What's in a Name? Defining Nurse Residencies to Design Evidence-based Programs

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Abstract

Nurse residencies are transition programs that support new graduate nurses as they begin their careers in clinical practice. Disparities among transition programs have made it difficult to compare outcomes and identify specific elements that contribute to overall effectiveness. The purpose of this paper is to propose a common nomenclature of nurse residencies to promote standardization across programs and to provide guidelines to assist staff development educators to create and implement comprehensive, cost-effective, evidence-based programs.

Keywords: Nurse Residency, Transition Program, New Graduate Nurses, Evidence-Based Clinical Practice

Introduction

Graduate nurses embarking on their careers can experience a very stressful period as they make the transition from student to professional registered nurse (RN) (Duchscher, 2009; Kramer, 1974). One strategy used by hospitals to facilitate this transition is the implementation of nurse residency programs (NRPs) (Goode, Ponte, & Havens, 2016; Pittman, Herrera, Bass, & Thompson, 2013). These programs provide newly hired and licensed graduate nurses with various combinations of offerings including RN nurse preceptors, didactic classes, structured clinical activities, and opportunities for mentor and peer support, for a designated period in acute care settings (Trepanier, Early, Ulrich, & Cherry, 2012; Van Camp & Chappy, 2017). Nurse residents go through programs in cohort fashion (Crimlisk et al., 2017). The aim of NRPs for new graduate nurses is to promote a successful transition by providing them with the necessary tools to solidify their knowledge base, increase confidence, reduce role stress, increase job satisfaction, promote workplace socialization, develop leadership, and build specialized clinical skills and competencies pertinent to the hospital units into which they are hired to work (Edwards, Hawker, Carrier, & Rees, 2015; Friday, Hollerbach, Zoller, Jones, & Knofczynski, 2015; Rush, Adamack, Gordon, Lilly, & Janke, 2013). Other aims are to increase retention, decrease turnover rates, and enhance patient

safety and quality of care (Institute of Medicine, 2011; Missen, McKenna, & Beauchamp, 2014; Pittman et al., 2013; Van Camp & Chappy, 2017).

Many studies have attempted to measure the effectiveness of NRPs and other transitional support programs on achieving these goals (Al-Dossary, Kitsantas, & Maddox, 2013; Anderson, Hair, & Todero, 2012; Chappell & Richards, 2015; Cochran, 2017; Edwards et al., 2015; Hickerson, Taylor, & Terhaar, 2016; Letourneau & Fater, 2015; Missen et al., 2014; Rush et al., 2013; Van Camp & Chappy, 2017). Wide variability and lack of consistency in program labeling, designs and duration have made it difficult to compare outcomes across programs to determine the most efficient models (Anderson et al., 2012; Chappell & Richards, 2015; Edwards et al., 2015; Rush et al., 2013). Hospitals may use internally developed programs (facility-based) or contract with external NRP vendors (Barnett, Minnick, & Norman, 2014; Goode et al., 2016). Nurse residency programs have often been described as a type of nurse transition program (Barnett et al., 2014; Rush et al., 2013). The term "transition program" has been used to identify any kind of program offered by a hospital organization to support graduate nurse transition into the professional role (Anderson et al., 2012).

Transition programs have been described as "nurse orientation programs", "nurse internships", "nurse externships", "nurse mentorships", nurse preceptorships", "transition support programs", "new graduate programs", and as "nurse residency programs (NRPs)" (Anderson et al., 2012; Barnett et al., 2014; Edwards et al., 2015; Newhouse, Hoffman, Suflita, & Hairston, 2007; Rush et al., 2013). As a result, the term "nurse residency" evokes multiple meanings. To promote effective communication and enhance understanding, it is important to clarify what "nurse residency" means. Consensus on how transition programs are defined is necessary to construct and promote a standardized nurse residency model that facilitates evaluation for best practices. The purpose of this paper is to propose a common nomenclature for nurse residencies to promote standardization across programs and to provide guidelines to assist staff development educators to create and implement comprehensive, cost-effective, evidence-based programs.

Program Descriptions:

Nurse transition programs were first discussed in the literature in the 1980s (Altier & Krsek, 2006). In 1983, NRPs were defined by the National League of Nursing (NLN) as "formal contracts between the new graduate nurse and the employer that defined and described activities" (Al-Dossary et al., 2014, p.1025). Al-Dossary et al. (2014) then described NRPs as programs that provide the novice nurse with a supportive and protective environment to develop critical thinking and problem-solving skills. Letourneau & Fater

(2015) defined NRPs as "postgraduate training programs structured to expand professional competencies for nurses and provide opportunities to build skills in real clinical settings thereby facilitating transition into professional practice" (p. 96). Van Camp and Chappy (2017) recently defined NRPs as "structured post-licensure programs that are 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" (p.130).

Professional healthcare organizations have also provided their descriptions of NRPs. The Institute of Medicine (IOM) stated that NRPs are "planned, comprehensive periods of time in which nursing graduates can acquire the knowledge and skills to deliver safe, quality care that meets defined standards of practice" (IOM, 2011, p.120-121). The Joint Commission on Accreditation of Healthcare Organizations in its *Health Care at the Cross Roads: Strategies for Addressing the Evolving Nursing Crisis* report, described NRPs as structured post-graduate training programs that provide new nurses with the opportunity for skill-building in real clinical settings similar to residencies for physicians (Fitzpatrick, 2003). Two organizations that accredit NRPs are the Commission on Collegiate Nursing Education (CCNE) and the American Nurses Credentialing Center (ANCC). The CCNE (2015) defines NRPs as entry-to-practice programs that provide additional education and support to new nursing graduates. The ANCC (2016) defines them as "planned, comprehensive programs through which currently licensed RNs with less than twelve months of experience can acquire knowledge, skills, and professional behaviors necessary to deliver quality care that meets standards of practice defined by a professional society, association, or the applicant organization" (p.5). Although there is consensus on the objectives of NRPs, programs are as varied as the terms used to describe them.

Transitional programs including NRPs have been referred to by many names. Program
duration and content designs also lack consistency across hospital organizations (Anderson et al., 2012; Barnett et al., 2014; Chappell & Richards, 2015; Edwards et al., 2015; Missen et al., 2014; Rush et al., 2013; Smith, Rubinson, Echtencamp, Brostoff, & McCarthy, 2016; Van Camp & Chappy, 2017). They may consist of brief hospital orientations followed by brief clinical orientations, or they may provide well-rounded experiences that take place over six months or longer (Chappell & Richards, 2015). Hospitals usually have an orientation program, but not all have a NRP (Smith et al., 2016). Organizations may use the terms "residency program", "orientation", and other terms to describe the programs they are implementing, however, these programs often may differ in scope (Chappell & Richards, 2015). Barnett et al. (2015) in their description of U.S. post-graduation NRPs found

transitional programs identified as nurse internships (Eigsti, 2009; Newhouse et al., 2007), nurse mentorships (Halfer, Graf, & Sullivan, 2008; Hays & Scott, 2007; Santucci, 2004; Persaud, 2008; Sherrod, Roberts, & Little, 2008), and nurse preceptorships (Beecroft, McClure-Hernandez, & Reid, 2008; Olson et al., 2001; Sorenson & Yankech, 2008). They also examined NRPs (Anderson, Linden, Allen, & Gibbs, 2009; Beyea, von Reyn, & Slattery, 2007; Bratt, 2009; Krugman et al., 2008). Other NRPs that have been discussed in the literature include the UHC/AACN model (currently known as UHC/Vizient/AACN) and the Versant RN Residency model (Barnett et al., 2015; Goode et al., 2016; Van Camp & Chappy, 2017; Ulrich et al., 2010).

Length of NRPs have varied spanning anywhere from three months to one year (Pittman & Herrera, 2013). Barnett et al. (2015) conducted a study to measure program attributes to assess treatment fidelity across NRPs. A twenty-four item survey was sent to NRP directors and CNOs at 1,011 hospitals with 250 or more inpatient beds. There was a 20% response rate (203 surveys were returned) in which 48% of hospitals reported having an NRP. Twenty-two percent administered the AACN/UHC model, 54% offered a facility-based model, and 24% provided "other" models of NRPs. Almost one third of the ninety-two respondents reported lengths less than or equal to 12 weeks. The majority (40%) reported NRP lengths of 52 weeks; 27% reported lengths between 14 to 50 weeks, 16% reported lengths of less than or equal to 10 weeks, 13% offered 12-week NRPs. The lengths of twenty-two NRPs in the studies in the systematic review by Van Camp & Chappy (2017) ranged from three to eighteen months.

The integrative review by Rush et al. (2013) looked at transitional programs with a duration of three to greater than six months. An integrative review of seventeen orientation programs by Park and Jones (2010) that consisted of internships, residencies, and structured orientation programs found that programs ranged from six weeks to one year. It was reported in the ten-year longitudinal study of Versant NRPs that program participants completed an average of 716 hours in their NRPs (Ulrich et al., 2010). Goode et al. (2013) also examined ten year of data on nurse residents who completed AACN/UHC NRPs. Those NRPs were one year in length. One year NRPs are recommended by the CCNE (2015) and evidence suggests that better outcomes are associated with longer programs that last between six and twelve months (Goode et al., 2016). Cochran (2017) concluded that the most effective programs are 12 months and focus on mentor/preceptor support with structured didactic content.

Vast differences also exist in program components and quality. Hospital organizations may identify brief hospital and clinical orientations as NRPs (Chappell & Richards, 2015), or they may have facility-based NRPs that include one or more of the following components that are used by the

UHC/Vizient/AACN and Versant models: dedicated nurse preceptorships, specialty classes, mentorships, peer support sessions, and evidence-based practice projects, over the course of six months to one year (Chappell & Richards, 2015; Goode et al., 2013; Van Camp & Chappy, 2017; Ulrich et al., 2010).

Anderson et al. (2012) found in their systematic review of NRPs that there were two models; a standard model of a three to four month orientation, and a comprehensive model 12-24 months in length. Many programs included a reduced clinical workload, classroom content of four to eight hours each month, and preceptorships ranging from 12 weeks to 12 months. Some programs scheduled socialization sessions for sharing experiences within a cohort to promote socialization and organizational commitment. The integrative review by Rush et al. (2013) looked at programs that had a combination of classes, formal or informal preceptorships, mentorships, and unit-specific training. Missen et al. (2014) found in their systematic review that the curriculum topics of most NRPs covered orientation, research-based practice, patient safety, and professional and leadership development. Barnett et al. (2014) recommended that nursing organizations such as the American Organization of Nurse Executives (AONE) standardize their NRP components and develop a common operational definition of NRPs to avoid confusion for new graduates and those who employ graduates of NRPs.

Exploration of the definition of "residency" as it applies to other disciplines may enhance understanding of its implications in nursing. The word "residency" is defined by Merriam Webster (n.d) as "a usually official place of residence; a state or period of residency" and as "a territory in a protected state in which the powers of the protecting state are executed by a resident agent". It is also defined as "a period of advanced training in a medical specialty that normally follows graduation from medical school and licensing to practice medicine" and "a period as an artist in residence". Medicine, pharmacy, pastoral care, and the arts, have used residency programs to transition their residents successfully and guide career development (Van Camp & Chappy, 2017). The way residencies are defined in these disciplines may provide insight to how it can be defined in nursing.

Residencies of Other Disciplines:

Medicine. Graduate medical education (GME) occurs during the period of training that follows medical school and is called a "residency", or "fellowship". State licensure and board certification require that a physician participate in an accredited residency program for three to eleven years, depending on the specialty. Residents provide patient care but work under the supervision of attending physicians (Goodman & Robertson, 2013).

Pharmacy. According to the American College of Clinical Pharmacy (ACCP), the term "residency" is defined as a postgraduate training program that allows the resident to perform as a licensed practitioner but have supervised training by a skilled preceptor. The resident develops skills and competence in providing care to a variety of patients in a variety of settings (2017). The ACCP and the American Society of Health-System Pharmacists (ASHP) advocate that all pharmacists in direct patient care roles have residency training by 2020. Residents are to gain clinical skills and experience in teaching, research, and leadership. Training is divided into two postgraduate years, with the first year focused on more generalized training (ACCP, 2017).

Pastoral Care. The Association for Clinical Pastoral Education (ACPE) accredits residency programs that meet curriculum standards for clinical pastoral care education (CPE). Students who have received a chaplain or pastoral care certification in their respective religions are eligible to complete the program offered as Level I, Level II, and Supervisory CPE. Programs are divided into units that may extend to one year. Under the guidance of a CPE certified supervisor (faculty), residents focus on achieving competency in pastoral function in the areas of theology and behavioral sciences (ACPE, n.d.).

Arts. Artist residencies are also known as artists' communities, colonies, retreats, workspaces, and studio collectives, and are places that provide a dedicated amount of time and space for creative work. Residents may be provided room and board, and are given access to a community of artists who provide creative support. Sponsored by various host organizations, some residencies are offered as public programs; others are offered which provide solitude to the artist, and vary in time frames offered. Visual artists, writers, composers, choreographers, as well as other artists, and also scholars, may partake in art residencies, or in art and science residencies, and produce an artistic work (Alliance of Artist Communities, 2017).

Background:

It has been well-documented that graduate nurses initially experience the phenomenon of transition shock (Duchscher, 2009; Rush et al., 2013; Smith et al., 2016; Van Camp & Chappy, 2017). Transition shock refers to high levels of anxiety, fear, and frustration that new graduate nurses struggle with during their first year of clinical practice (Chappell, Richards, & Barnett, 2014). Some studies since the publication of Dr. Marlene Kramer's 1974 seminal work, "Reality Shock: Why Nurses Leave Nursing" have examined the factors that contribute to transition shock (Duchscher, 2009; Rush et al., 2013). Aspects of transition that have been explored have included new graduate nurse perceptions of the transition experience, support, competence, jobs satisfaction and retention, workplace environment, and infrastructure of

the organization (Anderson et al., 2012; Casey, Fink, Krugman, & Propst, 2004; Edwards et al., 2015; Rush et al.,2013).

Increasingly complex technologies and rising patient acuities demand that graduate nurses possess a higher degree of critical thinking and specialized clinical skills than ever before to deliver safe and competent care (Chappell et al., 2014). Many nurse executives have expressed that schools of nursing in the United States (US) provide a solid foundation to prepare future nurses however, higher acuities and the complexity of care hospitals must provide create intense challenges for graduate nurses (Goode, Lynn, Krsek, & Bednash, 2009). An education-to-practice gap has been identified in the literature and is often referred to as a "theory-practice gap" or "preparation-to-practice" gap between student preparation and clinical competency (Hickerson, et al., 2016). Due to the high level of complexity in typical hospital settings, it is impossible for even the best baccalaureate school of nursing to prepare nurses to possess the proficiency and expertise needed in today's health care environment (Goode et al., 2009; Hickerson et al., 2016).

Many studies have illustrated this preparation-to-practice gap. Researchers Benner, Sutphen, Leonard, and Day (2010) concluded that many graduate nurses are undereducated and lack the expertise, experience, and confidence to meet current practice demands, and called for the implementation of 1-year residency programs during a graduate nurse's first year of practice (Goode, et al., 2016). Del Bueno (2005) concluded from a study of critical thinking in new graduates within the US that these new nurses lacked critical thinking skills, with 65-76% not meeting entry-level clinical judgment expectations. A study published in 2008 by the Advisory Board, which surveyed the largest sample of combined administrators and educators reported that in their opinions, novice nurses were less than competent with respect to 36 competencies. Other studies have also shown similar discrepancies between nurse managers' expectations and novice nurses' abilities (Hickerson et al., 2016; Ulrich et al., 2010).

Graduate nurses reeling from transition shock lack proficiency in critical thought and clinical skills that places them at high risk of quitting their first job or completely leaving the profession within their first year of practice (Edwards et al., 2015). Between 35% and 65% of nurses change jobs within the first year of employment (Pittman et al., 2013). Other statistics show that one in three graduate nurses leaves their first job within two years (Kovner, Brewer, Fatehi, & Jun, 2014). Employment of RNs is expected to grow by 15% from 2016 to 2026 due to increased healthcare demands of an aging population that will require more nurses to educate and care for patients with various chronic illnesses (Bureau of Labor Statistics, 2017). Graduate nurse turnover adds to the mounting challenges created by the looming nursing shortage that is predicted to spread until 2030 (Juraschek, Zhang,

Ranganathan, & Lin, 2012). This shortage threatens the safety and quality of health care delivery. To remedy this situation, the literature suggests that graduate nurses need support to alleviate transitional stressors, close the preparation-to-practice gap, decrease turnover, and increase retention (Anderson et al., 2012; Edwards et al., 2015; Letourneau & Fater, 2015; Rush et al., 2013).

Search Methods:

To explore the current literature on NRPs, a search of the literature was conducted in the CINAHL, Medline, PubMed, Web of Science, and Cochrane Llibrary (Wiley) databases. Key terms used were *nurse residency program*, *RN Residency program*, *new graduate nurses*, *residency*, *transition*, and *nurse transition program*. The first priority was to find systematic and integrative reviews to see what researchers have already determined based on a thorough analysis and synthesis of the literature, and then individual studies were examined. Systematic reviews look at the highest level of evidence gathered through experimental designs, reveal gaps in the literature, and show the best clinical evidence for guiding evidence-based practice (Forward & Hobby, 2002). Integrative review includes non-experimental research designs such as observational studies and include relevant theory and guidelines (Whittemore & Knafl, 2005). These reviews provide an efficient way to summarize study findings and reach the conclusions that guide further research efforts and practice changes.

The CINAHL and MEDLINE combined search using *nurse residency programs* yielded 128 articles when restricted to academic journals. This restriction was placed to find actual research studies that had been published. The term *nurse residency program* yielded 155 articles. Eighty-six articles were found using the term *nurse transition program*, and 81 articles were found using *nurse transition programs*. The terms *RN residency* and *RN residencies* both generated only 9 articles. Using PubMed, with the restriction to reviews and a ten-year time frame, 18 articles were found using *nurse residency programs*. With the term *nurse transition programs*, 55 articles were generated. The Web of Science database yielded 162 articles with the term *nurse residency programs*, and 76 articles with the term *nurse transition programs* with searches restricted to "nursing" and "education of scientific disciplines". Few articles were located in the Cochrane Library (Wiley) database, with only 1 review article by Anderson et al. (2013) found with the search term *nurse residency programs*, and 0 relevant articles with the term *nurse transition programs.*

Inclusion and Exclusion Criteria

Hundreds of articles were found related to the search terms. To narrow the search, inclusion criteria that were applied included English language and studies of RN residency programs for new graduate nurses. For the CINAHL and MEDLINE combined search, the years of inclusion were set from 1978 to 2017. Twenty-one journal articles including three systematic reviews, four integrative reviews, and fourteen individual studies were retained for this report. Focus was placed on studies showing the impact of NRPs on retention, nurse job satisfaction, and quality of patient care. Articles about residencies or internship programs other than nursing were excluded.

Benefits of Nurse Residency Programs

Evidence suggests that NRPs provide many benefits to health care organizations, graduate nurses, and patients (Rush et al., 2013; Van Camp & Chappy, 2017). Although program variability has made it difficult to rigorously evaluate program quality (Chappell et al., 2014; Goode et al. 2016), many studies' findings suggest that there are positive outcomes attributed to NRPs when they are used as an educational intervention to enhance nursing satisfaction and performance (Al-Dossary et al., 2013; Anderson et al., 2012; Chappell & Richards, 2015; Cochran, 2017; Crimlisk et al., 2017; Edwards et al., 2015; Hickerson et al., 2016; Letourneau & Fater, 2015; Missen et al., 2014; Rush et al., 2013; Olson-Sitki et al., 2012; Van Chappy, 2017). It is important for administrators and educators to use the findings of these studies to serve as a basis for allocating the resources necessary within their organizations to meet program objectives.

Healthcare Organizations:

Nurse retention and turnover rates

Many studies have shown that the implementation of NRPs increased new nurse retention rates and decreased turnover rates (Anderson et al., 2012; Edwards et al., 2015; Goode et al., 2013; Goode et al., 2016; Kramer et al., 2012; Newhouse et al., 2007; Park & Jones, 2010; Pine & Tart, 2007; Rush et al., 2012; Spector et al., 2015; Kramer; Trepanier et al., 2012; Ulrich et al., 2010). Retention rates describe the percentage of nurses who stay employed at an organization and turnover rates refer to the number of nurses who leave an organization at the end of a twelve-month period (Missen et al., 2014). To justify program costs, retention, turnover, and return on investment (ROI) are the most widely used outcome measures (Goode et al., 2016). Anderson et al. (2012) reported that replacement costs might be 75% to 125% of a nurse's salary. In a study by Pine and Tart (2007) of one UHC/AACN NRP, $2,024 was the cost to hire one new nurse and turnover costs ranged from $82,032 to

$88,006 to replace one nurse. These costs are important to consider when evaluating the value of an NRP on an organization's bottom line.

Regarding retention, a study of participants in UHC/AACN NRPs showed an increase in retention of 88% to 94.6% and lower rates of new nurse turnover that provided a significant savings over a ten-year period (Goode et al., 2016). Fifteen studies in the review by Park and Jones (2010) showed improved retention. Thirteen studies in the review by Rush et al., (2012) had retention rates of 90.1% and articles related to turnover had a rate of 10.5%. In the Versant study, which included ten years of data, pre-Versant twelve-month turnover was 27% and twenty-four month turnover was 49%. In one study examining a Versant administered NRP, twelve-month turnover was calculated at 7.1% and twenty-four month turnover was 19.6% (Goode et al., 2016; Ulrich et al., 2010).

The results from a longitudinal, randomized multi-site design in which three groups were compared (sites with the NCSBN's TTP program, sites with their own established programs, and sites with programs that provided very limited transitional support) showed that the turnover in the limited sites was twice as high as the turnover of the other two groups (Spector et al., 2015). These studies suggest that there are long-term financial advantages and increased return-on-investment when the effort is made to provide maximum transitional support to graduate nurses.

Graduate Nurses:

Job satisfaction, confidence, and competence

In the studies reviewed, benefits for new graduate nurses included increased levels of job satisfaction, confidence, and competence (Anderson et al., 2012; Edwards et al., 2015; Goode et al., 2013; Kowalski & Cross, 2010; Letourneau & Fater, 2015; Missen et al., 2014; Olson-Sitki, Wendler, & Forbes, 2012; Rush et al., 2012; Ulrich et al., 2010). Authors of descriptive longitudinal studies spanning ten years of the UHC/AACN NRP (Goode et al., 2013) and the Versant NRP (Ulrich et al., 2010), reported increases in nurse satisfaction (Van Camp & Chappy, 2017). The Casey-Fink Graduate Nurse Experience Scale, the McCloskey Mueller Satisfaction Scale (MMSS), Gerber's Control Over Nursing Practice Scale (CONP) and the Graduate Nurse Residency Program Evaluation (GNRPE) tools were used to measure satisfaction among 31,000 post baccalaureate nurses from 86 organizations who completed the UHC/AACN NRP (Goode et al., 2013). There were significant increases in residents' self-assessment of overall confidence and competence, ability to organize and prioritize work, and skills to communicate and provide clinical leadership throughout ten years (Goode et al., 2013). In the Versant NRP study (Ulrich et al., 2010) that had a sample of over 6,000 new graduates, the Organizational Job Satisfaction, Organization

Commitment (turnover intent), and Nurse Satisfaction scales were used. Higher satisfaction levels were correlated with lower intent to leave (Ulrich et al., 2010).

The integrative review of 47 articles done by Rush et al. (2012) found that new graduate satisfaction from six to nine months was associated with the highest stress levels, supporting the recommendation to extend elements of an NRP beyond six months. Out of thirty studies examined by Edwards et al. (2015) in their systematic review, five studies showed increased satisfaction scores on the McCloskey Mueller RN Job Satisfaction Survey (MMSS) tool among their graduate nurses. Interestingly, scores dropped at the six-month mark, and then increased by twelve months, supporting the recommendation to extend NRPs to one year (CCNE, 2015). The integrative review of the literature by Letourneau and Fater (2015) that included 25 articles, found in five of the studies that nurse residents reported increased confidence in their skills and abilities over time. The Casey-Fink survey was the most predominately used instrument for the assessment of nurse satisfaction in ten of these studies.

Quality of Patient Care:

Some of the reviewed studies included information about the possible impact of NRPs on patient outcomes. Kramer et al. (2012) reported that integration-phase NRPs that are well structured and based in theory may lead to improvements in practice which positively affects patient outcomes. In the Spector et al. (2015) study, patient errors and negative safety practices were highest in the sites that had limited transitional support. Anderson et al. (2012) found in their evidence-based review of NRP theory, processes, and outcomes, that retention and turnover rates were the most commonly used measures of NRP impact on healthcare organizations. Newhouse et al. (2007) determined that turnover increases health care costs and reduces the quality of patient care. Poor patient care and outcomes are more likely to be reported with high nursing and staff turnover (Shin, S., Park, J., Bae, S. (2018). In the literature review by Hickerson et al. (2016), findings indicated an increase in errors and poor patient outcomes when care was delivered by nurses inadequately prepared to deliver care. This determination was based on a study by Smith and Crawford (2003) in which 75% of medication errors and 40% of patient falls were associated with novice nurses. No research so far has examined a direct association between NRP participation and patient outcomes that are considered nursing-sensitive, like pressure ulcers, fall, and IV infiltrations (Letourneau & Fater, 2015). Recommendations for further research include examining patient care quality indicators and exploring their relationships to NRP outcomes (Barnett et al., 2014; Chappell & Richards, 2015; Goode et al., 2016; Letourneau & Fater, 2015; Smith et al., 2016).

Challenges to NRP Implementation:

Study findings to date show that there are positive outcomes associated with NRPs and new graduate nurses benefit from the support provided by them (Van Camp & Chappy, 2017). As discussed, NRPs promote cost savings to health care organizations by reducing turnover and increasing retention, improve the transition experience and promote the professional development of graduate nurses, and some studies suggest they positively impact patient care. The evidence of these benefits is so substantial that the IOM, the Joint Commission (TJC), the NCSBN, the American Association of Nurse Executives (AANE), the Robert Wood Johnson Foundation (RWJF), and many other professional nursing organizations have called for all hospitals to use nurse transition programs (Edwards et al., 2015). Despite these recommendations, not all acute care organizations offer NRPs and programs offered lack standardization (Goode et al., 2016).

Hospitals that lack formal programs may cite lack of resources and budgetary constraints as barriers to implementing a NRP (Trepanier, et al., 2012). For example, Goode et al., (2013) expressed that the enormous investment of time, energy, and resources that went into the AACN/UHC NRP collaborative model was viewed by some as unnecessary and some employers and for-profit companies began to provide modified NRP versions that included exclusive online formats, shortened programs of 3-to-6 months, or extended basic hospital orientations. As hospitals fund their own residencies or other transitional programs (Goode et al., 2009), they may seek outside funding sources, such as grants. Program administration is expensive (Garrison, Dearmon, & Graves, 2017; Goode et al., 2009). Costs vary based on length of the program and include resource costs that cover purchase of curriculum, competency management, and preceptor training materials, evaluation systems to track program outcomes, and recruitment tools. Salaries must be paid to the NRP coordinator and compensation must be provided to class instructors (Hansen, 2015). Initially, graduate nurses receive a nursing salary in what has been termed “non-productive” time, which is the cost of hourly wages and benefits for the nurse resident during the residency (Trepanier, et al., 2012). Hospital administrators use this term to describe the situation in which two nurses (graduate nurse and preceptor) are counted as “one” nurse for staffing purposes since they share a patient assignment and reflects the value of the program and its outcomes (Goode et al., 2009; Trepanier et al., 2012). The duration of time a resident works with a preceptor and engages in other program activities adds to the cost of time spent not at the bedside. These are factors that must be considered when creating a residency budget.

Employers invest substantial money and time in providing graduate nurses a residency (Goode et al., 2009). One study of a Versant NRP showed

a hospital's investment range of $21,571 to $36,960 per resident for an 18-22 week residency period respectively (Trepanier et al., 2012). If a graduate nurse quits within the first year, the organization incurs a loss on investment. To minimize this risk, many hospitals require a graduate nurse to sign a contract agreeing to work at the organization for a specified period of time, typically a minimum of one to two years (Ulrich et al., 2010; Van Camp & Chappy, 2017). When analyzing return on investment, a hospital must consider the costs of maintaining the program in relation to cost-savings as a result of nurse retention (Hansen, 2014).

At this time, nurse residencies are not eligible for pass-through dollars from the Centers of Medicare and Medicaid Services (CMS) that fund programs for medical, pharmacy, and pastoral care residents (Goode et al., 2009). To qualify for these funds, the hospital must control the administration of the residency to include curriculum management and instruction, clinical training, must employ the teaching staff, and the residency must be accredited by an accrediting body. As nurse residencies are not a requirement for graduate nurse employment, CMS considers them to be continuing education, and as such, they are not eligible for reimbursement (CMS, 2010; Goode et al., 2009).

The recent economic downturn and changes brought about by the Affordable Care Act (ACA) have affected reimbursement rates by the CMS and have challenged hospital administrators to tighten budgets and prioritize the allocation of resources (Hansen, 2014; Trepanier et al., 2012). As a result, NRPs may be vulnerable to being modified by decreasing the orientation or on-boarding period (Trepanier et al., 2012). Modifications may impact program quality and is a concern as NRPs have been established as a best practice (Anderson et al., 2012; CCNE, 2015; IOM, 2011; Rush et al., 2012).

Recommendations to Support a Cost Efficient Evidence-based NRP:

The value of NRPs is clear and advocated for by professional healthcare organizations. Nurse educators and staff development professional are tasked with finding ways to administer NRPs that have solid base that also makes prudent use of resources. The literature is replete with both quantitative and qualitative studies throughout the last three decades to support NRP implementation (Al-Dossary et al., 2013; Anderson, et al., 2012; Bratt, 2013; Chappell & Richards, 2015; Cochran, 2017; Edwards et al., 2015; Hickerson, et al., 2016; Letourneau & Fater, 2015; Missen et al., 2014; Rush et al., 2013; Van Camp & Chappy, 2017). The wide variability in designs makes it difficult to compare outcomes across programs (Chappell et al., 2014) and necessitates a move toward standardization of program lengths and content.

Standardization would allow for more rigorous studies to identify evolving best practices, promote use of current evidence-based practices, and a basis upon which nursing programs could accountably demonstrate that they

met their identified mission and goals (Anderson et al., 2012; Edwards et al., Goode et al., 2016; 2012; Rush et al., 2015). One way to increase standardization of programs is to promote accreditation. The process of accreditation promotes standardization by requiring programs to meet certain criteria based on the current science (CCNE, 2015). While building a program that may be eligible for accreditation, hospital educators and administrators must use accreditation standards to guide the process. They should ensure consistency in the designs, outcomes, curricula, and length of NRPs (Van Camp & Chappy, 2017). Critical evaluation of outcomes is imperative to show return-on-investment. Program designers must identify metrics to be used to evaluate program effectiveness (see Table 2 for NRP metrics).

Academic Partnerships:

Collaborative academic partnerships that support transition programs such as NRPs are recommended by the IOM (2011) and the CCNE (2015) and may help alleviate costs. These partnerships involve the sharing of resources and knowledge to meet mutual goals (Beal et al., 2012). Partnerships can be facilitated through contractual agreements, clinical affiliations, task forces, joint appointments, and researcher initiatives. Decisions about activity management and funding of instructor salaries and other program offerings are decided during partnership meetings by both hospital and academic partners (Trepanier, Mainous, Africa, & Shiner, 2017). Such collaborations can allow for streamlining of resources. For example, faculty may teach specialty classes in the residency (Beal et al., 2012). Involvement of faculty in the hospital setting also provides familiarity with current clinical challenges and practices that they can present to nursing students in the academic setting.

An "early" residency program in which nursing students are hired by hospitals to spend their last semester of nursing school as nurse technicians assigned to designated preceptors is also a type of residency program that may yield cost-savings (Harrison, Steward, Ball, & Bratt, 2007; Stout, Short, Aldrich, Cintron, & Provencio-Vasquez, 2015). One study published in 2007 described the Clinical Focus Program partnership between the University of Wisconsin-Oshkosh College of Nursing and two tertiary care institutions (Harrison et al., 2007). Nursing students completed 360 hours of precepted clinicals during a nine-month period before graduation and were financially compensated as nurse technicians, and then completed six weeks of a residency after graduation. A cost savings of $21,500 for ten students was reported in this study (Harrison et al., 2007).

Another study on a partnership between a university and a medical center in El Paso, Texas, called a modified nurse residency and internship program, was published in 2015 that reported a cost savings of $599,040 with a total FTE (full time equivalent) savings of 23.4 FTEs per week over a ten-

week period for twenty-six interns/residents (Stout et al., 2015). Outcome goals for this program included increasing the proportion of BSN prepared nurses, decreasing orientation FTEs, salaries, benefits, and recruitment costs, and producing competent nurses (Stout et al., 2015). This partnership consisted of nursing students participating in the program as nurse interns during their last semester of nursing school who completed 260 hours of internship time in addition to completing 315 clinical hours that were required by the school. They were paid a stipend, and then after graduating and earning RN licensure, completed 61.5 hours of RN residency time before taking their own assignments without a preceptor. The typical orientation time for a new nurse was 12-16 weeks, and through the internship, there was a reduced orientation time to 61.5 hours that resulted in a savings of $257,400 (Stout et al., 2015).

The interns completed a modified Casey-Fink Graduate Nurse Experience survey, and results indicated an overall high satisfaction score of nurse interns. Interestingly, interns were asked "What could be done to help you feel more supported or integrated into the unit?" and the highest responses were related to improved orientation (53.8%) which included preceptor support, consistency, orientation extension, and unit-specific skills practice. No information was provided on specific program components and retention data beyond ten weeks were not included in this study. When considering implementation of a partnership that on-boards nursing students with the intention of transferring into a NRP, it is important to consider not only cost-savings in terms of reduced orientation time, but to consider program quality factors that impact long-term job satisfaction and retention beyond one year.

Standardization and Accreditation of Evidence-based Nurse Residencies:

There is a need to standardize programs to determine best practices regarding program designs and enhance rigorous evaluation of outcomes (Anderson et al., 2012; Goode et al., 2016). Determination of the most efficacious practices is difficult due to inconsistency in curricula and varying qualifications of preceptors and educators (Anderson et al., 2012). To address this situation, some professional nursing organizations have developed evidence-based models and have called for all NRPs to be accredited (Goode, et al., 2016). Guided by the recommendations set forth by the IOM's report, *The Future of Nursing: Leading Change, Advancing Health*, which called for widespread implementation of nurse residency programs, the National Council of State Boards of Nursing (NCSBN) created a program to transition new graduates to the workforce called the *Transition to Practice Model* (TTP) in 2002. The AACN also partnered with University Health System Consortium (UHC), now known as the UHC/Vizient/AACN model, to create a 1-year post-baccalaureate NRP (CCNE, 2015). Versant Holdings, LLC is a

corporate entity that offers the Versant RN Residency Program and was developed in 2004 by nurses at the Children's Hospital of Los Angeles (Ulrich et al., 2010). Both Vizient and Versant participants engage in continuous data collection and these programs are modified based on outcomes measurements. These two corporate programs contract their services to hospital organizations and both program structures are designed to meet accreditation standards (CCNE, 2015; Goode et al., 2016; Ulrich et al., 2010; Van Camp & Chappy, 2017).

All NRPs are eligible for accreditation, a process that ensures standardization of programs to reflect best practices. Hospital organizations may elect to apply for accreditation through the CCNE (2015), or through the American Nurses Credentialing Center (ANCC) (2018). Very few NRPs have been accredited. As of January 1, 2018, there were a total of sixteen nurse residency programs accredited by the CCNE (AACN, 2018), and a total of twenty nurse residencies accredited through the ANCC's Practice Transition Accreditation Program (PTAP) (2018). The ANCC also accredits advanced practice nurse residency programs and fellowships (ANCC, 2018). Goode et al., (2016) urged that "all NRPs be accredited by national regulatory agencies to ensure consistency in program components, standards, processes, and outcomes achievement" (p.85) (see Table 1 for a list of standards set forth by the accrediting bodies of CCNE and ANCC).

Support of a Common Nomenclature for Residency Programs:

A solid first step to increasing standardization of NRP designs is to come to a consensus on how to label and classify the various programs. Although several terms describing graduate nurse transition programs have been used interchangeably, the evidence suggests that these programs are not interchangeable. Varying lengths and content offerings differ across programs and hinder the effort to find the most efficacious designs through rigorous research. There is a need to have a standardized definition of what a residency program actually is (Al-Dossary et al., 2014; Barnett et al., 2014). This paper proposes that the term "orientation program" apply to the basic employee orientation provided by hospitals to all new employees. Programs created to facilitate new graduate nurse transition such as NRPs encompass many activities that support their integration into professional roles and practice that extend beyond a basic orientation (CCNE, 2015).

Furthermore, health care organizations should use the definitions developed by the ANCC and CCNE to guide classification of their NRPs and ensure their programs meet the comprehensive criteria set forth by these accrediting bodies that distinguish NRPs from other programs. The term "nurse residency" is defined by the ANCC (2016) as "a planned, comprehensive program through which currently licensed registered nurses

with less than 12 months of experience can acquire the knowledge, skills, and professional behaviors necessary to deliver quality care that meets standards of practice defined by a professional society or association or the applicant organization. The program must be at least 6 months in length, encompassing organizational orientation, practice-based experience, and supplemental activities to promote nursing professional development. All registered nurses (or international equivalent) who have graduated from an accredited school of nursing are eligible (associate degree, diploma, bachelor's degree, or master's degree)" (p. 5). The CCNE (2015) states that nurse residencies must offer learning session content, clinical, and other learning experiences that serve newly licensed RNs and are structured to recognize different educational and experiential preparations and competencies they enter the program with, and promote professional role transition and integration. Classification of programs strictly directed to newly licensed RNs that are comprehensively designed and structured based on the recommendations of the ANCC and CCNE as "nurse residencies" will decrease confusion associated with ambiguous use of this term.

Considerations for Creating a Facility-based NRP:

There are different options hospitals have for providing an NRP. They may develop their own facility-based NRP or contract with vendors to use existing NRPs such as UHC/AACN/Vizient or Versant. Both pre-set programs provide comprehensive evidence-based nurse residencies that include trained preceptorships, mentorships, competency and skill-building, peer support, self-care, evidence-based project activities, and software programs for tracking program outcomes. Patricia Benner's Novice to Expert Theory serves as a theoretical basis for both of these programs (AACN, 2017; Anderson et al., 2012; Goode et al., 2016; Ulrich et al., 2010). Participation in these programs requires substantial financial commitment from the hospital to provide resources and cover contract costs.

Hospitals who choose to develop facility-based programs must weigh the cost-benefit ratio for designing their own programs with the cost-benefit of using commercial vendors (Van Camp & Chappy, 2017). It is important to note that if a hospital is applying for Magnet status, it must demonstrate that a 12-month residency for new graduates is provided (Hickerson et al., 2016). Prior to initiating an NRP, it is critical to ensure that the anticipated program design meets the criteria outlined in the definitions provided by the ANCC and the CCNE for the term "nurse residency". It is imperative to review accreditation standards so that accreditation can be sought when the organization is financially ready. Accreditation promotes standardization and ensures quality through adherence to evidence-based practices (ANCC, 2016; Bratt, 2013; CCNE, 2015; Goode et al., 2016).

It is important to ensure a system is in place to support outcomes measurements with appropriate metrics such use of validated survey tools. A plan for tracking turnover and retention is necessary to present a strong case for program sustainability to administrators (Hanson, 2014; Trepanier et al., 2012). Alternative funding such as grants may be available from philanthropic organizations. Accredited programs that are made mandatory by an employer may be eligible for CMS dollars (Goode et al., 2009). In addition, academic partnerships should be sought to share resources and enrich program quality (Bratt, 2013; CCNE, 2015). Table 3 summarizes the recommendations for nurse and staff development educators who are considering building their own facility-based program.

Recommendations for Further Research:

The evidence supporting NRPs is growing however, more rigorous comparative quantitative studies will help evaluate outcomes from different types of programs. Specifically, studies should include identifying the most effective program durations and curriculum content (Al-Dossary et al., 2014; Chappell & Richards, 2015; Edwards et al., 2015) as well as impact of NRPs on the quality of care, such as nurse sensitive indicators (e.g., medication error rates) (Chappell & Richards, 2015; Goode et al., 2016; Letourneau & Fater, 2015; Missen et al., 2014). Longitudinal studies focused on return-on-investment of NRPs are also needed (Rush et al., 2013). Additional research is needed to determine which program attributes or models have the most impact on human resource management, costs, and patient outcomes (Barnett et al., 2014; Rush et al., 2013). Adaptation of a common nomenclature and application of accreditation standards will enable researchers to identify the most effective program elements and enhance the rigor of future investigations.

Conclusion

Research shows that the implementation of successful NRPs has the potential to significantly improve health care delivery and build a strong nursing workforce. Nurse and staff development educators are well positioned to take an active role in facilitating evidentially sound, cost-effective NRPs by becoming familiar with accreditation criteria, tracking outcomes, demonstrating return-on-investment, and engaging in academic partnerships. Use of an official nomenclature to identify transition programs and distinguish NRPs will decrease confusion caused by various program labels, promote standardization across programs, and support the robust studies needed to advance evidence-based practice. By providing graduate nurses with comprehensive NRP designs, the stage will be set to further develop excellent nurse leaders who are prepared to deliver the highest levels of care to meet the

soaring challenges and complexities of an ever-evolving health care environment.

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