurse residency programs on retention rates of new graduate nurses compared with those of new graduates who did not participate in an NRP?

Implications of Findings

Nurse residency programs were created to help bridge the gap that exists between student nurse to professional nurse. There are several challenges and transitions that occur when new graduate nurses complete nursing school and begin their first professional career. New graduate nurses need to be prepared, confident, and competent to be able to provide safe and high-quality

care. Unfortunately, the complex and challenging healthcare environments often lead to high amounts of increased stress for new RNs, therefore leading to low retention rates and high turnover.

The implementation of NRPs appears to have an influence on the retention rates of new graduate nurses, especially within the of hire. Without the proper care and support, new graduate nurses will not stay in the profession. The evidence presented in this project suggests that the need for an evidence-based, accredited, structured NRP would be an excellent way to influence the retention of new graduate nurses. The University HealthSystem Consortium (UHC)/American Association of Colleges of Nursing (AACN) otherwise known as the Vizient/AACN residency program could serve as model for more broadly based NRPs. The UHC/AACN structed NRP curriculum, which is trusted by more than 500 hospitals and health systems nationwide, is composed of three core areas of content: leadership, patient safety and outcomes, and professional development, with reported benefits of retention, commitment, confidence, skill, clinical leadership, professionalism, interprofessional team building, and evidence-based practice (Willingham, 2018). Their curriculum also includes a requirement to complete an evidence-based practice project. The most signature outcome is retention, with the latest retention value in 2018 of 91.5% (Willingham, 2018). Evidence in this project provided consistent results that support the need for a practice change to implement structured NRPs to retain new graduate nurses in the profession.

Limitations

This project had a few limitations. One limitation that should be mentioned is that this study may have had a small sample size of sources, which reduced the generalizability of the study. With only nine pieces of evidence reviewed, there may have been more consistency if

more sources were included. The fact that only nine sources met the established criteria may also be related to the fact that NRPs are a relatively new element of nursing, therefore there may not be extensive evidence developed on their outcomes yet. Another limitation to note is that several of the studies varied widely in their design, research focus, and findings. With too much variation, it becomes difficult to identify best practices for the use of nurse residency programs. Variation in study designs and findings, along with small sample sizes in several of the studies made it difficult to generalize findings. Several were descriptive designs that provided information on the benefits of NRPs however because of their descriptive nature, it was not possible to evaluate the effect of NRPs on new graduate nurse retention from these studies. The other limitations were related to the location and type of NRP discussed in each source. There was variation in the time frame, the location of where the NRPs were established, and the type of hospital setting the NRPs were conducted in. With a more condensed time frame, consistency of location, and type of hospital setting the results could have generated better conclusions and reflected a true influence of NRPs on new graduate nurse retention.

Recommendations for Future Research

Based on the results of this study, there are several recommendations for future research. First, it would be beneficial to gather information from a greater variety of study designs and to have studies with larger sample sizes. Second, future studies should focus on a location and type of hospital setting in order to be able to establish more specific recommendations on the benefits of NRPs. Finally, this study only focused on the influence of NRPs on retention rates with a variety of NRP models. Future studies could evaluate other factors of nurse residency programs and measure their impact on new graduate nurses. Recommendations also include the implementation of the Vizient/AACN NRP in more institutions. It is clear that their model holds

value among new graduate nurses and the institutions that employ them. The Vizient/AACN NRP model empowers nurses, increases retention while reducing turnover costs, and improves patient safety (Vizient, 2018). Overall, retention rates are higher than the national average with the use of the Vizient/AACN nurse residency program curriculum.

Conclusion

Despite the limitations addressed, it is evident that there are several benefits to the implementation of NRPs and their influence on new graduate nurse retention rates. Research evidence related to longitudinal outcomes of nurse residency programs, the impact of work environment and development of skills for new graduate nurses, and the overall value of implementing nurse residency programs were all addressed in this project. The variation of NRPs mentioned in this study provided an increased understanding on the challenges of their implementation along with the benefits that come with their use. A push for the implementation of NRPs occurred and has demonstrated effectiveness in the retention of new graduate nurses. There are several designs and definitions of NRPs, each with its own benefits and focus. Not only do NRPs need to help new graduate nurses develop their skills, but also need to provide appropriate support, mentorship, effective communication techniques, and increase their confidence. There is a need to develop structured NRPs to support the transition of new graduate nurses into professional practice.

This project reviewed and analyzed nine sources which discussed the effectiveness of nurse residency programs. Common themes discussed from the evidence included the identification of high stress levels in the nursing profession, the improvement of competence and increased confidence through NRPs, and the benefits of the mentorship and support received from NRPs. Effective communication is beneficial for new graduate nurses as they work

alongside physicians, other RNs, patients, and family members. The value of NRPs was also discussed with a focus on increased collaboration among staff. New graduate nurses also benefit greatly from the additional support and guidance provided with clinical decision-making and the relationship with a more experienced mentor. There is a definite need for NRPs that are designed to prepare new graduate nurses with confidence, competent and safe patient care, leadership abilities, and excellent communication skills.

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Appendix A

Evidence Summary Matrix

Article #	**Author, Publication Source, & Date of Publication**	**Evidence Type and Purpose**	**Sample Type, Size, Setting**	**Study Findings**	**Limitations**	**Evidence Level**	**Quality Rating**
1	Friday, L. 2015 Journal for Nurses in Professional Development	Quantitative, Longitudinal study, with repeated measures The study examined the value of providing both a prelicensure program and a post-licensure program on the retention and satisfaction of new graduate nurses by examining self-reported levels of support, patient safety, communication/leadership, professional satisfaction, and job satisfaction.	Convenience sample of a 630-bed teaching hospital in SE US. 60 voluntary participants, Consent implied.	Overall retention rates were 95% at 1 year and 85% at 2 years; For the extern group, retention rates were 92% at 1 year, and 77% at 2 years ;The non-extern group retention rates were 96% for 1 year, 91% for 2 years – much higher than the extern group; The loss rate was higher in the extern group, two externs left within the first 6 months of residency (small group); The retention rate at 2 years is still considered high compared to the national average 30 month overall retention rate dropped to 68%; Those who completed extern program scored	Small sample size, Limited generalizability; Few externships available; Convenience sample is not representative of the population of nurses at large; Some subjects did not attend monthly educational offerings – reducing the completeness of the study	III	B

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
				higher at three time periods on three factors of CFGNES: support, leadership/communication, and job satisfaction (clinical significance); The combination of residency and prelicensure programs does not necessarily improve new nurse outcomes for satisfaction and support, or retention rates; Investing in both programs is not cost effective			
2	Cline, D. 2017 The Journal of Nursing Administration	The purpose of this article was to present a 10-year retrospective review of outcomes from an internally developed nurse resident program. Retrospective, Quasi-Experimental	Retrospective analysis. Data was collected using the Casey-Fink Survey from 1638 total participants. Individuals had less than 12 months of	Results indicate statistically significant change in scores in all domains except stress p = 0.5); Stress addresses external stressors, including finances, personal life/relationships, student loans, living situation, and child care. These are aspects that	Convenience sample of those who participated in NRP and completed the surveys; Lack of age variability, related to the focus on new graduate	II	A

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
			RN experience. All participants were enrolled in the NRP in a comprehensive cancer center. Data was collected from 31 cohorts, from summer 2005 to November 2014.	the NRP and work environment may not necessarily influence by certainly may compound. Job performance was identified as having the largest change from baseline (16.8%) to program completion (7.8%), indicating more than a 50% decrease in stress related to job performance. Communication/leadership and patient safety scores demonstrated the most favorable improvement, mean score from 2.88 to 3.24 ($p < .001$), indicated improve confidence in organizing and prioritizing patient care and comfort with safely completing the components of the patient care assignment.	nurses and those with less than 1 year nursing experience; Variability in the questions asked over the 10 year span; No predate was collected before the summer 2005 cohort; NRP curricula changed over time; Each cohort had a slightly different curriculum; Results from paper survey were manually entered into electronic data – possibility for human		

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
				Communication and patient safety are key components of institutional and clinical orientation. Score in support and professional organization shored moderate, but statistically significant decline during the course of the NRP. A regression model was used the assess the effect of Casey-Fink Survey scores on retention rates demonstrated one statistically significant relationship, that between responses on the support domain and one-year retention data. For every additional unit in support, one-year retention increased on average of 0.21 (p = ,041) suggesting that increased perception of support may be related	error; Pres-scores and post scores were treated as independent cohorts, and the paired nature of the data was not taken into account for the *t*-test		

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
				in improved retention at one-year post hire. Findings of decrease retention at 3 to 5 years - reflective of the trends related to mobility of the nursing workforce, as well as the return to school for career advancement Outcomes related to retention are consistent with findings in the literature reflection a high retention rate, greater than 90% at one year.			
3	Goode, C. J. 2013 The Journal of Nursing Administration	The article provides the history, curriculum essentials, accreditation process, and research outcomes of the UHC/AACN residency. The evaluation was guided by two overall questions: How did the	Utilized two instruments, Casey-Fink survey and the Graduate Nurse Residency Program Evaluation (GNRPE)	Retention rates increased from 88% in the first annual evaluation to the current rate of 94.6%; University HealthSystem Consortium (UHC)/American Association of Colleges of Nursing (AACN)	Decline in participation at the program end, so overall data was only based on fewer than 40% of participants.	III	B

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
		residents change across the program? What was the retention rate of the residents? Non-experimental, Mixed Methods study – the authors evaluated articles published on the UHC/AACN residency, but also evaluated new graduate nurses with the Casey-Fink survey using statistical analysis	n = 1,016, total residents who participated in the evaluation	residency could serve as model for more broadly based NRPs; NRP curriculum is composed of three core areas of content: leadership, patient safety and outcomes, and nurse-sensitive outcomes. curriculum includes requirement to complete EBP project; Casey-Fink was used at beginning, middle (6 months), and end of the program (1 year); Significant increases across time in overall confidence and competence, and organize-prioritize and communication-leadership factors have been identified consistently across the years of the evaluation; reports estimate turnover for all nurses at 27% in the first year of	Statistics were not always addressed correctly. Literature review was small, not very current from publication date of article.		

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
				employment and at 13% for new graduates. Residents in Magnet hospitals did gain significantly more in overall confidence and competence and in the organize-prioritize and communication-leadership factors. New graduates learned to organize and prioritize their work and they learned essential leadership and communication skills, that enhanced the work of the interdisciplinary team.			
4	Al-Dossary, R. 2013. Nurse Education Today	The purpose of the review paper is to provide a detailed description and assessment of the current knowledge on how NRPs influence new graduate nurse's	Electronic search using Medline, PubMed, CINHAL, Cochrane EPOC, and PsychInfo. 13 studies met	NRPs were first reported in the 1980s; numerous hospitals created NRPs due to the impending gap and need to assist new graduate nurses in the transition process. NRPs contribute significantly to the	Considerable inconsistency in the descriptions of NRPs; studies vary in their design, research focus and findings.	II	B

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
		clinical decision making and leadership skills. Systematic review of a combination of RCTs and quasi-experimental studies	inclusion criteria and were reviewed.	success of the new graduate nurse with additional support, mentoring and guidance as they transition into practice. NRPs are developed to improve new graduate's skills, confidence, and experience in promoting their transition into practice. transition into practice.	Limitation in research methods utilized and small sample sizes limits generalizability.		
5	Kramer, M. (2012a) The Journal of Nursing Administration	Longitudinal, descriptive, qualitative study The purpose was to examine the impact of excellent, magnetic organizational structures and multistage NRPs on professional nurse practice and transition processes, and on the outcome, NLRN 3-year retention rate.	5,316 new graduate nurses in 28 Magnet designated hospitals.	Establishing healthy work environments and a culture of retention appear to be effective components of lessening nurse turnover. HWEs enable and facilitate essential nursing processes, the force of natural laws, and ultimately result in improvement in patient outcomes. Four general categories of job satisfiers have been	Lack of random assignment – volunteer sample. Suggest the development of a testing tool for NLRN integration.	II	A

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
				identified: organizational components, structural conditions, interpersonal relationships, and professional factors such as autonomy, interdisciplinary collaboration, and career development and advancement. Kramer et al. (2012a) suggest that the most consistent, significant finding in this study is that healthy unit work environments make a difference. Additionally, the authors propose that NRPs, regardless of length or number of stages, are effective in retention and NLRNs practicing on units with VHWEs report higher professional work satisfaction, less environmental reality			

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
				shock, expectations more in line with role conceptions and have higher retention rates.			
6	Kramer, M. (2012b) Western Journal of Nursing Research	qualitative study to assess the impact of HWEs and NRPs on new graduate nurse transition and integration into professional practice.	Five years. Final selection of 20 hospitals from the original sample.	found that NLRNs consistently identify seven management skills as areas of very high concern during their transition and integration into professional practice: delegation, collaborative nurse–physician (RN/MD) relationships, feedback to promote self-confidence, autonomous decision making, prioritization, constructive conflict resolution, and getting work done/utilizing the nursing care delivery system. These seven issues of concern were used to construct the interview schedule and as the basis of selection	No limitations reported by authors, which is a limitation in itself. Small size could have been bigger to produce more generalizable findings.	III	A

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
				for participant observations. Individual and small group interviews were conducted with two to four NLRNs and experienced nurses on each of the selected VHWE units. Effective strategies for delegation, prioritization, and collaborative RN/MD relationships were frequently begun in Transition and continued through Integration stage. Strategies in some of the seven areas, such as restoration of self-confidence through feedback, had a different focus in transition than in the integration stage. In transition, feedback was related to NLRNs skill performance or specific patient care activities and in			

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
				Integration, feedback was more often focused on how well NLRNs provided care and managed clinical situations for multiple patients, simultaneously. The authors of the study report that the recommendation of the development of a two-stage, transition plus Integration NRPs, are not just an option, but a necessity.			
7	Pittman, P. 2013. The Journal of Nursing Administration	Descriptive, mixed methods The purpose of the study was to determine the prevalence of hospital RN residences and the associated factors.	219 nurse leaders representing hospitals with nurse residency programs. August-September 2001	Of the hospitals with NRPs offered, only 7.2% indicated that the programs were mandatory. Interestingly, Pittman et al. (2013) found that most institutions develop their own residency programs, only 32% reported the use of an externally develop NRP, and only one-fifth of	Some threats to internal validity could be historical events that may have contributed to data representation during the years included in the study and the	II	B

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
			Web-based survey, cross-sectional	hospitals received external funding. The authors found that several hospitals with residency programs also offer other training programs including leadership training (82.3%), quality and safety training (98.7%), and training on interdisciplinary team-based care (58.2%).	potential for response bias because of the use of web-based surveys. Another threat to internal validity and limitation to this study is that the authors used a convenience sample of nurse leaders who were members of AONE in July of 2011.		
8	Bernard, N. 2018 Nursing Administration Quarterly	The authors highlighted the current and future state of nursing education, the effect of academic-practice partnership, and demonstrated the benefit	Emory Healthcare and Emory School of Nursing Atlanta, Georgia	The goal is that their academic-practice partnership will enhance outcomes, drive the actualization of academic nursing, and lead to a full partnership in health care transformation. The	Only limited to Emory Healthcare and Emory School of Nursing's findings. Not generalizable.	V	A

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
		of a unified approach to NRPs. The purpose of their study was to evaluate the Emory Healthcare Nursing program and their new model for nurse development.		authors developed three important concepts, along with specific tactics, to drive future nurse residency programs. The first concept is that residency initiation should begin during the academic experience; extend to the practice setting; and conclude after full transition-to-practice. They believe this demonstrates commitment to nurses' success early on in their careers and prepares them for future roles. The second concept they developed is that creativity and innovation will drive an organic approach to residency design. Along with this, they believe that customized programs are more beneficial to meet			

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
				specific learning needs, which requires academic and health care partners to work together. The third concept is that NRPs in the future will need to include resiliency training to mitigate role stress. Along with other NRPs, new graduate nurses in the Emory program report high levels of stress during their first year of nursing, so there is a clear need to address nurse role stress issues during education as well as during the residency program.			
9	Ackerson, K. 2018.	Descriptive study with extensive literature review. The purpose was to explore the literature regarding the implementation of NRPs in acute care setting and	26 articles chosen based on inclusion and exclusion criteria. Databases used.	Of those studies that reported retention rates, regardless of the NRP used, all reported improved RR and only small differences were noted in RR between internally developed	Levels of evidence were not identified. The majority of studies were descriptive. Tools used in	II	A

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
		their ability to retain nurses.		NRPs and established NRPs. Some studies reviewed documented retention rates at two years post-hire, and although positive outcomes were noted for first year retention rates, most traditional 12-month NRPs have minimal effect on 2-year retention rates. an interesting aspect mentioned in this study is the financial aspect of NRPs. They noted that return on investment compares the cost of implementing and sustaining the program to the net benefits of the NRP. Several studies revealed a positive return on investment, that NRPs in acute care settings are successful in retaining new graduate nurses, which decreases	studies were not well defined, unsure of what was being measured.		

Article #	Author, Publication Source, & Date of Publication	Evidence Type and Purpose	Sample Type, Size, Setting	Study Findings	Limitations	Evidence Level	Quality Rating
				organizational costs. However, interestingly enough, the success in keeping new graduate nurses was only at the 1-year mark. Of note, although an NRP can be expensive, findings demonstrate savings in recruitment and replacement costs result in favorable investment returns.			

From: Dang, D., & Dearholt, S. L. (2018). *Johns Hopkins evidence-based practice: Model and guidelines* (3rd ed.). Indianapolis, IN: Sigma Theta Tau.

Appendix B

Synthesis and Recommendations Tool

Category (Level Type)	Total Number of Sources/Level	Overall Quality Rating	Synthesis of Findings Evidence That Answers the EBP Question
Level I ▪ Experimental study ▪ Randomized controlled trial (RCT) ▪ Systematic review of RCTs with or without meta-analysis ▪ Explanatory mixed method design that includes only a Level I quaNtitative study			
Level II ▪ Quasi-experimental studies ▪ Systematic review of a combination of RCTs and quasi-experimental studies, or quasi-experimental studies only, with or without meta-analysis ▪ Explanatory mixed method design that includes only a Level II quaNtitative study	5	A	Outcomes related to retention rates are consistent with findings in the literature, which reflect a high retention rate greater than 90% at one year. Similar to findings on the Casey-Fink Survey data presented in the study, outcomes suggest that an internally developed NRP may be equally effective as prepacked residency programs in supporting new graduates' retention. With the ten-year span of data collection, some limitations include variability in the questions asked over years, no predata was collected before the summer 2005 cohort, and changes in the nurse residency program curricula, so each cohort had a slightly different curriculum. Results from paper survey were manually entered into electronic data which creates possibility for human error, although multiple audits were performed by the first and second authors to reduce the likelihood of such error. There was sufficient sample size for this study, so findings are consistent and generalizable. Results of the

			evidence suggest that internally developed residency programs may be equally effective as prepackaged programs, in support the comfort, confidence, and retention of new graduate nurses. The nursing profession benefits as a whole from a highly educated and well-trained workforce. Implementing residency programs founded on guidelines from the NCSBN and CCNE with specific objectives and content, contributes to strong retention at one-year post hire and may also contribute to institutional retention of residency program participants further in their career.
Level III ▪ Nonexperimental study ▪ Systematic review of a combination of RCTs, quasi-experimental and nonexperimental studies, or nonexperimental studies only, with or without meta- analysis ▪ QuaLitative study or meta- synthesis ▪ Exploratory, convergent, or multiphasic mixed-methods studies ▪ Explanatory mixed method design that includes only a level III QuaNtitative study	3	B	The overall retention rates were 95% at one year and 85% at two years. For the extern group, retention rates were 92% at one year, and 77% at two years. Even with a small group size, the loss rate was higher in the extern group, where two externs left within the first six months of residency. Retention rates at two years is still considered high compared to the national average. Interestingly, for the non-extern group, retention rates were much higher than the extern group at 96% for the first year, and 91% for the two years. Of note, the 30-month overall retention rate dropped to 68%. Clinical significance was noted among the extern group. New graduate nurses who completed extern program scored higher at three time periods on three factors of CFGNES: support, leadership/communication, and job satisfaction. Better outcomes were found in Magnet hospitals. Residents in Magnet hospitals gained significantly more in overall confidence and competence and in the organize-prioritize and communication-leadership factors. The resident's evaluations of the program has been consistently positive.

Level IV ▪ Opinions of respected authorities and/or reports of nationally recognized expert committees or consensus panels based on scientific evidence			
Level V ▪ Evidence obtained from literature or integrative reviews, quality improvement, program evaluation, financial evaluation, or case reports ▪ Opinion of nationally recognized expert(s) based on experiential evidence	1	A	Academic-practice partnership, Emory Healthcare and Emory School of Nursing, will enhance outcomes, drive the actualization of academic nursing, and lead to a full partnership in health care transformation. The authors developed three important concepts, along with specific tactics, to drive future nurse residency programs. The first concept is that residency initiation should begin during the academic experience; extend to the practice setting; and conclude after full transition-to-practice. They believe this demonstrates commitment to nurses' success early on in their careers and prepares them for future roles. The second concept they developed is that creativity and innovation will drive an organic approach to residency design. Along with this, they believe that customized programs are more beneficial to meet specific learning needs, which requires academic and health care partners to work together. The third concept is that NRPs in the future will need to include resiliency training to mitigate role stress. Along with other NRPs, new graduate nurses in the Emory program report high levels of stress during their first year of nursing, so there is a clear need to address nurse role stress issues during education as well as during the residency program.