

Clinical Focus

Nurses in a SNAP: Increasing Self-Confidence for Competent Nursing Practice through a Student Nurse Employment Model

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Keywords: student nurse, readiness for practice, transition to practice, student employment, career pathway, self-confidence, apprenticeship

<https://doi.org/10.59541/001c.77923>

Norton Healthcare Medical Journal

Vol. 1, Issue 1, 2023

Background

Although self-confidence is strongly correlated with safe patient care, there is limited research about self-confidence perceptions among new graduate nurses upon entry into licensed practice. This study evaluated the effect of the Student Nurse Apprenticeship Program's (SNAP) three-tiered employment model on new graduate registered nurse (RN) self-confidence and the organization's subsequent return on investment.

Objective

Evaluate the effect of a pre-licensure, student nurse employment model on licensed nurses in three areas: perceived self-confidence related to patient safety, new graduate nurse orientation length, and organizational RN retention.

Method

A quasi-experimental, nonequivalent control group posttest study was conducted at Norton Healthcare (NHC) with SNAP Cohort One. Graduate RNs who completed SNAP and a control group of non-SNAP new graduate RNs took the Health Professional Education in Patient Safety Survey tool prior to starting NHC new graduate nurse orientation. During SNAP application, applicants completed the Human Systems Integration tool which aids in assessment of the relationship between the individual and the role's responsibilities.

Results

In SNAP Cohort One, statistically significant ($p < 0.05$) increases in perceived self-confidence related to patient safety were found in SNAP graduates. Organizational retention was captured at 90% from SNAP to NHC RN, a 94% one-year RN retention, and a 96% two-year RN retention. The mean new graduate RN orientation length for SNAP graduates decreased three weeks. Total organizational cost avoidance of \$8.5 million was shown in decreased orientation time and first year RN retention.

Conclusions

This study shows that the new graduate RNs completing SNAP had higher perceived self-confidence related to patient safety compared to new graduate RNs who did not complete SNAP. With the success of SNAP Cohort One, in conjunction with the strong return on NHC's financial investment and creation of a workforce pipeline, NHC continued the program. After five successful cohorts and 696 student nurses, SNAP graduates avoided the organization over \$33 million in first year RN turnover costs. SNAP graduate to NHC RN retention remained at 90%, with first year RN retention at 92%, and second year RN retention at 84%. The mean decrease in orientation time for all five cohorts remained between two and three weeks.

INTRODUCTION

Historically, transition to nursing practice is seldom addressed during undergraduate programs of study for Asso-

ciate and Baccalaureate students.¹ And yet, newly licensed nurses are often assigned to patient teams before their ability to provide safe care is evaluated. Self-confidence, safe care, and competency are all directly correlated, and therefore a nurse's self-confidence should be assessed prior to

patient care delivery. The purpose of this project was to evaluate the effectiveness of a pre-licensure, student nurse employment model on new graduate registered nurse (RN) self-confidence. In its basic form, an apprenticeship structure was utilized to promote on-the-job training and education to increase workforce readiness for safe patient care.

During nursing school, primary emphasis of the curriculum is on preparation for practice with less emphasis on student nurse to new graduate nurse transition.^{2,3} Addressing the gap in readiness for practice is essential for the new graduate nurse's perception of self-confidence.⁴ To mitigate the readiness for practice gap, a three-tiered model for intentional investment in the student nurse's self-confidence for patient care delivery was created. The Student Nurse

Apprenticeship Program (SNAP) was developed to ease the student nurse to new graduate nurse transition, focusing on increasing perceived self-confidence as it relates to patient safety through competency-based learning.⁵ Using a registered apprenticeship structure, the student nurse employment model was strategically designed to align with what became known as the program's '3Cs': culture, clinical, and confidence.

BACKGROUND

Readiness for practice programs are essential in today's healthcare systems for a variety of reasons, but there is limited research on their efficacy and sustainability. For instance, acute care hospitals are hiring more new graduate nurses than experienced nurses, yet new graduate nurse turnover is 20% to 40% nationally.⁶⁻⁸ In addition, student nurses report nursing programs do not adequately prepare in content related to leadership, electronic health entry, delegation to peers, caring for multiple patients, and recognizing patient health changes.⁹ Exacerbated by the Covid19 pandemic, student nurses spend limited time in actual practice environments posing a challenge to application of concepts learned in the classroom until after graduation.¹⁰ Lack of preparedness in these areas influence new graduate nurse self-confidence levels.¹¹ In contrast, high self-confidence positively impacts nursing care, and thereby patient safety. Therefore, strategies for evaluating student nurse self-confidence, prior to the first day of licensed practice, is critical for safe patient care.

In additional, competency-based learning warrants strategic alignment between academe and workforce. While academe instructs on the general foundations of nursing practice, specific competencies needed for entry into nursing units are not always executed until after RN hire. Quality and Safety Education for Nurses (QSEN) and the American Association of College of Nursing (AACN) address the importance for competency-based learning to support readiness for RN practice.^{5,12,13}

OBJECTIVE

The objective of this project was to evaluate the effectiveness of a student nurse apprenticeship employment program, SNAP, designed to promote new graduate RN self-confidence, decrease orientation length, and increase

organizational retention. SNAP's goal is to promote patient safety and increase nurse self-confidence through unit socialization/sense of belonging and increased competency level. The program's foundation supports QSEN's six competencies for pre-licensure to prepare nurses in knowledge, skills, and attitudes, while also supporting AACN's direction of competency-based essentials.^{5,13} SNAP provides increased acute care hospital exposure and clinical skill application with mentorship from interprofessional teams while focusing on culture, clinical, and confidence. For outcome measurement, the Health Professional Education in Patient Safety Survey (HPEPSS) tool, new graduate RN orientation lengths, and organizational retention were documented.¹⁴

CONCEPTS AND THEORETICAL FRAMEWORK

Patricia Benner's Novice to Expert middle range nursing theory is the foundation for student nurse employment. Benner's theory emphasizes nurses learn best when actually involved in situations.¹⁵ This parallels with socialization and skill repetition.¹⁶ Within SNAP there are three tiers. Tier I and Tier II mirror the novice stage, while Tier III assists in moving the student nurse to advanced beginner. New graduate nurses typically begin a licensed nursing role in stage one or two, depending upon previous work or clinical exposure. Completing SNAP allows the new graduate RN to begin as an advanced beginner and even some as competent based on repetitive situational recognition, interventional awareness, and organizational skills needed for certain patient patterns.¹⁵ Throughout SNAP, leaders within the organization are able to provide competency-based evaluation in real-time.⁵ Clinical educators, assistant nurse managers, bedside nurses, and SNAP nurse leaders provide direct feedback on knowledge, skill, and attitude, building on the fundamentals learned through course work while promoting unit and multidisciplinary teamwork^{10,12,13}

METHOD

SETTING

Norton Healthcare (NHC) is a healthcare organization in Louisville, Kentucky. Student nurses participated in SNAP at five of the NHC acute care hospitals and the NHC cancer institute. Student nurses were recruited not only from the Louisville area, but also within the Kentuckiana region.¹⁷

PARTICIPANTS

SNAP provides education and clinical experiences to a student nurse for a 12-month or 18-month period in preparation for a new graduate RN position.¹⁸⁻²⁰ Student nurses enrolled in SNAP were hired from regionally accredited Associate Degree in Nursing and Bachelor of Science in Nursing programs. For SNAP Cohort One interview eligibility, the student nurse must have submitted a current school transcript, reference letter, a personal goal statement, and Human Systems Integration assessment. Criteria for applicant selection also included good academic stand-

ing with anticipated graduation in the initial studied time-frame, December 2017 to June 2018. Approximately 200 student nurses applied, met eligibility requirements, and were individually interviewed. As a result, 130 student nurses from 11 accredited nursing programs accepted a position in SNAP and began NHC employment in January 2017. The initial SNAP Cohort One study concluded in June 2018.

INTERVENTION- SNAP

Student nurses in SNAP are NHC employees with job descriptions for each tier, wage rates by tier, and overall employment competencies and responsibilities. A tier is a defined period of time with program requirements aligned with one of the '3Cs'. There are three tiers total: Tier I, Nurse Explorer focused on organizational and professional nursing culture; Tier II, Nurse Extern focused on clinical skill; Tier III, Nurse Apprentice capitalizing on overall confidence for safe practice. Student nurses cannot advance to the next tier without completing each tier's requirements. Student nurses must also maintain good standing employment to advance. Overall, the three-tiered SNAP model reinforces nursing education and patient safety, awareness of the professional nurse role, and an appreciation of organizational structures and operations within a system health-care setting.

CULTURE- TIER I, NURSE EXPLORER

Nurse Explorer is the first student nurse tier highlighting nursing culture at NHC. Tier I is from January to May, the first one to five months of the program. All student nurses begin the program at the same time, in Tier I and in January. This tier incorporates the importance of NHC's mission, vision, values and goals. In addition, student nurses begin shadow opportunities within different NHC acute care facilities aligned with their interest. SNAP student nurses complete onboarding courses covering topics ranging from program orientation, to personal strength identification, to equity, inclusion, and belonging. All experiences in Tier I require approximately 50 hours of time. After completion, the student nurse submits their top two hospital preferences and top two unit preferences for their Tier II placement. SNAP leadership aligns the student nurse's interest with NHC availability. Once the unit, facility, and RN preceptor are chosen for Tier II, the student nurse completes electronic documentation training in preparation for their summer unit experience.

CLINICAL- TIER II, NURSE EXTERN

During Tier II, Nurse Externs focus on clinical skills, critical thinking, and the importance of safe, timely intervention(s). Tier II is six weeks of the student nurse working full-time, one-on-one following the bedside RN preceptor's schedule. During Tier II, the Nurse Extern provides supervised direct patient care during month's five to seven of the program. Nurse Externs' function under the Kentucky Board of Nursing (KBN) Advisory Opinion Statement

(AOS), Nurse Extern model.^{2,21} Main foci of Tier II are activities related to nursing skills/functions/tasks, time management, electronic documentation, and clinical repetition. Precise foci for individuals are based on the Nurse Extern self-assessment evaluation administered prior to Tier II's start. SNAP provides each student nurse a seven-page competency document to self-evaluate areas of knowledge, skill, and overall student nurse competence. A faculty member from the Nurse Extern's academic program reviews and validates the assessment's accuracy. The competency document is utilized by the Nurse Extern at all time, and is updated during and upon completion of Tier II and Tier III.

In addition to bedside patient care, SNAP leadership facilitates a Nurse Extern Orientation (NEO) day to start, along with two debrief sessions through the six week period. NEO is a full day of interprofessional speakers focusing on topics including reaching for zero patient harm, infection prevention, head-to-toe assessment, the role of a professional nurse, and an overview of the KBN AOS Nurse Extern model. In total, Tier II averages 220 hours for the student nurse.

CONFIDENCE- TIER III, NURSE APPRENTICE

At the conclusion of Tier II, each Nurse Extern discloses areas of interest for continuation in SNAP. For the Tier III, Nurse Apprentice placement, each student nurse interviews with facility nurse managers and directors for their next experience. The goal is to promote clinical alignment with their hopeful unit of RN hire post nursing school graduation. These interview opportunities consist of leaders from six service lines: critical care, emergency services, inpatient specialty, obstetrics, pediatrics, and surgical services. Tier III is a hybrid of continued one-on-one, bedside RN clinical experience and the ability to complete general core nurse education, up to service line specific education. All classes are taught by members of an interprofessional team composed of service line nurse educators, respiratory therapists, child life specialists, and even financial retirement planners for financial literacy exposure to name a few. Confidence in nursing practice is promoted, both clinically and professionally, as the Nurse Apprentice continues in Tier III from August until their nursing program graduation. For fall graduates, SNAP ends in December. For spring graduates, SNAP ends in May of the following year. Tier III employment averages approximately 20 hours every six weeks until the program's completion.

MEASURES

SELF-CONFIDENCE IN PATIENT SAFETY

The H-PEPSS tool was used to measure student nurse perceptions of patient safety confidence.¹⁴ The measure focuses on perceptions of clinical safety issues and system issues that affect safety.^{14,22,23} The H-PEPSS tool consists of 38 items which are rated on a five-point Likert scale. Respondents indicate their confidence in what they learned in the classroom versus the clinical setting for each item. Each

of the six survey domains has a Cronbach's alpha of 0.81 or greater.

NEW GRADUATE RN ORIENTATION LENGTH

Orientation length, measured in weeks, were collected for both SNAP graduates and non-SNAP graduates with December 2017 to June 2018 RN start dates.

ORGANIZATIONAL RETENTION

SNAP Cohort One to NHC new graduate RN retention was calculated, in addition to, first year and second year RN retention. This outcome was measured by each SNAP graduate RN offer and acceptance of employment at NHC, while maintaining their RN position for one year, and then from one year to two years.

DATA COLLECTION

The project was granted Institutional Review Board approval through the University of Louisville affiliated research institution/study site of NHC with reciprocal agreement from Northern Kentucky University. The H-PEPSS tool was voluntarily completed by SNAP graduates and non-SNAP new graduate RNs prior to new graduate nurse orientation at NHC. Each RN graduate received an informed consent letter explaining the purpose of the study. Due to two graduating periods, fall and spring, data was collected and summarized into groups, as well as collectively in June 2018 at the end of the program.

In December 2017/January 2018, 25 fall SNAP graduates and 33 non-SNAP new graduate RNs completed the H-PEPSS tool. In June 2018, 83 spring SNAP graduates and 49 non-SNAP new graduate RNs completed the survey. Independent sample t-tests were used to compare mean responses from several H-PEPSS questions. Prior to statistical analysis, 15 questions were specifically chosen due to their salience to the project with four main participant groups identified (Fall- RN SNAP graduates, Fall- RN non-SNAP graduates, Spring- RN SNAP graduates, Spring- RN non-SNAP graduates). New graduate RN orientation length, and first- and second-year RN retention was also analyzed.

RESULTS

Both fall and spring SNAP Cohort One graduates were statistically significant in confidence than nonSNAP graduates on 13 of the 15 questions ($p < 0.05$) (Table 1). These questions pertained to confidence in patient safety in the areas of team dynamics, patient engagement, effective communication, recognizing a close call, reducing harm by identifying immediate risks, ability to speak up, and understanding that patient safety advocacy is a proactive behavior. Furthermore, the clinical areas of health technology application, patient safety workflow, interdisciplinary teamwork, reporting adverse events, and patient safety integration were also statistically significant, but at a higher value ($p < 0.0001$). Confidence did not vary by program length of fall SNAP graduates and spring SNAP graduates, meaning

program structure and nurse leadership, rather than program length, may be instrumental to student nurse success. Therefore, it was found that completing SNAP did effect new graduate RN self-confidence perceptions of clinical safety issues and system issues that affect patient safety.

Of Cohort One graduates, SNAP graduated 110 student nurses and 99 elected to stay with NHC as a new graduate RN (90% retention). Of the 11 who choose alternative locations, seven relocated out of the working area (6%) and four began work at other local healthcare organizations/businesses (4%).

The 99 SNAP new graduate RNs had a shorter mean orientation length which saved 11,556 hours in orientation time compared to the non-SNAP new hires. On average, for all acute care units, SNAP graduate readiness for practice increased three weeks, and as high as six weeks for select units. In total, SNAP resulted in an organizational orientation cost avoidance of \$524,835 for SNAP graduates, as \$85,000 was the benchmark used for first year cost of recruiting, onboarding, training, and salary of a new graduate RN^{6,24,25}. For first year RN retention, NHC retained 94% of the 99 graduates, avoiding the organization \$7.9 million in turnover costs, and a two-year SNAP graduate RN retention of 96%. In summary, SNAP graduates offset roughly \$8.5 million in NHC costs due to increased readiness for RN practice and decreased first year RN turnover.

From 2017-2022, after five successful SNAP cohorts of 696 students, SNAP has avoided NHC over \$33 million in new graduate RN turnover costs and maintained a 90% SNAP graduate to NHC RN transition, a 92% one-year RN retention, and an 84% two-year RN retention.

DISCUSSION

Nurse turnover, due to the lack of socialization and belonging to the profession, was originally highlighted in 1974 by author and nurse, Marlene Kramer. New graduate nurses are a vulnerable population for many reasons; however, their highest vulnerability lies in their lack of nursing role socialization.^{6,7,11} Feeling part of a professional team is connected to one's self-confidence. Professional socialization in nursing should focus on three areas: skills, knowledge, and behaviors.¹⁶

Of the three areas, behaviors, the human aspect of care delivery, is the least integrated into professional practice through traditional education and orientation.^{11,16} For example, nursing programs primarily consist of two curriculum elements: didactic/classroom- knowledge, and clinical/preceptor guided- skills.²⁰ Newly license RNs are expected to provide unsupervised, mainly one-on-one direct care to patients shortly after passing NCLEX, but have not been socialized into the nursing team. Self-confidence levels increase after three months, decrease at the six- to 12- month period, and then climb to an increased high, creating a 'V-shaped pattern'.²⁰ This up and down confidence level may create unsafe care environments, especially since resources through teamwork, delegation, and sense of community have not been adequately formed, which, conversely, are formed through a sense of belonging and human behavior

Table 1. Independent Sample Tests (all SNAP and all non-SNAP)

	Sig. (2-tailed) t-test for Equality of Means (equal variances not assumed)
2. Infection control- Clinical	.268
5. Team dynamics and authority/power differences- Clinical	.004
8. Engage patients as a central participants in the health care team- Clinical	.007
12. Enhancing patient safety through effective communication with other health care providers- Clinical	.014
14. Recognizing routine situations in which safety problems may arise- Clinical	.013
18. Safe application of health technology- Clinical	<.0001
19. The role of environmental factors such as work flow, ergonomics, resources, that effect patient safety- Clinical	<.0001
20. Recognizing an adverse event or close call- Clinical	.014
21. Reducing harm by addressing immediate risks for patients and others involved- Clinical	.018
26. The importance of a supportive environment that encourages patients and providers to speak up when they have safety concerns- Clinical	.006
30. I had sufficient opportunity to learn and interact with members of interdisciplinary teams	<.0001
31. I gained a solid understanding that reporting adverse events and close calls can lead to change and can reduce reoccurrence of events	<.0001
32. Patient safety was well integrated into the overall program	<.0001
35. If I see someone engaging in unsafe care practice in the clinical setting, I feel I can approach them	.026
36. If I make a serious error I worry that I will face disciplinary action	.060

reinforcement. Because SNAP student nurses were socialized into patient care teams throughout the 12- or 18-month program, their self-confidence levels scored higher than non-SNAP new graduate RNs.

In addition to promoting self-confidence through intentional socialization prior to entry into RN practice, interprofessional education and collaboration is also lacking for new graduate RNs, again with a common thread of decreased self-confidence.^{10,26,27} Systematic reviews of literature support the need for readiness for practice programs based on increased high acuity of patients in acute care settings, consistent changes and complexities of healthcare, and high turnover rates of nursing graduates during the first year of employment.^{6,8,20} The Institute of Medicine (IOM) recommends research aligning education and healthcare systems, interprofessional education, and the link between interprofessional education and collaborative behavior, with self-confidence levels being a precursor.¹⁰

Another area to consider is internal and external leadership investment. Support from NHC executive nursing leadership and interprofessional departments was a strength of SNAP. In 2017, the combined efforts to facilitate the requirements of a registered apprenticeship program resulted in SNAP becoming Kentucky's first registered pre-licensure nursing apprenticeship program in healthcare. On a student level, student nurses were interested in the program by voluntarily applying. Student nurses voiced overall ap-

preciation for the program related to their assessed increased confidence levels; both anecdotally in verbal responses to nursing leadership as well as in H-PEPSS responses.²⁸ Because of requests from SNAP Cohort One graduates, a SNAP-Give Back committee was developed to continue program, organization, and community support, creating a new NHC student nurse to NHC RN community.

Limitations of the study included lack of exclusions of prior work experience, such as nurse aid or technician role for both SNAP and non-SNAP survey results. Also, opportunities for additional Tier III evening and weekend NHC class offerings were identified to maximize the student's academic schedule.

CONCLUSIONS

This study shows a strong evidence that the new graduate RNs completing SNAP had higher perceived self-confidence, shorter orientation length, and better organizational RN retention compared to RNs who did not complete the SNAP.

The results of SNAP highlight the benefits of a pre-licensure apprenticeship employment model and the impact of new graduate RN confidence related to patient safety. SNAP graduates are more engaged in patient education, understand where to locate resources for troubleshooting patient safety concerns, voice suggestions through the chain of

command, advocate for patient care resources, and utilize time management and patient acuity for care delegation. NHC's return on investment is also validated by increased readiness for RN practice, decreased orientation time, and increased RN organizational retention.

The results address the disparities identified as significant in the student nurse/pre-licensure to RN/post-licensure theory/practice gap. The results also address the need for quantitative, statistical findings to support ongoing research of the student nurse population and readiness for practice needs. The research supports program length may not be a factor in impacting confidence perception of new graduate nurses, as both fall and spring SNAP graduates had higher perceptions of self-confidence compared to non-SNAP new graduate RNs. Overall, the results validate the importance of incorporating QSEN's six pre-licensure competencies and AACN's competency-based essentials in readiness for practice programs.^{5,12,13}

Healthcare systems must invest in employed student nurses for optimal patient safety and desired nurse competence.^{1,5,29} Academic institutions must collaborate with healthcare organizations to merge practice competencies with nursing curriculum to address the theory/practice gap and increase new graduate RN self-confidence.^{5,12,13} Organization and unit socialization must be viewed as a priority to capitalize on interprofessional collaboration and confidence needs of the new graduate RN. Future research is needed to support the direct correlation between SNAP graduates, their increased perception of self-confidence related to patient safety, and direct patient outcomes. Nonetheless, due to the successful results of SNAP Cohort One, NHC leadership continued SNAP with Cohort Seven beginning in January 2023.

Submitted: December 20, 2022 EST, Accepted: January 16, 2023 EST



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