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Effectiveness of a Nurse Residency Program in Preparing New Graduate Registered Nurses for Interprofessional Teamwork in Inpatient Care

DNP Final Project

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Nursing Practice in the Graduate School of The Ohio State University

By
Julie Hopkins, MSN, RN, CNE, APHN-BC
Graduate Program in Nursing

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DNP Final Project Committee:
Mary Margaret Gottesman, PhD, RN, CPNP-PC, FAAN Advisor
Barbara Warren, PhD, RN, FAAN
Elizabeth Barker, PhD, RN, FNP-BC, FACHE, FAANP, FAAN

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Abstract

Purpose: The purpose of this project was to determine if a residency program for new graduate nurses was effective in improving nurse manager and experienced staff nurse satisfaction on 36 measures of nurse performance competence. Of particular interest was a subset of item ratings representing Interprofessional Collaboration.

Project Design: This was a cross-sectional survey design. It compared University Hospitals nurse managers' and staff nurses' ratings on the Nursing Practice Readiness Tool to national benchmark data obtained from a study done in 2007 prior to the implementation of residencies.

Setting: University Hospitals of Cleveland is a non-profit, multi-specialty, academic medical center integrating clinical care with research and education.

Sample: There were approximately 800 to 1000 potential participants, which included nursing leaders and staff nurses from all inpatient units at University Hospitals of Cleveland. For this study, a new graduate was defined as a registered nurse with one year or less of experience.

Measures: The Nurse Executive Center's Nursing Practice Readiness Tool was administered to eligible participants volunteering for the study. Demographic data as well as satisfaction ratings on 36 competencies deemed necessary for practice were obtained.

Data Analysis: Demographic data were reported as a range, median, mode, and percentage. Respondents were grouped by years of experience and mangers versus staff nurses. Satisfaction scores in each competency were calculated using percentages and compared to nationwide benchmark data obtained from a large study conducted in 2007 using the same tool.

Findings: Managers, experienced nurses, and new graduate nurses varied in their satisfaction ratings on performance competencies by new graduate nurses. The results showed interprofessional communication is a competency in need of improvement.

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Chapter 1: The Problem, Purpose, Objectives, and Significance

The Problem

The United States' nursing shortage has not eased in recent years and is predicted to worsen, causing hospitals to scramble to meet the needs of patient care (Reinsvold, 2008). As a result, more new graduates are being hired onto high-acuity inpatient nursing units faster than ever before, yet many lack the required experience and skills to function independently in complex patient care situations (Reinsvold, 2008). New graduates often feel overwhelmed, unsupported, and thrust into an unpredictably difficult clinical setting. Consequently, new graduate turnover is currently between 35% and 60% within the first 12 months of employment, and 57% at two years of hire (Reinsvold, 2008). According to Pilcher (2011), when a nurse leaves a position within the first year of employment, it is a financial loss for the institution by approximately the full amount of the nurse's annual salary.

A typical hospital's nursing staff is comprised of a significant number of new graduate nurses, on average more than 10% of the staff (Berkow, Virkstis, Stewart, & Conway, 2009). This number is certain to grow as many nurses near the retirement age and educational programs produce more new graduates to meet the demand of these inevitable vacancies. Given these statistics, it is imperative for academic and hospital leaders to work together to prepare new nurses well for entering the profession (Berkow et al., 2009). While nearly 90% of academic leaders believe their new graduates are fully prepared for practice, only 10% of hospital leaders share this perspective (Berkow, Virskstis, Stewart, & Conway, 2008). Many initiatives have been implemented to alleviate the transition from student to practicing nurse, including residency

programs and enhanced nursing orientations. For these initiatives to be effective however, an understanding of new graduates' particular deficits is necessary to narrow the gap between preparation and practice.

There is a high level of concern for new graduates' difficulties with transitioning to practice not only related to clinical skills, but also non-clinical skills. Clinical skills include tasks pertinent to the role of the registered nurse. For example, utilizing computers and electronic medical records, conducting patient assessments, administering medications, performing clinical procedures, and monitoring patient condition were all identified by nurse leaders as requisite clinical skills for new graduate nurses. Non-clinical skills include competencies relating to critical thinking abilities, professionalism, management of responsibilities, and communication. For example, the ability to prioritize tasks, recognize a change in patient status, work as part of a team, and communicate with physicians qualify are all non-clinical skills.

Nurse leaders rank new graduates lowest in their ability to work as part of a team, communicate with the interprofessional team, communicate with physicians, interpret physician orders, prioritize care, and delegate appropriately (Berkow et al., 2009). These deficiencies indicate a real potential for compromise in the quality of care provided to patients. Given these results, there is substantial untapped opportunity to provide continued education, guidance, and development for the new graduate nurse to ease transition into safe, competent practice.

Purpose

The purpose of this project was to determine if the use of a nurse residency program for the orientation of new graduate nurses was effective in improving nurse manager and experienced staff nurse satisfaction on 36 measures of nurse performance competence. It

compared data from the current project with the same data gathered from a national sample of nurse managers and experienced staff nurses in 2007 prior to the launch of many nurse residency programs nationwide. A special focus of the current study was on a subset of item ratings selected as representing Interprofessional Collaboration.

Specific Project Questions

The specific questions the project sought to answer were:

1. How do satisfaction ratings on performance competencies for new graduate nurses oriented in University Hospitals of Cleveland's residency program compare to satisfaction ratings on performance competencies for new graduate nurses in the national comparison sample?
2. For the group of items selected as representing Interprofessional Collaboration, do new graduate nurses oriented in University Hospitals of Cleveland's residency program perform better than new graduate nurses in the national comparison sample?
3. Do new graduate nurses rate their performance satisfaction on Interprofessional Collaborative competencies similarly to or differently from experienced nurses?
4. In what ways are satisfaction ratings by nurses in management positions similar to or different from ratings of experienced staff nurses for new graduate nurse performance competencies?

Significance of the Project to Nursing and Healthcare

University Hospital's vision is to be a premier integrated health system by providing access to the highest quality healthcare at a competitive price (University Hospitals of Cleveland, 2013). One of University Hospital's core values is teamwork. They strive to work collaboratively as an integrated team to improve patient care and performance. Since a large

number of new graduate nurses are hired consistently at University Hospital, integrating interprofessional teamwork and collaboration into an orientation program would be a critical strategy to support the hospital's vision and core values.

In 2007, University Hospital joined with the University Health Systems Consortium/American Association of Colleges of Nursing (UHC/AACN) to implement a nurse residency program designed to support new graduates during the first year in professional nursing practice. The program's purpose was to take the new graduate nurse from novice learner to competent provider while improving their skill sets in the areas of organizing and prioritizing work, communicating effectively with physicians and interdisciplinary team members, critical thinking and decision-making, and linking patient safety and evidence-based practices to the outcomes of care.

The nurse residency program was designed to align with University Hospital's strategic plan in several ways. The institution is among the largest in northeast Ohio and acknowledges the increasing shortage of highly qualified, skilled registered nurses as a top priority. Historically, recruitment initiatives for new graduate nurses were supplemented with perks and financial incentives such as shift bonuses and clinical ladder programs. This had proven to be an ineffective long-term solution to the recruitment and retention problem. Nursing leaders believed a better approach in training and retaining new graduate nurses was to ease the difficulty they experience in moving from the educational to the clinical employment setting. Furthermore, new graduates benefit from receiving support, training, and professional guidance to excel (Tørstad & Bjørk 2007). Nursing leaders can improve the role transition process for new graduate nurses by empowering and supporting them in their efforts to provide confident and competent care to their patients.

University Hospitals of Cleveland is accredited by Joint Commission and is a Magnet status hospital. Achieving Magnet status demonstrates how the hospital recognizes and values the contributions of its nursing staff. This is not only an important element in recruiting and retaining nurses, but is a factor in improving outcomes and attracting new patients. By measuring criteria such as quality of nurse leadership, nursing satisfaction, improvements in quality of care, autonomy, and interdisciplinary relationships, a quality nursing orientation encompasses many of the leadership and empowerment principles of the Magnet program within the scope of its curriculum and program structure (Reinsvold, 2008).

The incorporation of a nurse residency program reflected a commitment by the hospital to promote professional excellence and job satisfaction, core features of University Hospital's vision. In 2013, the hospital's nursing education leaders decided to update the residency program in an effort to better meet the learning needs of new graduate nurses. Enhancing the components of the nurse residency program as a means of strengthening the new graduates' skills in interprofessional communication and collaboration serves as a model for other healthcare systems. It also can foster commitment to the profession, improve retention rates and job satisfaction, reduce costs, and inevitably improve patient satisfaction and outcomes.

This project aligned with the goals of the Quality and Safety in Education (QSEN) project, funded by the Robert Wood Johnson Foundation. Using the Institute of Medicine's (IOM) competencies, QSEN faculty described quality and safety competencies for nursing and recommended targets for the knowledge, skills, and attitudes for pre-licensure students to obtain regarding each competency (Cronenwett et al., 2007). These competencies have served as a resource to guide curricular development for residency programs for new graduate nurses.

In the ever-changing world of healthcare, it has become more and more challenging to prepare nurses to practice with the knowledge, skills, and attitudes needed to improve the quality and safety of patient care (Cronenwett et al., 2007). Teamwork and interprofessional collaboration were identified as QSEN competencies nurses must possess to deliver safe and effective care. Nurses must function effectively as members of the interprofessional team, cultivating open communication and shared decision-making (AACN, 2012). Nursing leaders have rated new graduate nurses as being below average in this competency (Berkow et al., 2009). In an effort to improve new graduates' ability to function as part of an interprofessional team, all nursing orientation curricula for new graduate nurses must be designed to include exercises aimed at strengthening these skills. University Hospital's curriculum does not currently have any interprofessional team exercises in place.

Examples of knowledge required in this domain include the ability to describe scopes of practice and roles of healthcare team members, discuss useful methods for communicating and resolving conflict, and describe examples of the effect of team performance on safety and quality of patient care (Cronenwett et al., 2007). The novice nurse must recognize the contributions of other team members in assisting patients and families in achieving their healthcare goals.

New graduates must also develop skills related to the competency of interprofessional collaboration. For example, they must demonstrate understanding of their own strengths and weaknesses as a team member. They should be able to ask for help when a precarious situation presents itself. Developing their ability to communicate patient needs to members of the interdisciplinary team is also an essential skill.

Finally, valuing the viewpoints and expertise of other interdisciplinary team members and respecting the significance of the patient and family as fundamental members of the healthcare

team are critical (Cronenwett et al., 2007). When transitioning care, new graduates must also understand the risks related to poor patient handoffs among providers and become able to assist with conflict resolution. Strengthening the new graduate's ability to function effectively as a member of the interprofessional team will inevitably improve patient satisfaction and outcomes. It may also improve new nurse satisfaction and retention.

This study relates to Essentials II and VI of the American Association of Colleges of Nursing's (AACN) Essentials of Doctoral Education for Advanced Nursing Practice. Essential II, Organizational and Systems Leadership for Quality Improvement and Systems Thinking is significant for improving patient outcomes. A strategy must be in place for strengthening the new graduate nurses' ability to provide quality care in the hospital setting. Enhancing new graduate nurses' interprofessional skills would be a key initiative for healthcare organizations interested in improving communication among healthcare team members and decreasing the risk of errors. Nursing leaders must evaluate the care delivery system and make improvements to ensure accountability for high-quality care and patient safety (AACN, 2006). Thus, strengthening a nurse residency program by including interprofessional collaboration as a critical element could improve patient outcomes.

Improving new graduate nurses' ability to work as a member of the interprofessional care team also addresses AACN's Essential VI, Interprofessional Collaboration for Improving Patient and Population Health Outcomes. To meet the standards of the Institute of Medicine's (IOM) mandate for safe, timely, efficient, and patient-centered care, members of various healthcare professions must work as an effective, collaborative team (IOM, 2003). Nurses must use effective communication skills in leading the interprofessional team. Nurses also should include

patients and family members in the care planning process. This will improve compliance, which will ultimately improve patient and population health.

This study also relates to each aspect of the Institute for Healthcare Improvement's (IHI) Triple Aim Initiative. This framework calls for improving the patient care experience, improving the health of populations, and reducing the per capita cost of healthcare (Stiefel & Nolan, 2012). By strengthening the nurse residency program and easing the transition to practice, new graduate nurse turnover can be reduced, leading to cost savings for University Hospitals of Cleveland. Also, by improving new graduate nurses' ability to work as effective members of the interprofessional care team, quality of care and patient satisfaction can be increased. A collaborative approach to planning care can lead to more effective discharge arrangements for the patient, and therefore, longer-term improvements in health.

Chapter Two: Review of Literature and Theoretical Framework

This chapter will provide a broad overview of the literature addressing new graduate nurse transition to the workforce as well as the nurse residency approach to easing this transition. The chapter concludes with the theoretical framework used to shape this project.

Literature Review

As new graduate nurses enter the profession, they are faced with many demands and challenges (Saghafi, Hardy, & Hillege, 2012). As they become established as part of the health care team, they must quickly acclimate to the new job. New graduates need to develop confidence and competence in both clinical and non-clinical skills, making sense of the role of the nurse within the world of hospital practice (Duchscher, 2008).

In the past decade, hospitals across the country have implemented multiple initiatives to enhance new graduate performance including nurse residency programs, extended orientations, and more experiences in patient simulation labs (Berkow et al., 2009). Hospitalized patients are more acutely ill and have more complex care needs than ever before. Academic leaders and hospital nursing management agree new graduate nurses require additional competencies and education beyond what is learned in a baccalaureate program in order to ease the transition to the role of registered nurse (Goode, Lynn, Krsek, & Bednash, 2009). Research has shown that after completing a one-year residency through the UHC/AACN program, new graduate nurses successfully transitioned to practice with the skills and knowledge needed to provide quality, safe care (Goode et al., 2009).

The influence of communication issues on performance competencies. According to Dyess, & Sherman (2009), new graduate nurses report having numerous experiences of poor

communication with physicians and other interdisciplinary team members. These experiences can be amplified when another professional uses a bad-tempered or condescending tone with them. This feeling of insecurity can cause the novice nurse to avoid contact with other disciplines unless a patient suddenly experiences a significant change in status (Rosenstein & O'Daniel, 2008). This can become a safety issue.

Communication failures have been cited as being responsible for nearly 70% of sentinel events over the past three years, with approximately 60% of these events resulting in death (Dingley, Daugherty, Derieg, & Persing, 2008). New graduates' performance competence in non-clinical skills may be a reflection of feelings of inadequacy and reluctance to interact with other disciplines. A national survey conducted by Berkow et al. (2008) showed nurse leaders rated new graduates' non-clinical skills as less than satisfactory. In particular, nurse leaders expressed dissatisfaction with non-clinical skills such as the ability to work with the interprofessional team and communicate with physicians.

A study conducted by the Institute for Safe Medication Practices (ISMP) found intimidation to be a primary cause of medication error, with half the respondents stating they felt pressured to give a medication after questioning its safety, but were unable to communicate their concerns effectively (ISMP, 2013). Disrespectful behavior can cause the nurse to experience vulnerability, anxiety, humiliation, loss of job satisfaction, and professional burnout (O'Daniel & Rosenstein, 2008). Promoting team-based case and interprofessional communication in a nurse residency program may improve new graduate nurses' performance with such non-clinical skills, compared to new graduate nurses who do not have the benefit of completing a residency.

Benefits of collaboration and a positive work environment on new graduates' performance competencies. When interdisciplinary team members work collaboratively, they

share responsibility for making patient care decisions, solving problems, and implementing patient care plans. Collaboration increases awareness of each team member's knowledge and skills, which improves plans of care and patient outcomes (O'Daniel & Rosenstein, 2008). Reeves, Nelson, and Zwarenstein (2008) found the nurse-physician relationship to still be hierarchical in nature, however, despite the evidence of a link existing between collaboration and improved outcomes.

Nurses working in an atmosphere where providing care according to professional nursing standards and working as part of an interprofessional team are encouraged experienced increased job satisfaction and tended to remain in their hired position (Nair, Fitzpatrick, McNulty, Click, & Glembocki, 2012). These positive work environments also resulted in better outcomes for patients (Laschinger, Finegan, & Wilk, 2009). However, due to increased workloads, current nurse work environments are often stressful even for experienced nurses, who report high levels of burnout and absences (Greco, Laschinger, & Wong, 2006). These results are concerning since nursing's future depends upon high-quality work environments that encourage new nurses to stay in the profession.

Job Satisfaction and Job Stress. Several factors contribute toward new graduates' job satisfaction, stress level, and resignation rates. Supportive nurse managers and solid relationships with coworkers early in the new hire period are particularly important (Casey, Fink, Krugman, & Popst, 2004) (Halfer & Graf, 2006). Cho, Laschinger, and Wong (2006) found new graduates hired into a cooperative, supportive work environment were less likely to experience burnout, furthering support of the importance of positive interprofessional relationships among coworkers. It is likely that being in a supportive work environment improves new graduates' confidence, and therefore competence, in non-clinical skills such as communicating with

interprofessional team members, delegating patient care tasks, and conflict resolution. Nurse managers would likely receive fewer reports of new graduates committing errors and fewer complaints about poor communication. This may improve nurse managers' satisfaction ratings of new graduate nurse performance.

There is considerable evidence of Magnet hospitals having features that characteristically support professional nursing practice. Adequate staffing, solid nursing leadership, effective nurse-physician collaboration, the presence of a nursing practice model, and the implementation of shared governance are all elements associated with supportive work environments (McHugh et al., 2013). These characteristics are also linked to decreased patient mortality, improved nurse retention, decreased nurse burnout, and workplace empowerment. University Hospitals of Cleveland is a Magnet hospital and consequently may promote a more supportive work environment for nurses than non-Magnet hospitals. As a result, satisfaction with new graduate nurse competency performance may be higher at University Hospital than the national average.

New Graduate Nurse Burnout. Professional practice environments and low burnout rates are related both to improved job satisfaction and better patient outcomes (Vahey, Aiken, Sloane, Clark, & Vargas, 2004). Burnout among new graduate nurses is disturbingly high. Cho et al. (2006) found 66% of new graduate nurses reported frequent episodes of emotional exhaustion related to high workloads. Since there is a link between turnover and burnout among nurses overall, high stress levels in new graduate nurses is especially alarming, given the critical nursing shortage. Therefore, hospitals must make improving new graduate nurses' work environments a priority so they become engaged in their work and don't become discouraged.

The evidence shows poor interprofessional communication skills can be a contributing factor to new graduate nurse rates of burnout (Laschinger et al., 2009). Nurse residency

programs provide opportunities for new graduate nurses to develop into the professional role and improve interprofessional communication skills (Bratt, 2009). Therefore, nurse leaders and experienced nurses working with new graduates, who have completed a nurse residency program, may be more satisfied with new nurses' competence in non-clinical skills than those working with new graduates who have not completed a residency program.

Benefits of a residency program on new graduates' performance competencies. According to Williams, Goode, Krsek, Bednash, and Lynn (2007), new graduates participating in a residency program show improvement in many areas including application of clinical skills, organization and prioritization, communication with other disciplines, communication with patients and families, and leadership abilities. Stress levels and turnover rates also decreased. As a result of a residency program, the combined turnover rate at 12 participating hospitals dropped to 11.7% within two years. Prior to implementation of the program, turnover for new graduates was between 35% and 60% during the first year of employment (Williams et al., 2007).

Kowalski and Cross (2010) studied clinical competency, critical thinking skills, and retention rates in new graduates completing a residency program at two hospitals in Las Vegas, Nevada. The nurse residents demonstrated improved leadership, clinical, and communication skills, and decreased levels of feeling threatened. These findings speak to the success of the program. Nurse leaders are more likely to be pleased with their decision to hire new graduates when the new graduates show evidence of satisfactory performance in clinical and non-clinical skills.

A study by Ulrich et al. (2010) supports the advantages of a residency program to both new graduates and hospitals. After completing the residency, new graduates showed improved

competence and self-confidence. The improved competency level was found to promote patient safety and decrease the likelihood of adverse events occurring. Therefore, the hospital benefitted not only from decreased turnover following implementation of the residency program, but patient satisfaction scores increased and quality measures improved (Ulrich et al., 2010). Experienced nurses and nurse leaders would likely have higher approval ratings of novice nurses if patient safety and quality measures improved.

The effect of role adjustment on competency. Adjusting to the role of registered nurse causes a significant amount of pressure on new graduates, particularly when trying to fit in with members of the health care team (Santucci, 2004). Dealing with demanding staff, making recommendations for patient care, questioning accepted practice, and speaking with physicians are role expectations, yet research shows they have difficulty in these areas (Williams et al. 2007). A national survey conducted by Berkow et al. (2008) showed nurse leaders overall rank new graduates as less than satisfactory with all of these competencies, though it is unclear if nurses who have completed a residency program show higher-level skills in these areas.

In addition to the problem of turnover, a National Council of State Boards of Nursing survey reports Chief Nursing Officers (CNOs) perceived new graduates to be inadequately prepared to care for acutely ill patients (Berkow et al., 2009). They felt new graduates could not identify abnormal symptoms, had difficulty supervising and delegating to unlicensed personnel, performed below average in regard to psychomotor skills, and did not respond appropriately to emergencies (Berkow et al., 2009). CNOs also reported graduate nurses lacked confidence in communicating important data to physicians. However, CNOs, nurse managers, and experienced staff nurses may all have different perceptions and assessments of new graduates' abilities, as they all have different degrees of proximity in working with novice nurses each day.

New graduate nurse self-perception of competency. Graduate nurses report a high degree of stress during the first six to nine months of employment and perceive preceptors and managers to be unsupportive at times. They also self-report a lack confidence in performing procedures, communicating with physicians, and prioritizing care (Casey et al., 2004). Despite reports that 57% of CNOs think new graduates are unsafe for practice, the National State Board of Nursing survey found 38% of new nurses usually have six to seven patients assigned to their care per shift and 11% have more than seven patients (Budden, Zhong, Moulton, & Cimiotti, 2013). These findings show making the transition to practice remains a pressing issue, and residency programs providing extended training and support need to be implemented.

Qualitative data generated from established nurse residency programs show the overwhelming ability of residencies to ease the transition to the professional nursing role. As an outcome of participation, residents conveyed feelings of decreased isolation, improved self-confidence, greater ability to "think like a nurse," increased capability to manage their workload, added confidence in recognizing changes in patients' conditions, improved relationships with interprofessional team members, and appreciation of the importance of lifelong learning (Beecroft, Santner, Lacy, Kunzman, & Dorey, 2007). While new graduates' self-perception of their clinical and non-clinical abilities may be higher after completing a residency program, it is unclear if experienced nurses and nurse managers share the same degree of satisfaction in new graduates' abilities.

Conclusion. A substantial number of new graduate nurses are needed to fill the ever-growing number of vacant positions in acute care settings. From hospital administration's perspective, a nurse residency program is a positive endeavor in two significant areas: patient care and cost (Reinsvold, 2008). Although residencies require an extended orientation period, the

long-term benefits show the program can considerably accelerate the professional growth of the new graduate. In terms of clinical and interprofessional skills, nurses participating in a residency quickly surpass their peers who are not privy to the same experience (Beecroft et al., 2007). It is unclear however if nurse leaders, experienced staff nurses, and new graduates all have the same perception of new graduates' clinical proficiency after new nurses complete a residency program, however, it is unlikely that they do agree.

As a whole, nurse residency programs have the ability to stabilize the nursing workforce, improve new graduate competency and confidence, raise job satisfaction, lower costs, and improve patient care. These combined factors present a strong case for hospitals to bring more structure to their new graduate nurse orientation programs through a comprehensive, organization-wide nursing residency (Beecroft, Dorey, & Wenten, 2008). In addition, a residency program creates opportunities for seasoned nurses to develop leadership skills, and for new nurses to follow a well-defined career path consisting of opportunities for growth and leadership. Determining how satisfied new graduate nurses, experienced nurses, and nurse managers are with new graduate performance in clinical and non-clinical competencies after completing a residency program is critical to making improvements in the process of transitioning to practice as well as retaining this costly form of new graduate nurse orientation.

Theoretical Framework

New graduate nurses experience a significant developmental process as they make the transition into practice. As such, Benner's (1984) Novice to Expert Model served as a theoretical framework for this project. Benner (1984) describes how the new nurse progresses in the areas of clinical and professional expertise through various phases beginning at the novice level, moving to competent, and finally expert practitioner (Martin & Wilson, 2011). Using

Benner's theoretical framework can provide structure for the residency program, shape experiences to enhance the nurse's development, reduce patient care errors, and minimize stress and burnout during the first year of professional practice.

According to Benner (1984), the novice nurse thinks in a narrow manner and has essentially no experience on which to base decision-making. The advanced beginner has some experience and starts to become familiar with provision of care, but has difficulty in prioritizing how to complete assigned tasks. The nurse at this level relies on colleagues with more experience to assist with problem-solving. Advanced beginners lack confidence in their abilities and struggle with communicating key patient information to members of the interprofessional team. Most new graduates enter the workforce at an advanced beginner level.

Advanced beginners view clinical situations as a series of tasks that must be completed by the end of a given shift. Other aspects of care, such as a change in patient status or concerns of a family member, serve as a secondary matter in their list of priorities (Benner, 1984). In their role as a member of the health care team, advanced beginners rely on the expertise of others while attempting to gain independence in their practice. They tend to continually question their ability to contribute to the interdisciplinary team (Benner, 1984). The anxieties advanced beginners feel preclude them from taking information presented by other practitioners and prioritizing it in any meaningful way. In addition, taking information and sketching out a plan of action totally engrosses them, especially with new or unfamiliar patients.

The nurse reaching the competent level has mastered many skills, connects actions with outcomes, and follows a purposeful, structured approach to daily practice (Martin & Wilson, 2011). At the proficient level, the nurse has a holistic view of the patient, is more organized with planning care, and can easily prioritize during complex situations. Achieving the final level,

expert, occurs when the nurse becomes intuitive with decision-making, easily eliminates non-essential information, and focuses on completing priority patient care needs before moving to less critical tasks (Benner, 1984). Benner (1984) also describes domains of practice for nursing, some of which include the helping role, teaching-coaching, patient monitoring, effective management of rapidly changing situations, administering therapeutic interventions, ensuring quality healthcare practices, and role competencies. These domains describe the professional development of the nurse in the areas of clinical expertise and interprofessional relationships and collaboration.

Residency program structure based on Benner's framework. Efforts to increase interprofessional collaboration, proficiency, commitment to the profession, and job satisfaction call for a well-rounded nurse residency program. The program should be designed to mentor new nurses, offer professional support, and provide educational experiences focused on application of knowledge and clinical skills. Joint Commission has recognized the importance of nurse residency programs, citing them as an essential strategy to support the transition from education to practice (Bratt, 2009).

The nurse residency program at University Hospitals of Cleveland was structured around the goal of moving the nurse from advanced beginner to competent nurse. The UHC/AACN model served as an outline for their nurse residency program. In addition to a standard hospital orientation, nurse residents engaged in weekly seminars throughout their first year of hire which included classroom seminar experiences, reflective practice, and group work within cohorts. Seminar topics were centered on advanced evidence-based practice in particular areas (i.e. medication administration, cardiac care, respiratory disorders, etc.). Residency sessions provided a bonding experience for new graduates. This was a time for them to network with

peers and share anecdotes of patient care experiences. Such opportunities were the foundation for refining practice and improving patient outcomes.

The ability to collaborate with members of the interprofessional team varies based on the nurse's experience level (Benner, Tanner, & Chelsa, 2009). Self-confidence and communication skills, essential for effective collaboration, develop over time and are generally not present at the novice and advanced beginner level. Improving collaboration and communication skills may avert conflicts and improve patient safety. For example, a nurse at the advanced beginner level will report "facts" of a patient scenario to a physician, but may not be able to prioritize the most critical data. Therefore, the physician might end up receiving incomplete information on which future orders and care plans are based. This demonstrates the need for increased education and skill development for new graduate nurses in the area of interprofessional communication and prioritization.

Benner, Sutphen, Leonard, and Day (2010) have suggested instituting major changes in how nurses are educated. Nursing leaders are aware new graduates must progress through the stages of novice to expert, but also have a critical need for the novice nurse to be well-prepared to handle complex patient care issues. Therefore, transition to practice programs must be geared toward building confidence and expertise in new graduate nurses. Benner, et al. (2010) recommends bringing lecture and clinical together in an integrative setting and focusing on clinical reasoning skills. These ideas are shared by those advocating interprofessional learning (Walsh & van Soeren, 2012). Integration of theory and practice, recognition of other professionals' knowledge and skills, and the need for learners to progress from knowledge acquisition to deep understanding of teamwork are all hallmarks of effective learning (Walsh &

van Soeren, 2012). Therefore, it is critical to include interprofessional collaboration as a component of a nurse residency program.

Chapter Three: Methods

This chapter provides an overview of the project from design through implementation. It provides in-depth information on the instrument at the heart of the project as well.

Project Design

The project used a cross-sectional survey design. It compared University Hospitals' nurse manager and staff nurse ratings on the Nursing Practice Readiness Tool to the original ratings from a national sample of nurse managers and staff nurses predating the implementation of nurse residency programs.

Human Subjects

This study was approved as exempt from review by the Institutional Review Boards at both The Ohio State University and University Hospitals of Cleveland.

Anonymity and confidentiality were guaranteed in several ways. There were no items requesting identifying information available on the submitted survey responses and there was no space for the respondent to enter his or her name or identification number. For the purpose of this study, it was not necessary to link the survey responses to the identities of the subjects. Data were collected using Survey Monkey and stored in a data management and storage platform securely supported by the Nurse Executive Center. In addition, the storage platform was password protected. The survey authors disabled the storage of email addresses and disabled IP address collection, enabling the collection of anonymous survey responses.

The survey creators, Nurse Executive Center, compiled the anonymous survey responses and provided the researcher with an Excel spreadsheet of the results. Nobody involved in the project knew which eligible subjects completed the survey.

For this project, only fully de-identified data were used. There was no link to the participants' names or email addresses. Declining participation in the study had no effect on the subjects' employment or status at the hospital since members of the research team did not know which employees chose to participate and which did not. Potential participants were assured their privacy was protected. A consent form appeared electronically prior to the participant beginning the survey.

Sample

Potential participants were identified through a list obtained by the Division of Nursing at University Hospitals of Cleveland. Nurse managers, assistant nurse managers, and staff registered nurses for all inpatient units at University Hospitals of Cleveland were eligible to participate. All participants were at least 18 years of age, had graduated from an accredited school of nursing, held a valid license to practice as a registered nurse, and were employed as a registered nurse by the hospital. Given these inclusion criteria, there were approximately 800 to 1000 potential participants. Employees of any outpatient unit, operating room, or lab were excluded since new graduate nurses are not typically hired directly into these areas. For the purposes of this study, a new graduate was defined as a registered nurse with one year or less of experience.

Setting

University Hospitals of Cleveland is a non-profit, multi-specialty academic medical center integrating clinical and hospital care with research and education (University Hospitals of Cleveland, 2013). Its main campus is comprised of Case Medical Center, Rainbow Babies and Children's Hospital, Seidman Cancer Center, Lakeside Tower, and MacDonald Women's Hospital. It is the primary clinical affiliate of Case Western Reserve University. Together they

form the largest center for biomedical research in the state of Ohio (University Hospitals of Cleveland, 2013).

Instrument

The Nurse Executive Center developed the Nursing Practice Readiness Tool by surveying nursing leaders nationwide. The tool was designed to measure competencies deemed by nursing management to be specific, actionable, and reflective of current hospital demands.

Demographic data included the type of nursing units hiring new graduates, number of new graduates hired each year, shifts for which new graduates are hired, percentage of new graduates hired each year, and the number of patients for which new graduates typically care were gathered. The survey instrument was repeatedly revised until all recommendations from a broad cross-section of experts were incorporated. The experts included hospital-based nurse executives and directors, nursing school deans, and nursing education representatives (Berkow et al., 2009). This comprehensive sampling of nursing leaders provided accuracy and detailed analysis of deviation in satisfaction with new graduate ability among different categories of nurse managers. The Nurse Executive Center ran a split-half reliability analysis, randomly assigning all of the competencies into two groups and determining how responses to the two "half-tests" related to each other. For this test, the value was 0.916, indicating high reliability (M. Fennessey, personal communication, November 12, 2013).

Procedure

The primary investigator individually discussed the study's purpose with nursing unit managers and distributed flyers with a description of the survey. In addition, flyers with information about the survey were posted in the nursing staff lounges on each inpatient unit.

Within two days of discussing the study with each nurse manager, the primary investigator sent an email providing information about the study to the nurse managers. The email contained an informed consent statement and a link for accessing the survey. Each manager was asked to forward the email to all nursing staff on their unit offering them the opportunity to participate in completing the survey.

Respondents were able to complete the survey at any computer with an internet connection. Staff nurses were not required to complete the survey on the nursing unit, as access to a quiet place other than the care unit may have been more conducive to thoughtful responses. The survey was designed to take no longer than 15 minutes to complete. To maximize the response rate, subjects were given two weeks to access the survey. During this time, a reminder to complete the study was issued via email. If the participation level was not sufficient at the end of the scheduled timeframe, the survey deadline would have been extended for another week.

Threats to Validity and Mitigation Strategies

There were some threats to validity to consider. First, the new graduate staff nurses could have rated themselves high on a skill they perceived to be strong, or low in a skill they felt to be weak, when management or coworkers may have had a different observation. In addition, new graduate nurses who were closer to having one year of work experience may have rated themselves higher on certain skills than new graduate nurses with less experience. This was controlled for by placing nurses with one year or less of experience were in their own data group separate from nurses with two or more years of experience, the “experienced nurses.”

Another potential threat to validity included nurses practicing on specialty units, such as intensive care or pediatrics, potentially being stronger or weaker in certain skill sets than nurses employed on general medical-surgical units. Likewise, nurse managers of specialty units may

have had different expectations regarding certain skill sets for their staff nurses and, therefore, form a different rating for the new graduate than would a manager of a general medical-surgical unit. This was controlled for by capturing the unit type on the survey as a demographic variable, thus enabling the researcher to categorize the responses by unit type. Additionally, although all new graduate nurses had preceptors during their residency, the strength and skill level of the new graduates' preceptors may have influenced their performance level upon completion of the program. This factor could not be controlled.

Furthermore, even though respondents were asked about their own attitudes or opinions regarding new graduate nurses, some may have found it difficult to respond to certain aspects of the survey. The respondent's opinion may be biased if he or she had a recent experience, positive or negative, with a particular new graduate nurse. The respondent may have had only that recent positive or negative experience in mind when answering the questions, thus not providing an accurate overall view of new graduate nurses' capabilities.

Finally, since nursing has more than one option for degree type for entry into practice (i.e. diploma program, associate or baccalaureate degree), there may have been variation in skill preparation among the new graduate nurses. Even with similar educational backgrounds, nurses from different colleges of nursing often vary in skill strengths and weaknesses and, therefore, have more or less confidence in certain skills by the end of the nurse residency program than other new graduate nurses. It was hoped that by attempting to obtain as large a sample size as possible would mitigate these factors.

Chapter Four: Study Findings and Discussion

Introduction

This study sought to answer the following questions about new graduate nurse competency performance ratings after institution of a nurse residency orientation program compared to new graduate nurse competency performance ratings in a national sample prior to the institution of most nurse residency orientation programs.

1. How do satisfaction ratings on performance competencies for new graduate nurses oriented in University Hospitals of Cleveland's residency program compare to satisfaction ratings on performance competencies for new graduate nurses in the national comparison sample?
2. For the group of items selected as representing Interprofessional Collaboration, do new graduate nurses oriented in University Hospital's residency program perform better than new graduate nurses in the national comparison sample?
3. Do new graduate nurses rate their performance satisfaction on Interprofessional Collaborative competencies similarly to or differently than experienced nurses?
4. In what ways are satisfaction ratings by nurses in management positions similar to or different from ratings of experienced staff nurses for new graduate nurse competencies?

Demographic Characteristics

The survey was available to approximately 800-1000 potential participants. A total of 149 registered nurses completed the survey, yielding a response rate of roughly 19%. Table 1 presents demographic data including the respondents' number of years of experience as a registered nurse, job title or primary role, and area of specialty. Nurses' years of experience ranged from less than one year to ten years or more. The median for years of experience as a

registered nurse was six, and the mode was ten years or more. For the purposes of this study, nurses identifying themselves as having one year or less of experience were considered "New Graduate Nurses." Respondents with two or more years of experience, regardless of job title, were categorized as "Experienced Nurses."

The majority of respondents (66%) identified themselves as staff nurses. Thirteen respondents (9%) described their primary role as "Charge Nurse." Since charge nurses at University Hospitals of Cleveland are often counted in staffing and provide hands on patient care, these respondents were included in the same group with staff nurses when analyzing survey results.

Nearly 26% of respondents identified themselves as being in a leadership role. Nurses categorizing their job title as "Director" (3%), "Manager" (9%), "Nurse Educator" (5%), "Clinical Nurse Specialist" (1%), and "Other" (8%) were included in the "Managers Only" group, regardless of number of years of experience, when analyzing data. Those selecting "Other" were included in the "Managers Only" group because "Assistant Nurse Manager" (ANM) was not a selection option in the survey. Since the role of the ANM is different from a charge nurse, it is assumed the ANMs would select "Other" as a role description. The survey may also have been distributed to Nursing Supervisors. Those respondents also would have selected "Other" as a role description.

Fifty-nine respondents (40%) practiced on medical-surgical/telemetry units, while 40 (27%) were from critical care/emergency departments. Only 25 nurses (17%) from women's health or pediatrics completed the survey. Interestingly, 25 nurses (17%) identified their primary unit as "Other." Since the Seidman Cancer Center is a specialty hospital within the University

Hospital campus, it is possible nurses employed on these specialty units chose “Other” versus “Medical/Surgical or Telemetry” as best describing their area of practice.

Question 1: University Hospitals’ Experienced Nurse Satisfaction Ratings Compared to National Sample Ratings

Respondents were grouped in several ways to complete data analysis. “Experienced Nurses” included all respondents with two or more years of experience as a registered nurse, regardless of the nurse’s primary role. Therefore, whether participants identified themselves as “Staff Nurses,” “Managers,” “Other,” etc., they were considered “Experienced Nurses” (N=114) as long as they had two or more years of experience as a registered nurse. This was done in an effort to make an accurate comparison to the data gathered in the national benchmark study conducted in 2007 by the Nurse Executive Center (Berkow et al., 2008). “New Graduate Nurse” was reserved for those respondents with one year or less of experience. Those respondents (N=35) were compiled in their own group so comparisons could be made to their experienced counterparts’ answers.

In comparing responses by “Experienced Nurses” from University Hospitals of Cleveland to responses obtained through the national benchmark survey, many similarities and differences can be found (See Table 2). First, “Utilization of information technologies” (i.e., use of computers, electronic medical records, etc.) ranked highest overall in satisfaction, with 74% of University Hospitals’ “Experienced Nurses” stating they were “satisfied” or “very satisfied” with new graduates’ performance in this area. Interestingly, this was also the highest ranking competency in the national benchmark study, with a 53% satisfaction rate. Several other competencies were rated similarly between University Hospital’s “Experienced Nurses” and the national survey. For example, “Rapport with patients and families” earned a 67% satisfaction

rating from the "Experienced Nurses," compared to 51% from the national benchmark survey. "Customer Service" received a 48% satisfaction rating from "Experienced Nurses" compared to 43% from the national benchmark. "Patient Advocacy" was rated similarly, with 51% of "Experienced Nurses" being satisfied with this skill, while 38% of the national survey respondents were satisfied.

It was clear that some of the lower-ranking skills nationally were also rated low by University Hospital's "Experienced Nurses." For example, only 38% of "Experienced Nurses" were satisfied with the new graduate nurse in "Recognition of unsafe practices by self and others," while 28% of the national respondents were satisfied in this category. In addition, "Knowledge of pharmacological implications of medications" was rated at only 39% satisfaction by the hospital's "Experienced Nurses" while only 28% of the national respondents were satisfied. The low ratings in these categories are cause for concern, as they present a significant patient safety issue.

"Ability to take initiative" was rated at only a 19% satisfaction nationally. University Hospital's "Experienced Nurses" rated new graduates at 26% with this competency. This may be representative of the timid nature typically seen in new graduate nurses. A few competencies demonstrate the new graduates' difficulties with adapting to the role of managing a group of patients. For example, "Completion of individual tasks within the expected timeframe" was rated at only 17% satisfaction in the national benchmark study. University Hospital's "Experienced Nurses" rated this skill at 30% satisfaction. Similarly, "Ability to keep track of multiple responsibilities" was rated at 30% satisfaction by "Experienced Nurses," while only 12% of the national respondents were satisfied with new graduate performance in this area. Additionally, 26% of "Experienced Nurses" were satisfied with new graduates in their "Ability

to prioritize." Nationally, this competency received a 12% satisfaction rating. Finally, the lowest ranking skill overall was "Delegation of tasks," which had a satisfaction rating of only 24% by "Experienced Nurses." This was also the lowest ranking skill in the 2007 national survey at only 10% satisfaction.

Question 2: Comparison on Satisfaction Ratings for Interprofessional Collaboration Items

While all 36 discrete competencies were measured for this project, particular interest was paid to responses relating to the new graduate's ability to function as part of the interprofessional team. The nine competencies selected to represent interprofessional teamwork included: "Communication with the interprofessional team," "Ability to work as part of a team," "Recognition of when to ask for assistance," "Interpretation of physician and interprofessional orders," "Communication with physicians," "Ability to accept constructive criticism," "Conducting appropriate follow-up," "Conflict resolution," and "Delegation of tasks."

Performance ratings on the Interprofessional Collaboration items were compared between University Hospitals of Cleveland's "Experienced Nurses" and the 2007 national benchmark survey. Each competency rating within this broad category achieved higher ratings compared to the national benchmark ratings. Nevertheless, some of the satisfaction percentages were quite low. Competencies representing Interprofessional Collaboration are designated in Table 2 with two asterisks.

University Hospital's "Experienced Nurses" ranked "Communication with the interprofessional team" highest of all competencies in this area, with a 63% satisfaction rating. This is much higher than the national benchmark satisfaction rate of 38%. Fifty-six percent of "Experienced Nurses" also stated they were satisfied with the new graduates' "Ability to work as part of a team." The national benchmark was only 37%. "Recognition of when to ask for

assistance" received a 50% satisfaction rating by "Experienced Nurses." The national benchmark for this competency was 35%. Since University Hospitals of Cleveland has residency seminars in communication, this could explain the higher satisfaction rating.

"Communication with physicians" received a 51% satisfaction rating by "Experienced Nurses," while nationally this competency only received a rating of 23% satisfaction. "Communication with the interprofessional team" was rated at 63% satisfaction by "Experienced Nurses", significantly higher than the national benchmark rating of 38%. "Ability to accept constructive criticism" had a 38% satisfaction rate, compared to the national benchmark of 30% in this skill. "Delegation of tasks," a critical skill for nurses, was rated lowest by "Experienced Nurses" at 24%, compared to the national benchmark of 10%. This was also the lowest ranking skill in the national survey.

Question 3: New Graduate Nurses' Self-Rating Compared to Experienced Nurses' Perceptions

Comparisons were not only made between the "Experienced Nurses" at University Hospitals of Cleveland and the national benchmark, but also between "Experienced Nurses" and "New Graduate Nurses." The "New Graduate Nurses" were those with one year or less of experience as a registered nurse. The "Experienced Nurse" group remained the same, all nurses regardless of job title with two years or more of experience as a registered nurse.

Interestingly, new graduate nurses rated themselves significantly higher in every competency compared to the national survey respondents, and compared to the "Experienced Nurse" cohort (See Table 2). For example, 88% of "New Graduate Nurses" rated themselves as "satisfied" or "very satisfied" with their performance in the category "Communication with the interprofessional team," compared to a 63% satisfaction rating by "Experienced Nurses" and

38% by the national respondents. Similarly, 94% of "New Graduates" were satisfied with their "Ability to work as part of a team" compared to a 56% satisfaction rating by the "Experienced Nurses," and 37% by the national cohort. "New Graduates" had a 94% self-satisfaction rating on their "Ability to recognize when to ask for assistance" compared to the hospital's "Experienced Nurses" rating of 50% and the national benchmark of 35% satisfaction.

"Interpretation of physician and interprofessional orders" had an 81% self-satisfaction rating by "New Graduates" compared to the "Experienced Nurses" rating of 48%, and the national benchmark rating of 26%. The "New Graduate" self-rating in the competency "Ability to accept constructive criticism" was significantly higher (94%) than the national rating at 30% satisfaction, and the hospitals' "Experienced Nurses" rating of 38% satisfaction. Finally, even though "New Graduates" self-rated "Delegation of tasks" lowest of all the competencies, it still had a higher satisfaction score (53%) than the national benchmark of 10% and their hospital "Experienced Nurses" counterparts' rating of 24%. Table 2 presents a complete comparison of all competencies with regard to "New Graduate" self-assessment, national benchmark data, and "Experienced Nurses" satisfaction ratings of new graduates.

Question 4: Management perceptions compared to benchmark data of new graduate nurse competency

Finally, comparisons were made between how "Managers Only" rated new graduates in each competency compared to the national data (See Table 3). The "Managers Only" cohort included those respondents identifying their primary position as being "Director," "Manager," "Nurse Educator," "Clinical Nurse Specialist," "and "Other." Staff nurses were not included in this cohort. Respondents in this cohort reported working as a registered nurse for a range of seven to 10 or more years.

This group had a higher rating for some competencies compared to others. For example, 93% of "Managers Only" were satisfied with new graduates' ability to "Conduct patient assessments." This competency only received a 44% satisfaction rating in the national study. Likewise, "Managers Only" expressed a 93% satisfaction rating with new graduates' regarding "Documentation of patient assessment data." Nationally, this skill only received a 41% satisfaction rating. "Managers Only" seemed to rate new graduates higher than the national average in other skill sets as well. For example, they expressed an 86% satisfaction rating in "Performing clinical procedures" compared to the national benchmark of only 27%.

Furthermore, "Utilization of clinical technologies," which includes skills such as use of smart pumps and medical monitors, earned an 86% satisfaction rating from "Managers Only" compared to the national benchmark of 27%. "Knowledge of pathophysiology of patient conditions" was also rated quite high by the "Managers Only" cohort at 71% satisfaction. Nationally, this skill was rated at 35% satisfaction.

While the "Managers Only" group rated nurses higher than average in several clinical skill sets, there were categories where the satisfaction ratings were similar to the national average. For example, "Communication with Physicians" was rated at 29% satisfaction by the "Managers Only" cohort, which is comparable to the national benchmark of 23%. Similarly, "Understanding of quality improvement methodologies" was rated by the "Managers Only" group at 21% satisfied. This skill was rated nationally at 18% satisfaction. "Ability to anticipate risk" was rated low in both groups. "Managers Only" rated this skill with 14% satisfaction compared the national benchmark of 11%. Interestingly, "Conflict resolution" earned a 0% satisfaction rating from the "Managers Only" cohort. This competency was low in the national benchmark study, but still earned a 12% satisfaction rating.

Discussion

The survey results provide valuable information about the effect of nurse residency programs on satisfaction ratings for new graduate nurses' performance competencies between nurse leaders and staff nurses. "Experienced Nurses," "Managers Only," and "New Graduates" ranked many skills at different levels of satisfaction. For example, "Managers Only" rated new graduates much higher in their "Ability to work as part of a team" (71% satisfied) than did the "Experienced Nurses" (56% satisfied). While the "Experienced Nurses" group did include members of management as well as staff nurses, the variation in satisfaction shows staff nurses have a different perspective on this skill. This could perhaps be explained because experienced staff nurses work side by side with new graduates throughout the shift, while managers have only a small window of time to directly observe each skill.

However, the "Managers Only" cohort rated new graduates lower in the category of "Communication with the interprofessional team" (50% satisfied) than did "Experienced Nurses" (63% satisfied). Also, "Managers only" rated new graduates lower in the competency "Communication with physicians" (29% satisfied) compared to "Experienced Nurses" (51% satisfied). This is likely because physicians tend to report any difficult encounters or conflicts with staff nurses directly to a nurse manager. The other staff nurses may not be aware of a conflict that has occurred. For this reason, managers may have more information than a staff nurse of new graduates' interprofessional struggles, particularly with physicians.

One area of concern in the "Managers Only" data is the 0% satisfaction rating in the "Conflict resolution" competency. "Experienced nurses" rated this skill low also (31% satisfaction), but clearly those in a management role were less satisfied than experienced staff

nurses. Perhaps this could be explained by considering when new graduates experience a conflict, they are more likely to bring it to their manager's attention than a fellow staff nurse.

In addition, nurse managers are burdened by the consequences of conflict on the nursing unit. When new graduates work in an atmosphere of incivility, it can increase stress levels, lead to burnout, create turnover intention, and decrease job satisfaction (Laschinger, Wong, Regan, Young-Ritchie, & Bushell, 2013). New graduate nurses may be particularly vulnerable to incivility, given their novice status and challenges of transitioning to the role of practicing nurse (Laschinger & Grau, 2012). Conflict resolution is a QSEN competency and is a requisite for the new nurse to ensure a positive work environment, increase job satisfaction, and promote retention. Since managers have to fill vacancies and orient new nurses when there is turnover, they may rank "Conflict resolution" as a bigger problem than a staff nurse might. The results show that managers and experienced nurses have different perceptions of new graduate nurses' competency levels.

It is apparent based on the ratings that University Hospital's new graduate nurses feel they are doing a better job in the area of interprofessional collaboration than their more experienced colleagues and nurse managers suggest. In fact, new graduate nurses rated themselves significantly higher in every competency than did "Experienced Nurses" and Managers." This shows evidence of a deficit for new graduates related to understanding their strengths and weaknesses as a team member, a recommended QSEN competency.

The skewed ratings could have been the result of having a smaller sample size in the "New Graduate" group. Only 35 nurses with one year or less of experience completed the survey, compared to 114 "Experienced Nurses", those with two or more years of experience. It is possible new graduates feel they are performing well in these competencies. However, if the

two sample sizes would have been closer in number, perhaps the survey would have yielded more similar satisfaction results. It is also possible experienced nurses and new graduates have very different perspectives on new graduate nurses' abilities. Finally, the novice nurses may have been concerned about receiving criticism if too many competencies scored a low satisfaction rating, thus scoring themselves higher than they truly feel in each category.

Some of the high ratings are cause for concern. For example, "New graduates" self-rated the competencies "Recognition of when to ask for assistance," "Recognition of change in patient status," "Recognition of unsafe practices by self and others," and "Ability to anticipate risk" significantly higher than "Experienced Nurses" and "Managers Only." This indicates new graduates feel their critical-thinking skills are far more developed than their more experienced colleagues believe them to be. This is significant, as it could be a patient safety issue. New graduates may not recognize the need to ask for help or consult with the interprofessional team when a change in patient status occurs. These are also QSEN competencies in need of being addressed.

Conclusions

The survey results clearly show higher satisfaction ratings of most new graduate nurse competencies by managers and staff nurses at University Hospitals of Cleveland compared to satisfaction ratings by the national sample of managers and staff nurses gathered in 2007 by Berkow et al. (2008). University Hospitals of Cleveland implemented a nurse residency program in 2007, which may explain the higher satisfaction ratings of new graduate nurse competency. After completing the 12-week standard orientation and participating in the year-long residency seminars, new graduate nurses may have successfully progressed from advanced beginners to competent practitioners at a faster rate than nurses who are not involved in a residency program.

Engaging in interprofessional collaboration may present a daunting challenge for the new graduate nurse who is adapting to professional practice in an unfamiliar socio-cultural and political organization (Pfaff, Baxter, Jack, & Pleog, 2013). The evidence suggests pressures include lack of confidence, lack of knowledge and experience, and fear of rejection by the healthcare team. Understanding the factors influencing interprofessional collaboration among new graduate nurses may offer strategies to enhance their retention (Pfaff et al., 2013).

Three assumptions can be made regarding interprofessional collaboration. First, it is a dynamic process that evolves over time (D'Amour & Oandasan., 2005). It is hindered by stress that continues throughout the first year of practice (Olson, 2009). Finally, competent performance in diverse clinical situations requires two to three years of practice (Benner, 1984). A residency program may ease the transition to practice, but specific exercises enhancing interprofessional collaboration should be included in the program. In addition, extended mentoring beyond the typical orientation period should occur. Having an experienced colleague to confide in when issues arise through the first year of practice and beyond would help the new graduate feel secure and comfortable. This may increase job satisfaction and retention.

Chapter 5: Summary, Limitations, Implications for Practice, Next Steps

This chapter provides a review of the project and its findings. It also addresses the project's limitations and implications for practice. The chapter concludes with consideration of the author's next steps in building into the future based on this initial project.

Summary of the Study

This project sought to identify the strengths and weaknesses in various competencies performed by new graduate nurses at University Hospitals of Cleveland. Nurse Executive Center's New Graduate Nurse Assessment Tool was administered to nurse leaders and staff nurses throughout University Hospital's main campus. The percentages of experienced nurses (those with two or more years of experience) indicating they were "satisfied" or "very satisfied" with each skill were calculated and compared to national benchmark data. The respondents were further categorized as "Managers Only" and "New Graduates," and comparisons were made between the various groups.

The first year of practice can be a very stressful time for new graduate nurses. Increasingly chaotic and dissatisfying work environments can result in burnout and turnover within the first two years of employment (Beecroft et al., 2008). Supportive practice environments are linked with organizational commitment and nurse retention (Halfer, 2011). Given the number of reports of nursing shortages and attrition of new graduate nurses, engaging them in interprofessional collaboration may improve their retention. The results of this survey show new graduate nurses would benefit from additional training and support in several skills which are inherent in interprofessional collaboration. For example, "Communication with Physicians," "Conflict Resolution" and "Delegation" were ranked in the middle to lower third of all competencies. Perhaps by providing additional training during the new graduates' residency

program with regard to these skills, it may improve their ability to interact with the care team, thus increasing their confidence and competence in practice.

Limitations

There are several study limitations to consider. First, while 149 responses was adequate to perform data analysis, the response rate in certain areas of the hospital was lower than others and may not have provided a good representation of the nurses' views of new graduate nurse performance in those departments. Staff nurses at University Hospital are typically not very responsive to surveys, so a 19% response rate was to be expected. In addition, prior to administering the survey, nurse managers were approached with information about the study and a description of its purpose. At that time, several commented how the staff nurses have been asked to complete many surveys recently, and may not be willing to complete another one. This may have decreased the response rate.

In addition, there were only 25 respondents from the "Women's or Children's Health" units. This could be explained for two reasons. First, MacDonald Women's Hospital and Rainbow Babies and Children's Hospitals are not as large as the adult medical-surgical hospitals and proportionately do not have as many registered nurses employed on their units. Furthermore, these specialty hospitals do not hire the same number of new graduates as the adult medical-surgical hospitals do, so the nurses may not have felt as committed to answer the survey. Therefore, a lower response rate is to be expected.

Another limitation to consider is new graduate nurses may have been reluctant to provide an honest self-assessment of their competencies, for fear of being viewed as inadequate or below average in their skill sets. This may have affected how they rated their competencies. Additionally, while general descriptions were reported by the nurses regarding the type of unit

on which they were employed (i.e., medical/surgical, critical care or emergency, women's or children's health), it is not known if a large number of nurses on one or two particular units provided most of the responses in that broad area, or if it was a general sample from across the hospital. For example, seven nurses from the same orthopedic unit may have completed the survey, but none from a general surgical unit may have completed it. Both of these units would fall under the broad category of "Medical/Surgical unit." This may affect the results, as nurses on one unit may have a different experience in working with new graduates as do nurses on another unit.

Nurses employed in critical-care units and the emergency department may have a different level of expectation of new graduates' competency performance compared to nurses employed on a medical/surgical or telemetry unit. This may decrease their satisfaction with the new graduate, and therefore affect the overall results of the survey. Managers of specialty units also may have higher expectations of new graduates in certain competencies, and may express a stronger dissatisfaction with them in certain areas (i.e., "Recognition of changes in patient status") than would a manager of a medical/surgical unit.

Finally, some units may have a higher percentage of new graduates with Associate degrees in nursing compared to units with a higher percentage of new graduates with Bachelor's degrees. The expectations of the nurses and managers, and/or the performance levels of the new graduates may vary depending on this factor. Some new graduates may have higher skill sets than others depending on what college or type of program the new graduate attended. This could influence the participant's responses regarding various competencies.

Implications and Recommendations for Nursing Practice

Among new graduate nurses, positive interprofessional relationships can ease the student to practitioner transition stress and improve retention (Pfaff et al., 2013). There is a shared responsibility of the academic and institutional sectors to promote interprofessional communication among new graduate nurses. Specifically, enhancing leadership education such as delegation and conflict resolution can improve the transition to practice and enhance interprofessional communication. Developing modules in undergraduate education focusing on the registered nurse's role, and the roles of other healthcare professionals, can better prepare nurses for practice. Nurse educators should be encouraged to facilitate opportunities for learners to engage with professionals from other disciplines as a means of increasing self-confidence, knowledge, and experience in interprofessional communication (Pfaff et al., 2013).

Undergraduate nursing education programs typically have a distinct separation of clinical and classroom teaching-learning experiences. Benner et al. (2010) suggest shifting the focus to an integration of classroom and clinical teaching. By engaging in a lively classroom discussion of the registered nurse's role as it relates to other health professions, then engaging students in interdisciplinary rounds in the clinical setting, the student is more likely to foster an appreciation of the importance of interprofessional relations and develop stronger skills in interprofessional communication.

In addition, integrating classroom and clinical learning will more likely promote competent performance in the skills detailed in the Institute of Medicine's (2010) report on the future of nursing, and used in the Quality and Safety in Nursing Education project (Cronenwett et al., 2007). Skills falling under the category of "Management of Care," such as delegation, communication, and prioritization are often discussed in the classroom but not specifically addressed in the clinical setting. By integrating clinical and classroom learning into a seamless

whole, nurse educators could address the fragmentation students currently experience particularly with management skills, and improve the students' level of competency and self-confidence in these areas prior to graduation and licensure.

Interprofessional education at the undergraduate level may be viewed as a solution to the experiential practice issues related to interprofessional communication (Center for the Advancement of Interprofessional Education, 2010). While new graduate nurses possess some knowledge and skills related to interprofessional practice, additional education and clinical experience in this area may ease the anxiety and lack of confidence they experience upon entering the profession. The role of interprofessional education in undergraduate education may prove to be valuable. However, it will not easily eliminate the professional power imbalances that exist in healthcare. Socialization patterns in nursing and with other healthcare disciplines have evolved over centuries and are impacted by multiple factors including hierarchies, professional rivalries, differences in gender, culture, language, and education (O'Daniel & Rosenstein, 2008).

At the practice level, nurse residency programs could incorporate sessions designed to improve interprofessional collaboration. University Hospitals of Cleveland currently only includes basic communication skills and delegation as topics for modules in the current nurse residency program. Perhaps designing the delegation module as a recurring topic throughout the residency would improve the new graduates' competency in this area. A session devoted to Board of Nursing regulations regarding delegation could enhance the residents' knowledge on this skill. Practice sessions in a simulation lab would create an opportunity to apply their knowledge in realistic scenarios, improving their proficiency with this skill. Debriefing sessions following the simulation practice would focus on improving attitudes toward delegation and

instilling confidence in their ability to delegate effectively. Sometimes new graduates are reluctant to delegate, for fear it may create negative perceptions by ancillary staff. Simulation exercises and debriefing sessions may help to alleviate these concerns.

Simulation exercises may also be used to improve interprofessional communication. Engaging nurse residents, physician residents, and other members of the care team such as pharmacists and dieticians in scenarios where each team member participates in developing the plan of care for a patient could improve interprofessional relationships. These exercises may also help to alleviate new graduate nurses' fear of communicating patient issues to the physician. Debriefing exercises following the practice session would provide an open forum for all members of the care team to express how they feel communication could be improved when planning collaborative care for a patient. The survey results show new graduates had a higher self-rating in these areas compared to experienced nurses' and managers' ratings, indicating this is an area in need of development. Poor communication is a safety issue, therefore this should be a focus area in the redevelopment of nurse residency seminars.

Interprofessional collaboration has the potential to ease the nursing workforce crisis. Collaborative practice occurs when multiple healthcare workers from different professional backgrounds provide comprehensive services by working with patients and families to deliver high-quality care (World Health Organization, 2010). This project was significant because new graduate nurses comprise a substantial proportion of the care team. It is imperative to prepare them to function as part of an interdisciplinary team in order to provide safe, high-quality care to patients. This initiative was in line with the goals of the Institute of Medicine (2010) and the Joint Commission (2011) in improving patient outcomes and advancing health.

Next Steps

Historically, nurse educators have not placed high value on developing students' interprofessional collaboration skills. Much attention has been placed recently on the value of health care teams working collaboratively to improve patient care outcomes. The results of this project show there is much room for improvement in cultivating new graduate nurses' skills in working collaboratively with physicians and other members of the health care team.

The next steps should include interprofessional skill development beginning at the undergraduate level. Nursing faculty leaders must work collaboratively with faculty from other disciplines, including medicine, social work, nutrition, physical therapy, public health, etc. to develop workshops and simulation exercises on how to work as part of the interprofessional team to achieve positive patient outcomes. If students are encouraged to work as part of a team before entering practice, they are more likely to be successful in integrating themselves as a contributing member of an interprofessional team after transitioning to practice.

The next steps should also include nursing leaders at acute care hospitals placing high priority on incorporating interprofessional collaboration as a requisite component of a nurse residency program. Learning modules and simulation exercises should also involve "new-to-practice" members of other disciplines such as social work, medicine, physical therapy, occupational therapy, etc. These team sessions should not end when the residency program ends. Continuing education workshops would benefit even seasoned members of the health care team.

This project specifically relates to Essentials II and VI of the AACN's Essentials of Doctoral Education for Advanced Nursing Practice. The Doctor of Nursing Practice (DNP) leader must develop strategies that improve new graduate nurses' ability to provide quality care in the hospital setting. Improving communication among team members will decrease the risk of

errors. This project also reflects DNP competency VI, Interprofessional Collaboration for Improving Patient and Population Health Outcomes. In adding interprofessional collaboration experiences to a nurse residency program, the DNP leader is making strides in improving new graduate nurses' confidence in their communication and collaboration skills. Ultimately, the end result will show improved patient and population health, improved quality of care, and improved patient satisfaction ratings for the hospital.

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Appendix A

The Instrument

THE NURSING EXECUTIVE CENTER
The Advisory Board Company
2445 M Street, NW Washington, DC 20037

PREPARING NURSING'S NEXT GENERATION: SURVEY FOR HOSPITAL NURSE LEADERS

Welcome to the Nursing Executive Center's survey on new graduate nurse preparation. The aim of this survey is to better understand the preparation of new graduate nurses for practice in an acute care setting. The results will inform research on strengthening hospital-nursing school educational partnerships. The survey should take only 10 to 15 minutes to complete. Your responses are completely confidential and will never be individually identified

SECTION I: DEMOGRAPHICS
For the purposes of this survey, a new graduate nurse is defined as an individual who graduated from an entry-level registered nurse program within the last year.

1. Which of the following best describes your organization?

Multi-hospital Health System; Academic Medical Center; Community Hospital; Freestanding Specialty Hospital

2. Approximately how many beds does your facility have?

0-50; 51-100; 101-150; 151-200; 201-250; 251-300; 301-350; 351-400; 401-450; 451-500; 501-550; 551-600; 601-650; 651-700; 701-750; 751+

3. In which state do you work?

AL AK AZ AR CA CO CT DE DC FL GA HI ID IL IN IA KS KY LA ME MD MA MI MN MS MO MT NE NV NH NJ NM NY NC ND OH OK OR PA RI SC SD TN TX UT VT VA WA WV WI WY Canada, Outside of US and Canada

4. Which of the following best describes your primary role?

Director (oversees multiple managers; reports to chief nursing officer); Manager (oversees a nursing unit or units; reports to nursing director); Nurse Educator; Clinical Nurse Specialist; Charge Nurse; Staff Nurse; Other (please specify)_____

5. For how many years have you worked as an RN?

Less than 1; 1; 2; 3; 4; 5; 6; 7; 8; 9; 10+

6. Which of the following most accurately describes the unit on which you work? If you work on more than one unit, please select the unit which has the greatest number of new graduate nurses.

Cardiac (non-surgical, non-ICU) Operating Room
Critical Care Outpatient
Emergency Department PACU
Medical Pediatrics
Medical/Surgical Psychiatric/Behavioral Health
Nursery or NICU Stepdown
Oncology Surgical
OB/GYN or L&D Telemetry

PLEASE ANSWER ALL REMAINING SURVEY QUESTIONS BASED ON THE UNIT YOU SELECTED IN QUESTION 6.

7. Which of the following shifts do nursing students attend during clinical rotations on your unit? (Please check all that apply.)
☐ Day
☐ Evening
☐ Night
☐ Weekend
☐ Not Applicable

8. Onto which of the following shifts are new graduate nurses on your unit most commonly hired?

Day shift; Evening shift; Night shift; Weekend shift; new graduate nurses are equally likely to be hired for all shifts

9. On average, how many new graduate nurses does your unit hire each year?

0-5; 6-10; 11-15; 16-20; 21-25; 26-30; 31+

10. Approximately what percentage of nursing staff on your unit are new graduates?

0%; 5%; 10%; 15%; 20%; 25%; 30%; 35%; 40%+

11. How many nursing schools does your unit regularly hire graduates from?

0; 1; 2; 3; 4; 5; 6; 7; 8; 9; 10+

12. Approximately what percentage of **new graduate nurses** on your unit have:

a) an associate's degree in nursing? 0%; 10%; 20%... 100%
b) a bachelor's degree in nursing? 0%; 10%; 20%... 100%
c) an entry-level master's degree in nursing? 0%; 10%; 20%... 100%
d) a diploma in nursing? 0%; 10%; 20%... 100%

13. Upon completion of orientation, what is the average number of patients that a **new graduate nurse** on your unit is expected to manage at once:

on a day shift? 1; 2; 3; 4; 5; 6; 7; 8+
on an evening shift? 1; 2; 3; 4; 5; 6; 7; 8+
on a night shift? 1; 2; 3; 4; 5; 6; 7; 8+
on a weekend shift? 1; 2; 3; 4; 5; 6; 7; 8+

14. Starting from the first day of work, approximately how many months does it take for a **new graduate nurse** to be able to assume a full patient load:

1; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18+

15. Is your hospital a Magnet facility?

Yes; No

16. Are any nurses at your institution represented by a union?

Yes; No

SECTION II: NEW NURSE PREPARATION

A new graduate nurse is defined as an individual who graduated from an entry-level registered nurse program within the last year.

Please indicate the extent to which you agree with the following statements:

__ Strongly Disagree
__ Disagree
__ Tend to Disagree
__ Tend to Agree
__ Agree
__ Strongly Agree

I am satisfied with the proficiency of new graduate nurses in the following competency areas:

CLINICAL KNOWLEDGE
1. Understanding of the principles of evidence-based practice
2. Knowledge of pathophysiology of patient conditions
3. Knowledge of pharmacological implications of medications
4. Interpretation of physician and interprofessional orders
5. Compliance with legal/regulatory issues relevant to nursing practice
6. Understanding of quality improvement methodologies

TECHNICAL SKILLS
7. Conducting patient assessments (including history, physical exam, vital signs)
8. Documentation of patient assessment data
9. Conducting clinical procedures (e.g. sterile dressing, IV therapy, etc.)
10. Utilization of clinical technologies (e.g. IV Smart Pumps, medical monitors, etc.)
11. Administration of medication
12. Utilization of information technologies (e.g. computers, EMRs, etc.)

CRITICAL THINKING
13. Recognition of changes in patient status
14. Ability to anticipate risk
15. Interpretation of assessment data (e.g. history, exam, lab testing, etc.)
16. Decision making based on the nursing process
17. Recognition of when to ask for assistance
18. Recognition of unsafe practices by self and others

COMMUNICATION
19. Rapport with patients and families
20. Communication with interprofessional team
21. Communication with physicians
22. Patient education
23. Conflict resolution
24. Patient advocacy

PROFESSIONALISM
25. Ability to work independently
26. Ability to work as part of a team
27. Ability to accept constructive criticism
28. Customer service
29. Accountability for actions
30. Respect for diverse cultural perspectives

MANAGEMENT OF RESPONSIBILITIES
31. Ability to keep track of multiple responsibilities
32. Ability to prioritize
33. Delegation of tasks
34. Completion of individual tasks within expected timeframe
35. Ability to take initiative
36. Conducting appropriate follow up

OVERALL PERFORMANCE
37. Clinical Knowledge
38. Technical Skills
39. Critical Thinking
40. Communication
41. Professionalism
42. Management of Responsibilities

SECTION III: OVERALL SATISFACTION

1. Overall, new graduate nurses are fully prepared to provide safe and effective care on my unit.
2. Overall, I am satisfied with the clinical skills of new graduate nurses on my unit.
3. Overall, I am satisfied with the non-clinical skills of new graduate nurses on my unit.

SECTION IV: PRECEPTING
1. Have you worked as a nurse preceptor within the last three years?

Yes; No

If you answered "yes" to the above question, please answer the remaining questions in this section.

2. Approximately what percent of your precepting experience has been spent with nursing students?

0%; 10%; 20%; 30%; 40%; 50%; 60%; 70%; 80%; 90%; 100%

3. For how many more years do you anticipate you will work as a nurse preceptor?

0; 1-2; 3-4; 5-6; 7-8; 9-10; 11+

4. When you first became a nurse preceptor, how many hours of preceptor training did you receive?

0; 1; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15+
5. Upon completion of my initial preceptor training, I was able to: (please check all that apply)

- ☐ Assess the learning styles of students/new nurses
- ☐ Adjust my teaching to accommodate different learning styles
- ☐ Evaluate the performance of students/new nurses
- ☐ Set learning objectives for nursing students/new nurses
- ☐ Help students/new nurses apply classroom knowledge to hospital practice
- ☐ Deliver constructive feedback to students/new nurses
- ☐ Create opportunities for students/new nurses to develop clinical thinking
- ☐ Offer social and emotional support to students/new nurses
- ☐ Demonstrate clinical expertise
- ☐ Communicate student/new nurse progress to faculty/supervisor

Thank you for taking the time to complete this survey. Your participation is critical to the success of this project.

Appendix B

Tables

Table 1
Demographic Data of Registered Nurse Participants

Characteristic	Responses (N)	Percentage
Years of experience		
New graduate nurse*	35	23.49%
Experienced nurse*	114	76.51%
Primary role		
Director	4	2.68%
Manager	13	8.72%
Nurse Educator	7	4.70%
Clinical Nurse Specialist	1	0.67%
Charge Nurse	13	8.72%
Staff Nurse	99	66.44%
Other	12	8.05%
Unit type		
Critical care/Emergency Department	40	26.85%
Medical/Surgical or Telemetry	59	39.60%
Women's or Children's Health	25	16.78%
Other	25	16.78%

Note. New graduate nurse includes all respondents with one year or less of experience as an RN. Experienced nurse includes all respondents with two years of experience or more as an RN.

Table 2

Percentage of Respondents Selecting Satisfied or Very Satisfied Per Competency

New Graduate Competencies	National Data (N=3265)	Experienced Nurses* (N=114)	New Grads (N=35)
Utilization of information technologies	53%	74%	94%
Rapport with patients and families	51%	67%	94%
Respect for diverse cultural perspectives	49%	70%	100%
Conducting patient assessments	44%	74%	94%
Customer service	43%	48%	88%
Documentation of patient assessment data	41%	72%	94%
Administration of medications	41%	74%	100%
Patient advocacy	38%	51%	81%
Communication with the interprofessional team**	38%	63%	88%
Ability to work as part of a team**	37%	56%	94%
Recognition of when to ask for assistance**	35%	50%	94%
Accountability for actions	35%	51%	94%
Knowledge of pathophysiology	35%	58%	63%
Patient education	34%	53%	81%
Understanding the principles of evidence-based practice	33%	61%	75%
Ability to accept constructive criticism**	30%	38%	94%
Compliance with legal issues relevant to nursing practice	30%	60%	75%
Recognition of unsafe practices by self and others	28%	38%	100%
Knowledge of pharmacological implications of medications	28%	39%	75%
Performing clinical procedures	27%	63%	75%
Utilization of clinical technologies	27%	63%	81%
Interpretation of physician and interprofessional orders**	26%	48%	81%
Communication with physicians**	23%	51%	75%
Decision-making based on the nursing process	20%	42%	73%
Conducting appropriate follow up**	19%	37%	81%
Recognition of changes in patient status	19%	46%	94%
Ability to take initiative	19%	26%	69%
Interpretation of assessment data	19%	44%	75%
Ability to work independently	18%	47%	88%
Understanding of QI methodologies	18%	44%	69%
Completion of individual tasks within expected timeframe	17%	30%	69%
Ability to keep track of multiple responsibilities	12%	30%	75%
Conflict resolution**	12%	31%	56%
Ability to prioritize	12%	26%	69%
Ability to anticipate risk	11%	27%	75%
Delegation of tasks**	10%	24%	53%

*Experienced nurses includes staff nurses and managers with two or more years of experience as an RN

**Indicates a competency associated with functioning as part of the interprofessional team

Table 3
Percentage of Respondents Selecting Satisfied or Very Satisfied Per Competency

New Graduate Competencies	National Data (N=3265)	Managers Only (N=37)
Utilization of information technologies	53%	92%
Rapport with patients and families	51%	71%
Respect for diverse cultural perspectives	49%	79%
Conducting patient assessments	44%	93%
Customer service	43%	50%
Documentation of patient assessment data	41%	93%
Administration of medications	41%	79%
Patient advocacy	38%	64%
Communication with the interprofessional team**	38%	50%
Ability to work as part of a team**	37%	71%
Recognition of when to ask for assistance**	35%	71%
Accountability for actions	35%	43%
Knowledge of pathophysiology	35%	71%
Patient education	34%	50%
Understanding the principles of evidence-based practice	33%	50%
Ability to accept constructive criticism**	30%	43%
Compliance with legal/regulatory issues relevant to nursing practice	30%	43%
Recognition of unsafe practices by self and others	28%	57%
Knowledge of pharmacological implications of medications	28%	71%
Performing clinical procedures	27%	86%
Utilization of clinical technologies	27%	86%
Interpretation of physician and interprofessional orders**	26%	62%
Communication with physicians**	23%	29%
Decision-making based on the nursing process	20%	29%
Conducting appropriate follow up**	19%	50%
Recognition of changes in patient status	19%	36%
Ability to take initiative	19%	43%
Interpretation of assessment data	19%	50%
Ability to work independently	18%	50%
Understanding of QI methodologies	18%	21%
Completion of individual tasks within expected timeframe	17%	36%
Ability to keep track of multiple responsibilities	12%	36%
Conflict resolution**	12%	0%
Ability to prioritize	12%	29%
Ability to anticipate risk	11%	14%
Delegation of tasks**	10%	29%

**Indicates a competency associated with functioning as part of the interprofessional team