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# Increasing Nurse Managers' Knowledge and Self-Confidence Levels in the Use of Two Alternative Staffing Models

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Walden University
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Abstract

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Project Submitted in Partial Fulfillment

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Doctor of Nursing Practice

Walden University

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Abstract

The practice problem for this DNP project was the lack of confidence of eight nurse managers at the project site in implementing alternative staffing models to meet increased inpatient care demands during times of patient surges. The purpose of this DNP project was to provide an education module to nurse managers at the project site to enhance their self-confidence levels for alternative staffing during cases of patient surges. Framed by Knowle's adult learning theory, the practice-focused question for this project addressed whether an educational program on two alternative staffing models increased acute care nurse managers' self-reported knowledge and confidence levels in implementing alternative staffing models for future patient census surges. The creation of the education module followed the analyze, design, develop, implement, and evaluate (ADDIE) model, which was in line with the project objectives. Eight nurse managers participated in training. Nurse managers' confidence levels were measured pre- and posteducation surveys. Data were analyzed using descriptive statistics (frequencies and percentages). The project's findings indicate that the evidence-based educational program was successful in enhancing the knowledge and confidence of acute care nurse managers when it comes to implementing team-based and acuity-based staffing models during patient census surges. This project improved nurse managers' confidence in implementing alternate staffing models to affect a positive social change by making sure patients receive safe care during times of inpatient census surges.

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Dedication

I dedicate this project to my remarkable parents, to my dearly beloved father, whose spirit continues to inspire me, and to my tenacious and phenomenal mother. Dad, though you're physically absent, your proud smiles guide me from the heavens, echoing the sentiments you expressed throughout my life. You were, and continue to be, my inspiration. Mom, your selflessness and resilience are the reasons I've come this far. Your steadfast presence in my children's lives during my unavoidable absences cannot be ignored. I wouldn't be where I am today without your love and support. This accomplishment is as much yours as it is mine.

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To my children, D'Asia, Da'Wanna, Donnell, Ch'ance, Ke'din, and Kevin, being your mother is an honor and a blessing. Always remember, with hard work and dedication, the world is yours. Keep striving and remember that no dream is beyond your reach.

Last but not least, to my incredible fiancé, your entrance into my life was truly divine timing. You have been my rock, my comfort, and my motivation. Your love and support have been the needed strength during this journey, and for that, I am beyond grateful. Your contribution to my success is immeasurable, and I cherish you deeply.

This journey has been a testament to the power of love, support, and tenacity, and I am truly thankful for each individual who played a part in my journey.

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Section 1: Nature of the Project

**Introduction**

From the time the COVID-19 pandemic began, it has led to over 6 million deaths and over 600 million infections worldwide (Bandyopadhyay et al., 2020; Nakamura-Pereira et al., 2020; Thompson et al., 2020). Prior to the pandemic, many nurse managers were facing workforce challenges, mainly due to nurse retention issues (Agency for Healthcare Research and Quality, 2021). However, managers were still able to efficiently use the resources available to adequately staff hospital units for safe patient care (Holthof & Leudi, 2021). Despite this efficiency, the pandemic brought new challenges to staffing of patient care units whenever rapid patient surges occurred (Hapern & Tan, 2020). After the spread of COVID-19 became a pandemic, most health care organizations faced challenges navigating the rapidly changing work conditions and workers' roles and skills. (Cassidy, 2020; Paganini et al., 2020).

Despite the lessening impact of the COVID-19 pandemic, health care institutions continue to be left with the question of how to prepare for similar staffing-related issues (Centers for Disease Control and Prevention [CDC], 2022) and cope with the continued nursing shortage. The challenges seen during the COVID-19 pandemic highlighted that traditional staffing models were inadequate (Yang & Mason, 2022). Many health care facilities switched to nontraditional staffing models, such as team staffing, and the use of this model resulted in the maximization of resources and ability to expand capacity to admit patients, all while meeting staff needs to continually provide quality, safe patient care (Cassidy, 2020; Wells et al., 2021). Even though research has demonstrated positive

outcomes associated with shifting towards nontraditional staffing strategies during times of patient surges (Aziz et al., 2020; Handzel, 2021; McGilton et al., 2020), nurse managers struggle to remain knowledgeable about these strategies and confident enough to deploy them when needed (Gab Allah, 2021). Based on the findings in the literature, I conducted this project to provide education for nurse managers and leaders on the use of alternative staffing models to fill the knowledge gap and enhance their confidence to use alternate staffing models during patient surges.

## Problem Statement

The COVID-19 pandemic exposed the lack of adequate health care service providers to care for the rapid increase of patients admitted to hospitals brought on by the pandemic (Carenzo et al., 2020; Mascio et al., 2020; Sanfelici, 2020). At the project site, leadership expressed concerns regarding the problems with trying to utilize the traditional staffing model during the recent COVID-19 pandemic. This problem was supported in published literature. Hoogendoorn et al. (2021) found significantly higher number of patients per nurse (1.1 versus 1.0, $p < 0.001$) and a significantly higher Nursing Activities Score (76.5 versus 50.0, $p < 0.001$) in the COVID-19 period compared to the non-COVID-19 period. The Nursing Activities Score measures the consumption of nursing time in the intensive care unit, with a total score of 100 points equal to the activities of a full-time nurse per shift (Hoogendoorn et al., 2021). In a survey carried out by the American Association of Critical Care Nurses (2022), 90% of nurses reported serious burnout following the pandemic and at least 60% were considering quitting the profession as a result of increased nursing workload.

The CDC (2022) has maintained that having appropriate staffing models is key to providing a safe working environment that will lead to increased patient satisfaction and outcomes. According to Jarrett et al. (2022), the lack of proper staffing models was responsible for the heightened levels of fatigue, negative outcomes, and attrition of nursing staff. In essence, the lack of knowledge and confidence to handle the emerging issues led to a mismatch between skills and tasks, an aspect that heightened the levels of frustration among the health care providers (Jarrett et al., 2022). This heightened level of staff fatigue, coupled with societal demand for COVID-19-related treatment, proved detrimental to the health care systems across the globe (Hoogendoorn et al., 2021). Simpson et al. (2021) reported the importance of staffing support services, such as the human resources department, to provide resources to management to support direct care providers. Pandemic surge staffing requires deploying staff to patient care units to shift workloads in nursing care based on the expertise and skill set of the staff to meet the needs of patients (Cassidy, 2020).

The realization of the lack in pandemic readiness and ability to mobilize health care workers for safe staffing ratios makes it important for health care systems to be prepared for major pandemics in the future (Gostin et al., 2021). Increasing nurse managers' confidence to deploy alternative staffing strategies is one such preparatory step toward the mitigation of the negative effects of future patient surges on nursing demand. Managers need to be knowledgeable of alternative models for effective staffing based on their patient populations and the skill set of their staff. It is through the

possession of such knowledge that the management can effectively utilize the available resources to the benefit of the organization.

Financial support for safe staffing is the responsibility of senior leadership, while handling daily staffing changes is the responsibility of the nurse manager on each unit. Alternative staffing models in the health care industry have gained more attention in recent years (Aziz et al., 2020; Handzel, 2021; McGilton et al., 2020). These include flex staffing, acuity-based staffing, outsourcing, internships for student nurses, and team-based models of care (Mahmut, 2020; Mueller, 2021). In this doctor of nursing practice (DNP) project, I developed an education module for nurse managers to learn alternative staffing for future surges in patient census. The project is significant to the field of nursing practice because it is imperative patient care is provided by staff with the skills to match the needs of the patients, and in order for this to occur, managers must be confident in decisions made regarding the staffing models they use, especially when hospital patient census increases cause increases in patient care demands.

**Purpose Statement**

Despite the potential benefits of alternative staffing models for mitigating the impact of patient surges on health care organizations, nurse managers may be hesitant to implement them due to a lack of confidence in their effectiveness. The practice gap for this DNP project was the lack of knowledge and lack of confidence of nurse managers at the project site in implementing alternative staffing models. According to a nurse administrator at the project site, following a needs assessment, the senior leadership became concerned that a lack of confidence in implementing alternative staffing models

among their nurse managers may have negative consequences for patient care and the overall functioning of the health care organization. Two alternative staffing models were suggested by senior leadership for the current education project: the acuity-based and team-based models. Negative patient care consequences from managers who are not confident in alternative staff strategies have been reported in past literature (Ardebili et al., 2021). The purpose of this project was to assess if providing education on these alternative staffing models can improve nurse leaders' knowledge and self-reported confidence in using alternative models for future surges in patient census.

The practice-focused question for this doctoral project was: Will an educational program on two alternative staffing models increase acute care nurse managers' self-reported knowledge and confidence levels in implementing alternative staffing models for future patient census surges?

Confidence is an important quality for a nurse manager to possess because it allows them to make decisions and take actions that are necessary for the success of the nursing team and the overall health care facility (Warshawsk & Cramer, 2019). High levels of confidence can inspire trust and respect among the nursing staff and can help to create a positive and productive work environment (Hungerford & Cleary, 2021). Low confidence levels can lead to uncertainty and hesitation, which can negatively impact the effectiveness of the nurse manager and the team (Van Dyk et al., 2016). Nurse managers already have several staffing models at their disposal; however, how fast they switch between these models in response to the patient census and available nursing staff directly affects the unit's ability to meet patient demands (Saville et al., 2019). Many

health care organizations struggled during the pandemic to provide safe patient care, not only due to nurse workforce shortages, but also due to the slow response of some nurse managers to switch to more appropriate staffing models (Ochieng et al., 2022). The same applied to the current project site. Leadership at the project site expressed the need for an education module for nurse unit managers to manage staffing requirements for other patient surges situations or emergencies that may produce a surge in patients. Education has been integral to improving employee confidence in their decisions, especially about handling challenges in their environment (Mahmut, 2020).

## Nature of the Doctoral Project

The current project was an evidence-based educational program for nurse managers on two alternative staffing models for future surges in patient census. The project followed the Walden University Manual for Education. The project site was a 300-bed, acute care hospital that employed approximately 1,300 staff. I invited eight inpatient nurse managers to participate in this education session. A literature review was used to identify evidence for the module's educational content, and the relevant literature was appraised using the Johns Hopkins literature appraisal tools. Once the project was approved, I emailed a convenient sample of managers at the project site for participation recruitment. The email contained instructions for participation and completion of the education self-learning module and survey assessment tools. I assessed the effectiveness of the education session to increase managers' self-reported confidence levels in implementing an alternative staffing model for future patient surges via a survey prior to and after the educational program was delivered. The survey questions were developed

by using the first two levels of the Kirkpatrick model: reaction (measured whether learners found the training relevant) and learning (measured whether learners acquired the intended knowledge and confidence; Kirkpatrick & Kirkpatrick, 2006). I used descriptive statistics and a comparative analysis of participant responses to the survey tools to evaluate the effectiveness of the program in answering the DNP project question. The purpose of this education module was to address the gap in practice by increasing the managers' knowledge of two alternative staffing models and their confidence in when these models could be used for future patient census surges.

## Significance

The main stakeholders included the nurse managers at the project site. Other stakeholders included the nursing staff who worked under the supervision of the nurse managers and the project site leadership who employed the nurse managers. The site leadership had a stake in ensuring that their nursing staff and nurse managers were competent and confident in their roles. Finally, patients and their families were also stakeholders because their care could be impacted during times of crises when staffing concerns are an issue.

Nurse staffing issues have been and continue to be a topic of discussion for health care institutions (Griffiths et al., 2020). The COVID-19 pandemic revealed weaknesses in hospital systems to deal with quick and significant changes in patient censuses (Cross et al., 2021). The pandemic highlighted the need for nurse leaders who were prepared to handle conditions during future pandemics, disasters, or mass casualties (Agency for Healthcare Research and Quality, 2021; CDC, 2022).

This DNP project aligned with Walden University's (2022) mission to promote social change through a "deliberate process of creating and applying ideas, strategies, and actions to promote the worth, dignity, and development of individuals, communities, organizations, institutions, cultures, and societies" (p. 1). This project has the potential to enhance nurse management's ability to deploy alternate staffing models to meet the demands of changing hospital unit conditions.

<div align="center">**Summary**</div>

Rapid surges in patient census, such as the recent COVID-19 pandemic, pose challenges for health care institutions to effectively staff their patient care units to provide safe care to the populations they serve. Nurse managers need additional knowledge and confidence to rapidly deploy effective and safe staffing strategies. In this section, I offered a brief overview of the project to assess the impact of an education module on two alternative staffing models to increase nurse managers' self-reported knowledge and confidence levels. The section also contained a discussion of the significance of the project and context in which the project was conducted. In the next section, I will provide a review of the published research and theories used to support the development of the education module. The section will also include an explanation of the project's relevance to nursing practice, the role of the DNP student, and the role of the project team.

Section 2: Background and Context

**Introduction**

The practice problem for this DNP project was the lack of confidence of eight nurse managers at the project site in implementing alternative staffing models during times of patient census surges. The purpose of this project was to assess if providing education on these alternative staffing models could improve nurse leaders' knowledge and self-reported confidence in using these models in the future. The practice-focused question for this doctoral project was: Will an educational program on two alternative staffing models increase acute care nurse managers' self-reported knowledge and confidence levels in implementing alternative staffing models during future surges in patient census? This question addressed the institution's practice gap by educating nurse managers employed at the project site about two alternative staffing models that were chosen by the project site's senior leadership. Providing an evidence-based education model for nurse managers proposed to increase their knowledge and improve their confidence in using alternative staffing models (Mahmut, 2020). In Section 2, I describe the relevance of this project to nursing care as well as the theory and model to support the project design and implementation. Section 2 also includes a discussion of the role of the project team and my role as the DNP student in the process and at which stage each participated.

**Concepts, Models, and Theories**

I used Knowles's adult learning theory (Kearsley, 2010; Wozniak, 2020) and the analysis, design, development, implementation, and evaluation (ADDIE) model (Hund,

2016) to guide the development of the educational module. Knowles's adult learning theory provides guidance on how to educate adults knowing they come with a level of knowledge and experience that they apply to new material being taught (Wozniak, 2020).

**Knowles' Adult Learning Theory**

I used Knowles's adult learning theory to guide the development of the online learning modality to educate the nurse managers in this project. According to Kearsley (2010), Knowles's theory has seven main principles that are based on assumptions of adult learners:

1. Adults are self-directed and have a need to be autonomous.

2. Experiences serve as the foundation for learning.

3. Readiness to learn is related to developmental tasks of the individual.

4. Orientation to learning is task- or problem centered.

5. Motivation to learn is derived from the learner's needs and experiences.

6. The learning environment is most effective when it is supportive and respectful of individual differences.

7. Learning is a continuous process throughout life.

Following these principles, the theory was appropriate to use as a guide for the development of the online learning materials in this project targeted at adult learners.

**The ADDIE Model**

I also used the ADDIE model as part of the framework to design the education module. Hund (2016) stated that this model is a systematic approach to developing adult

learning content by providing an outline for curriculum design, development, and

improvement and consists of five main steps:

1. Analysis: This step involves identifying the needs and goals of the target

   audience, defining the objectives for the training program, and conducting a

   gap analysis to determine what knowledge or skills the audience currently

   lacks.

2. Design: In this step, the instructional strategies, methods, and materials are

   developed based on the information gathered during the analysis phase. This

   includes defining the content, creating outlines and storyboards, and

   determining the instructional methods to be used.

3. Development: During this step, the materials and instructional activities are

   created, and the instructional program is fully developed. This includes

   writing or creating instructional materials, such as the presentations, handouts,

   or videos used in this education, and the validation of the content by the

   leadership team.

4. Implementation: The program is then implemented, and the materials are

   delivered to the learners. This includes conducting the training sessions,

   providing access to the materials, and ensuring the learners have the necessary

   support to complete the program.

5. Evaluation: The final step in the ADDIE model is evaluating the effectiveness

   of the program. This includes collecting data on the learners' satisfaction and

   the extent to which they have achieved the desired learning outcomes and

using this information to make improvements for future iterations of the

program.

**Definitions**

*Acuity-based staffing model*: Staffing based on nursing workload measured

through a system of quantifying patient's individual needs for care.

*Alternative staffing models*: The different ways of arranging and organizing

personnel to meet the demands of patient care.

*Budget-based staffing model*: Staffing based on predetermined budget based on

number of nurse hours per patient day.

*Educational program*: A structured program of learning designed to improve

knowledge, skills, and attitudes.

*Patient surges*: Sudden and unexpected increases in patient numbers that

challenge the health care system.

*Self-reported confidence levels*: An individual's perception of their own abilities

and skills, as reported by the individual themselves.

*Team-based staffing model*: A model that places staff into teams based on skill set

to allow for those with specific skill set to care for patients requiring that skill set. Other

team staff members can then perform care not requiring a specific skill set.

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**Relevance to Nursing Practice**

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Nurses make up the largest number of the health care workforce, which implies

that their services have an immense impact on the quality of service that is offered and

that enhancing the management capacity of nurses can be integral to enhancing the

overall service provision of those nurses (Yang & Mason, 2022). It is essential to ensure that nurse managers possess an understanding of and can resolve the barriers, such as lack of self-confidence and a knowledge deficit, that could hinder the implementation of management roles. Numerous studies have showed the significance of nurse managers in the establishment of a healthy workplace and in enhancing the satisfaction levels of nurses, particularly during times of patient surges and increase patient care demands (Paarima et al., 2021; Saleh et al., 2018). According to Van Dyk et al. (2016), nurse managers are responsible for the development of work schedules and budgets. These roles are integral to the direction of resources and the optimization of service delivery. All these factors are only relevant if the nurse managers have confidence in themselves and their decisions, especially when it comes to high-demand situations, such as sudden patient surges and crises.

Traditionally, nurse-to-patient staffing has always worked because the model ensured the number of nurses on a unit was based on the number of patients assigned to that unit (Griffiths et al., 2020). This model assumed that all patients have similar care needs and, therefore, the same amount of nursing resources are required for each patient (Saville et al., 2019). However, this may not be effective when the acuity of patients increases because when patients have higher acuity, they require more complex and time-consuming care, which puts additional demands on nursing staff (Saville et al., 2019). In these situations, the traditional model may not provide enough staffing to meet the needs of the patients.

**Acuity-Based Staffing Model**

The acuity-based staffing model, also referred to as the Patient Classification System model (American Nurses' Association, n.d.), considers the level of care each patient requires and adjusts the number of nurses accordingly (Gray & Kerfoot, 2016). For example, if a unit has a higher number of patients with higher acuity, the acuity-based staffing model would suggest allocating more nursing resources to that unit. This approach aims to ensure that patients receive the appropriate level of care, and that nursing staff have adequate resources to provide that care (Bowblis, 2022). Gray and Kerfoot (2016) stated that the acuity-based staffing models are based on three main elements: acuity level determination methodology, time to address the acuity by level of care intensity, and skill mix of the care team. Acuity level determination methodology requires well-defined patient acuity levels based on objective identification of patient care needs. The skill mix of the care team is then matched to the level of acuity and the time associated to care for a patient with that level of acuity. This model provides a method to determine staffing that is more sensitive to the unit's patient care needs (Lee et al., 2017).

Although the acuity-based model provides for sensitivity to patient care needs, it is important for the model to be based on objective measures that are pulled from the medical record documentation (Kerfoot, 2020). Objective measures avoid subjectivity that would otherwise run the risk of showing a need for more or less staff than what is actually required. Kerfoot (2020) further explained that the use of medical record documentation allows for data-driven, patient-centered staffing matched with the nurses'

skill set. When institutions do not have the resources to purchase and implement electronic patient scoring tools, the same acuity-based principles can be calculated from paper tools to establish staffing needs for the shift (Ingram & Powell, 2018). Less automated methods, however, rely on objective data by having the nurse score each patient's acuity and report to charge nurses to future staffing assignments can be quantified (Ingram & Powell, 2018).

**Team-Based Staffing Model**

The team-based staffing model places staff into teams where an experienced staff member is partnered with staff member with varying levels of skill (Cross et al., 2021). Often seen in critical care settings, noncritical care staff would be asked to perform care requiring a lesser trained skill set so those staff with critical care experiences can perform patient care requiring that critical care expertise and training (American Hospital Association, 2022). Within this model, staff are often floated to other departments based on their skill set (Hastings et al., 2016). For example, non-nursing staff with unique skills, such as respiratory therapists, could be teamed with a nurse caring for a higher number of ventilated patients. Other team staff members, often referred to as non-nurse extender staff roles, can perform care not requiring a specific skill set or serve in supportive roles that focus on tasks, such as patient transportation, meal tray delivery, or supply delivery to rooms (Cross et al., 2021; Dickerson & Latina, 2017, Hastings et al., 2016). These non-nurse extender staff roles are supervised by the team that have the expertise that is relevant to the patient population on the unit (Kaiser Permanente, n.d.)

**Nurse Manager Self-Confidence and Alternative Staffing Models**

Alternative staffing models, such as the acuity-based staffing model and the team-based model, aim to provide a more flexible and effective approach to staffing, particularly in situations where patient acuity levels are high (Bowblis, 2022). These models are designed to ensure that patients receive the appropriate level of care and that nursing staff have the resources they need to provide that care effectively.

Overall, improving nurse manager self-confidence levels and knowledge in the use of alternative staffing models during patient surges is relevant to nursing practice. Increasing the confidence of nurse managers in using alternative staffing models may improve the quality and effectiveness of patient care, particularly during times of high demand or staffing shortages, which could lead to better patient outcomes and satisfaction as well as contribute to the overall success of the health care organization (McCorkle et al., 2011). Alternative staffing models can help to optimize the use of available resources and increase efficiency within the health care organization. By improving nurse manager confidence in using these models, it may be possible to manage patient surges and reduce the impact on the organization more effectively (Saleh et al., 2018). Nursing staff satisfaction also improves when nurse managers are confident in their ability to effectively manage patient surges (Warshawsky & Cramer, 2019) because the nurse managers are more likely to be effective leaders and create a positive work environment for their nursing staff (Griffiths et al., 2020). This can lead to increased job satisfaction and retention among nursing staff, which can have a positive impact on

patient care and the overall functioning of the health care organization (Waltz et al., 2020).

Addressing nurse manager self-confidence levels in the use of alternative staffing models during patient surges is relevant to nursing practice because it has the potential to improve patient care, enhance organizational efficiency, increase nursing staff satisfaction, and support professional development. Conroy et al. (2021) stated that nursing practice is concerned with the provision of direct care to patients through research, education, nursing administration, and clinical practice; all of which can significantly benefit from improved nursing management. Notably, proper nursing management ensures that the frontline nursing staff can effectively implement their duties that are essential for the improvement of the services received by patients.

## Local Background and Context

I carried out this project at a 300-bed hospital that employs approximately 1,300 staff. Eight inpatient nurse managers were invited to participate in the education session. During the recent COVID-19 pandemic, nurse managers at the project site used the institution's traditional staffing model of budget-based staffing, which, according to a nurse administrator, managers noted negatively impacted the hospital's bed capacity and ability to meet the demand in patient care seen during times of high patient census. Budget-based staffing is an easier model to use; however, it does not consider the individual patient needs with staff skill mix and simply relies on financial allocations based on patient census (Kerfoot, 2020). Senior leadership at the project site have expressed the need for an educational module for inpatient unit nurse managers to

manage staffing requirements for other patient surge situations or emergencies that may present an unusual surge in patients by learning about alternative staffing models. Improving nurse manager self-confidence levels and knowledge in the use of alternative staffing models may help manage these challenges and improve the quality and effectiveness of patient care (Mousazadeh et al., 2019).

## Role of the DNP Student

The role of the DNP-prepared nurse is to apply evidence-based information into practice (Aziz et al., 2020). With skills acquired through this project, I was able to translate research into practice, develop and implement evidence-based, quality improvement projects, disseminate and integrate new knowledge into practice, and engage in advanced nursing practice. Knowledge and experience acquired at the facility could have been a potential bias when developing the education session. To overcome any potential bias, I used validated tools, such as the Johns Hopkins literature review tool, to ensure the educational content was grounded in evidence-based practice.

As the DNP student, I was responsible for the development of the education module and survey questions. The project site's senior nursing leadership reviewed and approved the project's education content before it was delivered as part of the project to ensure that it aligned with the needs of the institution. After receiving Walden University Institutional Review Board (IRB) approval, I sent eight nurse managers an email to recruit them for participation in the project that included a description of project details as well as links to the education module and assessment survey. Voluntary participation was assumed once the participant completed both the pre- and posteducation surveys. I was

also responsible for data analysis of the survey data and producing a final report of the project results to the institution's senior leadership.

The main motivation for taking on these tasks, my role, and conducting the project was to optimize the use of available resources and increase efficiency within the health care organization. By improving nurse manager confidence in using alternative staffing models, it may be possible to effectively manage patient surges and reduce their negative impact on the organization.

There was a chance for potential biases in this project, including personal, selection, and measurement bias. As a nurse with prior work experience at the project site, my personal experiences and knowledge of the hospital operations and staff may have influenced the development and implementation of the educational program. To address this, I involved other team members, such as expert consultants and colleagues, in the development and implementation of the educational program to provide different perspectives and reduce personal bias. The use of a convenience sample of only eight nurse managers limits the generalizability of the findings to other nurse managers and health care organizations. Additionally, the use of self-reported surveys may have resulted in measurement bias because the responses may have been influenced by social desirability bias or other factors that influenced the participants' self-reported confidence levels. This was noted as a limitation to this project.

**Role of the Project Team**

The project team included me, a nurse administrator, and an information technology specialist. As the project lead, I was responsible for overseeing the overall

direction and progress of the project, including the development and implementation of the online education session and survey distribution for data gathering of knowledge and confidence assessment. Because of her professional and academic expertise in alternative staffing models, the nurse administrator was consulted to provide guidance and review the educational content to ensure its accuracy and relevance. The overall project was also reviewed and approved by the institution's chief nursing officer. An information technology specialist was involved to ensure the online education session and electronic surveys were accessible and functional for all participants.

## Summary

In Section 2, I provided an overview of the background and context to support the project design to address the gap in practice identified by the project site's leadership. The section also included a discussion of Knowles's adult learning theory and the ADDIE model that were used to guide the development of the project. I described the roles of the team and myself in the project as well. In Section 3, I will expand on the practice-focused question and discuss the collection and analysis of participant data in the project.

Section 3: Collection and Analysis of Evidence

**Introduction**

Nurses form a critical component of frontline workers responsible for the handling of increased patient care needs brought on by patient surges during pandemics and other emergencies (Aziz et al., 2020). However, traditional staffing models can have negative effects on staff and the patients they care for when patient care demands are high (Cassidy, 2020; Wells et al., 2021) In fact, the CDC (2022) has maintained that having appropriate staffing models is key to providing a safe working environment that leads to increased patient satisfaction and outcomes. Yet, some managers lack the knowledge and confidence to deploy alternative staffing models to meet these high patient care demands (Gab Allah, 2021). This lack of knowledge and confidence was also recognized at the project site.

With this DNP project, I sought to provide an educational module for nurse managers to improve their knowledge and self-confidence in using alternative staffing strategies for future patient surges. In this section, I describe the search methods used to gather evidence as well as the methods employed for analyzing and synthesizing the evidence for the development of the education module. The section also includes a discussion of participant eligibility and recruitment strategy. The methods used to analyze the data gathered from participants to answer the project's practice-focused question are presented as well.

**Practice-Focused Question**

Senior leadership at the project site were concerned that a lack of confidence in implementing alternative staffing models among their nurse managers may have negative consequences for patient care and the overall functioning of the health care organization. To address this concern, the practice-focused question for this project was: Will an educational program on two alternative staffing models increase acute care nurse managers' self-reported knowledge and confidence levels in implementing alternative staffing models for future patient census surges? The use of alternative staffing models during patient surges has been reported to maximize resources and expand capacity to admit patients, all while meeting staff needs to continually provide safe patient care (Cassidy, 2020; Wells et al., 2021).

**Sources of Evidence**

Recent publications following the COVID-19 pandemic have stressed the importance of addressing nurse staffing issues during a pandemic and similar patient surges (Cross et al., 2021; Ehrlich et al., 2020; Endacott, 2022; Hapern & Tan, 2020; Holthof & Luedi, 2021; Musumeci, 2022; Yang & Mason, 2022). I obtained the primary sources of evidence for the education module content from the PubMed, Cochrane Library, and CINAHL databases. Other sources of evidence came from the websites of national organizations, such as the American Nurses' Association and the CDC.

I used the following keywords and phrases to gather evidence for education content development: *team-staffing framework, acuity-based staffing, nurses alternative staffing model, nurse managers confidence levels, nurse managers trust, evidence-based*

*practice in nurse staffing, patient surges,* and *safe patient care.* Boolean operators were applied to improve the search using the search terms above. I limited my searches to sources published within the last 3 years to include the COVID-19 pandemic period. The Johns Hopkins literature appraisal tool was used to screen the retrieved articles to determine the best practices and approaches they contained for increasing nurse managers' confidence levels in implementing alternative staffing models.

The CDC (2022) has maintained that having appropriate staffing models is key to providing a safe working environment that leads to increased patient satisfaction and outcomes in case of a pandemic. Simpson et al. (2021) also reported on the importance of staffing support services, such as the human resources department, during a pandemic to provide resources to management to support direct care providers. Pandemic surge staffing requires deploying staff to patient care units to shift workloads in nursing care based on the expertise and skill set of the staff to meet the needs of patients on units (Cassidy, 2020). Managers need to be knowledgeable of alternative models for effective staffing based on their patient populations and the skill set of their staff.

## Evidence Generated for the Doctoral Project

### Participants

I invited a convenience sample of eight inpatient nurse managers from the 300-bed hospital project site to participate in this project. The eight managers were responsible for determining the staffing of the patient care units at the project site. Their participation was considered voluntary. I recruited the participants via email, with the possible participants' email addresses being provided by the institution's senior

leadership. All participant data submitted prior to participant withdrawal was included in the project data analysis and considered for the final project report to the institution's senior leadership.

**Procedures**

Upon completion of the literature search, I analyzed and synthesized the evidence collected to develop the educational module. The educational program was also guided by  Knowles's adult learning theory and the ADDIE model to ensure a systematic approach was used to develop the content for adult learners. The key areas of the educational content were reviewed by members of the senior nursing leadership team (i.e., the chief nursing officer and a nursing administrator) to ensure the educational content aligned with the needs of the institution. See Appendix A for the education content literature review summary matrix table.

I asked participants to complete a pre- and posteducation survey that was analyzed to assess the impact of the education module on their knowledge and self-reported confidence levels. The questions were rated on a 4-point Likert scale, ranging from *not at all true* to *exactly true*. I created the surveys using Google Forms and embedded a link to the survey into the recruitment email asking the participants to take the survey prior to starting the education and then again after completing the education. Demographic data were collected at the time of the preeducation survey. The same education-related survey questions were administered both before and after the education session. See Appendices B and C for the pre- and posteducation surveys.

**Protections**

To ensure the ethical protection of participants in this doctoral project, I sent an email invitation to participate in this project (see Appendix D) that included a description of the study, its purpose and goals, and the participants' rights should they want to withdraw from participating at any time. The invitation also included an explanation of implied consent, which means the participants were voluntarily consenting to partake in the project by simply completing the project elements (i.e., survey and education module). Data collected from participants were identified by asking the participants to select a unique identifier, composed of the first and last initial of a name the participant chose and the last four digits of their phone number (e.g., HH1234) to protect their identity, yet still allow for comparative analysis. All responses were collected and stored securely in the survey database, which was password protected and known only to me.

The project was approved by the project site's senior leadership as part of their quality improvement initiative and was deferred to the Walden University IRB. The doctoral project was also reviewed and approved by the Walden University IRB (IRB; approval # is 04-21-23-0348773) to ensure that all ethical standards and regulations were met before any parts of this project were conducted.

## Analysis and Synthesis

The data were collected from the participants' survey responses using Google Forms. After the completion of the pre- and post-education surveys, I exported the data into Microsoft Excel for visual analysis. The visual analysis allowed for the assessment of any changes in the nurse managers' self-reported confidence and knowledge levels in

implementing alternative staffing models. I presented the results to key stakeholders to provide an overall picture of the findings and highlight key trends and patterns in the data.

## Summary

In Section 3, I described the methods used in this project to develop and provide an evidence-based education program to nurse managers at the project site. The theories and model used to develop the education provided a clear direction and focus for this DNP project. In this section, I also discuss the sources of information that were used and how the evidence was analyzed to support the project outcomes. In Section 4, I will delve into the findings of our project, which shed light on the effectiveness of an educational program aimed at enhancing nurse managers' knowledge and confidence in utilizing team-based and acuity-based staffing models. Additionally, I will discuss recommendations for future research and practice, including larger-scale studies, long-term impact assessment, objective skill evaluation measures, and integration of the educational program into professional development initiatives for nurse managers.

Section 4: Findings and Recommendations

**Introduction**

I conducted this project to develop an evidence-based educational program for nurse managers on two alternative staffing models to address the knowledge gap and enhance their confidence in implementing these models during future patient census surges. The project focus was on evaluating the effectiveness of the educational program in improving the knowledge and confidence of nurse managers regarding the use of alternative staffing models in acute care settings during patient surges. The practice-focused question for this project was: Will an educational program on two alternative staffing models increase acute care nurse managers' self-reported knowledge and confidence levels in implementing alternative staffing models for future patient census surges? To address this question, I conducted a comprehensive literature search and developed an educational module based on the evidence gathered. The effectiveness of the educational intervention was evaluated by administering pre- and posteducation surveys to nurse managers at the project site. In this section, the findings from the project are discussed and recommendations for future research and practice are made. Additionally, I consider the strengths and limitations of the project and provide insights into the overall impact of the project on nursing practice and health care institutions.

**Findings and Implications**

The objective for this project was to determine if acute care nurse managers' knowledge and confidence levels increased after receiving an education module on alternative staffing models for future patient census surges. The project took place at a

300-bed hospital. The project consisted of four phases: Phase 1, an evaluation of the education module by senior nursing leadership; Phase 2, the administration of the preeducation survey; Phase 3, the presentation of the education module to the nurse managers; and Phase 4, the administration of the posteducation survey. In this subsection, I discuss the project results and implications for clinical practice.

**Phase 1: Panel Evaluation**

I presented the education module to the senior nursing leadership team, including the chief nursing officer and a nursing administrator, for review. The leaders agreed that the module contained relevant information that would increase nurse managers' knowledge of alternative staffing models and enhance their confidence in implementing these models during patient census surges. They further agreed that the module satisfied the hospital's overall educational objectives regarding alternative staffing models and should be recommended for nurse manager education on alternative staffing strategies during future patient surges.

I developed the preeducation survey questionnaire to assess the participants' knowledge and confidence in the following areas:

- knowledge of the team-based staffing model (Questions 1, 8–11)
- knowledge of the acuity-based staffing model (Questions 2, 12–15)
- confidence in implementing either staffing model during patient surges (Question 3)
- challenges in implementing both staffing models during patient surges (Question 4)

- seeking support from colleagues or superiors when implementing alternative staffing models during patient surges (Question 5)

- confidence in control over the implementation of alternative staffing models during patient surges (Question 6)

- satisfaction with the current level of knowledge and skills related to alternative staffing models during patient surges (Question 7)

**Phase 2: Preeducation Survey Results**

To assess participants' baseline knowledge and confidence levels, I sent a preeducation survey (see Appendix B) via email to all eligible nurse managers at the project site. Eight nurse managers were invited to voluntarily participate in the study via this email. Voluntary participation was noted by those who completed and returned the pre- and posteducation surveys. To allow for anonymity, I instructed participants to submit the surveys by creating a participant identification number that consisted of the participant choosing the first and last initials of any person's name coupled with the last four digits of a phone number. This unique number was used to match each participant's pre- and posteducation surveys.

**Table 1**

*Preeducation Survey Results*

| | Question | Not at all true | Hardly true | Moderately true | Exactly true |
|---|---|---|---|---|---|
| | | [1] | [2] | [3] | [4] |
| 1 | I am knowledgeable of the team-based staffing model. | $n = 0$ | $n = 3$ | $n = 5$ | $n = 0$ |
| 2 | I am knowledgeable of the acuity-based staffing model. | $n = 2$ | $n = 6$ | $n = 0$ | $n = 0$ |
| 3 | I am confident in my ability to implement either the team-based and acuity-based staffing model during patient surges. | $n = 5$ | $n = 3$ | $n = 0$ | $n = 0$ |
| 4 | I have found/or would find it challenging to implement the team-based and acuity-based staffing models during patient surges? | $n = 0$ | $n = 1$ | $n = 6$ | $n = 1$ |
| 5 | I often seek support from colleagues or superiors when implementing alternative staffing models during patient surges? | $n = 0$ | $n = 0$ | $n = 6$ | $n = 2$ |
| 6 | I feel confident I have control over the implementation of alternative staffing models during patient surges? | $n = 3$ | $n = 5$ | $n = 0$ | $n = 0$ |
| 7 | I am satisfied with my current level of knowledge and skills related to alternative staffing models during patient surges? | $n = 8$ | $n = 0$ | $n = 0$ | $n = 0$ |
| | Questions addressing nurse managers' knowledge level on the two alternative staffing models | | | | |
| 8 | Which of the following statements best describes a team-based staffing model? | Staffing based solely on the number of patients in a unit. | Staffing based on the severity of illness and complexity of care required by patients. | Staffing based on the level of experience of the nursing staff. | Staffing based on the use of interdisciplinary teams to provide care to patients. |
| | | $n = 0$ | $n = 3$ | $n = 0$ | $n = 5$ |

| 9 | A team-based staffing model can help improve communication and collaboration among healthcare professionals. | True | False | | |
|---|---|---|---|---|---|
| | | $n = 6$ | $n = 2$ | | |
| 10 | Which of the following healthcare professionals may be included in an interdisciplinary team using a team-based staffing model? | Nurses | Physicians | Social workers | All of the above |
| | | $n = 2$ | $n = 1$ | $n = 0$ | $n = 5$ |
| 11 | In team-based staffing model, other tasks can be delegated to the other staff member with a lesser skill set, these include: | Meal tray delivery | patient mobility | responding to call lights | All the above |
| | | $n = 2$ | $n = 2$ | $n = 0$ | $n = 4$ |
| 12 | Which of the following statements best describes acuity-based staffing? | Staffing based solely on the number of patients in a unit. | Staffing based on the severity of illness and complexity of care required by patients. | Staffing based on the level of experience of the nursing staff. | Staffing based on the availability of resources in the healthcare facility. |
| | | $n = 0$ | $n = 6$ | $n = 1$ | $n = 1$ |
| 13 | Is acuity-based staffing primarily used in acute care settings? | Yes | No | | |
| | | $n = 0$ | $n = 8$ | | |
| 14 | Which of the following factors may be considered when determining staffing levels using an acuity-based approach? | The number of beds in the unit | The level of experience of nursing staff | The severity of illness and complexity of care required by patients | The budget allocated for staffing |
| | | $n = 0$ | $n = 2$ | $n = 5$ | $n = 1$ |
| 15 | Based on total acuity score, patient is given an acuity level. What is the Point range for Acuity Level 3 | 1 to 15 | 16 to 30 | 31 to 45 | More than 45 |
| | | $n = 0$ | $n = 0$ | $n = 6$ | $n = 2$ |

***Preeducation Self-Reported Knowledge Levels (Survey Statements 1–2 and 11–15)***

Analysis of the pre-survey results indicated the eight participants had limited knowledge of and confidence in their ability to implement team-based and acuity-based staffing models during patient surges. Of the eight participants, three reported *hardly true* to the statement of being knowledgeable of the team-based staffing model and five reported the statement to be *moderately true.* Based on the knowledge-related test questions, five of the eight participants (62.5%) were able to correctly identify the team-based model as a staffing model based on the use of interdisciplinary teams to provide care to patients, with five participants (62.5%) also being able to correctly identify all the members of that interdisciplinary team. Six (75%) of the eight participants were able to correctly identify the benefits of the team-based model, but only four (50%) noted that all provided examples of patient care activities could be delegated to lesser skilled staff based on the model. For the acuity-based staffing model, six of the eight participants reported *hardly true* to the statement of being knowledgeable, with two of the participants indicating that they had no knowledge of the model by selecting *completely untrue.* Based on the knowledge-related questions regarding the acuity-based model, all eight participants (100%) were able to correctly identify the model to be used primarily in the acute care setting, with six of the eight participants (75%) knowing the model is based on the severity of illness and complexity of care required by patients. Six of the eight participants (75%) were also able to correctly identify the point range that would be used to assign an acuity level of 3 as directed within the acuity-based model guidelines.

***Preeducation Self-Reported Confidence Levels (Survey Statements 3–6)***

In response to the statement of having confidence to implement the acuity-based or team-based staffing model during patient surges, three participants selected *hardly true* and five selected *not at all true*. The participants also reported low levels of confidence in having control over implementing the staffing models as well by reporting *hardly true* ($n = 5$, 62.5%), *not at all true* ($n = 3$, 37.5%). This indicated all eight participants reported having some degree of insufficient confidence to implement either type of alternative staffing models prior to viewing the education module. A majority of the participants self-reported having found it to be challenging or felt that it would be challenging to implement these alternative staffing models by selecting *hardly true* ($n = 1$, 12.5%), *moderately true* ($n = 6$, 75%), and *exactly true* ($n = 1$, 12.5%) to the survey statement, "I have found/or would find it challenging to implement the team-based and acuity-based staffing models during patient surges." The participants also reported they would seek support from colleagues or superiors when implementing alternative staffing models during patient surges.

It is also important to note that all eight of the participants (100%) reported being completely unsatisfied with their current level of knowledge and skills related to alternative staffing models during patient surges. These findings confirmed the need for education and training on alternative staffing models to increase the project site nurse managers' knowledge, confidence, and satisfaction in implementing these models during patient surges.

**Phase 3: Presentation of the Education Module**

First, I presented the education module to the senior nursing leadership team, including the chief nursing officer and a nursing administrator, for review. The leaders agreed that the module contained relevant information that would increase nurse managers' knowledge of alternative staffing models and enhance their confidence in implementing these models during patient census surges. They further agreed that the module satisfied the hospital's overall educational objectives regarding alternative staffing models. I provided the educational module was provided to the eligible participants as an attachment to the recruitment email (see Appendix D), which also included a link to the pre- and posteducation surveys.

**Phase 4: Posteducation Survey**

In the recruitment email, I instructed the participants to view the educational PowerPoint slides and then complete the posteducation survey. All eight participants returned the completed posteducation survey using their personally created unique identifier number to maintain anonymity.

**Table 2**

*Posteducation Survey Results*

| Question | | Not at all true | Hardly true | Moderately true | Exactly true |
|---|---|---|---|---|---|
| | | [1] | [2] | [3] | [4] |
| 1 | I am knowledgeable of the team-based staffing model. | $n = 0$ | $n = 0$ | $n = 1$ | $n = 7$ |
| 2 | I am knowledgeable of the acuity-based staffing model. | $n = 0$ | $n = 0$ | $n = 0$ | $n = 8$ |
| 3 | I am confident in my ability to implement either the team-based and acuity-based staffing model during patient surges. | $n = 0$ | $n = 0$ | $n = 2$ | $n = 6$ |
| 4 | I have found/or would find it challenging to implement the team-based and acuity-based staffing models during patient surges? | $n = 7$ | $n = 1$ | $n = 0$ | $n = 0$ |
| 5 | I often seek support from colleagues or superiors when implementing alternative staffing models during patient surges? | $n = 7$ | $n = 1$ | $n = 0$ | $n = 0$ |
| 6 | I feel confident I have control over the implementation of alternative staffing models during patient surges? | $n = 0$ | $n = 0$ | $n = 1$ | $n = 7$ |
| 7 | I am satisfied with my current level of knowledge and skills related to alternative staffing models during patient surges? | $n = 0$ | $n = 1$ | $n = 6$ | $n = 1$ |
| Questions addressing nurse managers' knowledge level on the two alternative staffing models | | | | | |
| 8 | Which of the following statements best describes a team-based staffing model? | Staffing based solely on the number of patients in a unit. | Staffing based on the severity of illness and complexity of care required by patients. | Staffing based on the level of experience of the nursing staff. | Staffing based on the availability of resources in the healthcare facility. |
| | | $n = 0$ | $n = 0$ | $n = 0$ | $n = 8$ |
| 9 | A team-based staffing model can help improve communication and collaboration among healthcare professionals. | True | False | | |
| | | n = 8 | n = 0 | | |
| 10 | Which of the following healthcare professionals may be included in an interdisciplinary team using a team-based staffing model? | Nurses | Physicians | Social workers | All of the above |
| | | $n = 0$ | $n = 0$ | $n = 0$ | $n = 8$ |
| 11 | In team-based staffing model, other tasks can be delegated to the other staff member with a lesser skill set, these include: | Meal tray delivery | patient mobility | responding to call lights | All the above |
| | | $n = 0$ | $n = 0$ | $n = 0$ | $n = 8$ |

| 12 | Which of the following statements best describes acuity-based staffing? | Staffing based solely on the number of patients in a unit. | Staffing based on the severity of illness and complexity of care required by patients. | Staffing based on the level of experience of the nursing staff. | Staffing based on the availability of resources in the healthcare facility. |
|---|---|---|---|---|---|
| | | $n = 0$ | $n = 8$ | $n = 0$ | $n = 0$ |
| 13 | Is acuity-based staffing primarily used in acute care settings? | Yes | No | | |
| | | $n = 0$ | $n = 8$ | | |
| 14 | Which of the following factors may be considered when determining staffing levels using an acuity-based approach? | The number of beds in the unit | The level of experience of nursing staff | The severity of illness and complexity of care required by patients | The budget allocated for staffing |
| | | $n = 0$ | $n = 0$ | $n = 8$ | $n = 0$ |
| 15 | Based on total acuity score, patient is given an acuity level. What is the Point range for Acuity Level 3 | 1 to 15 | 16 to 30 | 31 to 45 | More than 45 |
| | | $n = 0$ | $n = 0$ | $n = 8$ | $n = 0$ |

### *Preeducation Self-Reported Knowledge Levels (Survey Statements 1–2 and 11-15)*

Of the eight participants, seven reported *exactly true* to the statement of being

knowledgeable of the team-based staffing model, with one manager selecting the

statement to be *moderately true* after viewing the education module. All eight managers

reported *exactly true*, indicating they were now knowledgeable of the acuity-based

staffing model. Based on the knowledge-related test questions, all eight of the

participants (100%) were able to correctly identify the team-based model as a

collaborative staffing model based on the use of interdisciplinary teams to provide care to

patients and were able to correctly identify members of that interdisciplinary team. After

viewing the education module, all eight participants (100%) were also able to correctly

identify the benefits of the team-based model and correctly identified that all patient care

activities provided could be delegated to lesser skilled staff based on the model. The eight

participants (100%) were able to correctly identify that the acuity-based model is used

primarily in the acute care setting and that it is based on the severity of illness and

complexity of care required by patients as well. Finally, the eight participants (100%)

were able to correctly identify the point range that would be used to assign an acuity level

of 3 as directed within the acuity-based model guidelines.

### Posteducation Self-Reported Confidence Levels (Survey Statements 3–6)

The posteducation survey results indicated all eight participants reported an

increase in confidence to implement either type of alternative staffing model. In response

to the statement of having confidence to implement the acuity-based or team-based

staffing model during patient surges, two participants selected *moderately true* and six

selected *exactly true*. The participants also reported a higher level of confidence in having

control over implementing the staffing models as well by selecting *moderately true* ($n =$

1, 12.5%) and *exactly true* ($n = 7$, 87.5%). A majority of the participants self-reported a

decrease in feeling that it would be challenging now to implement these alternative

staffing models by selecting *hardly true* ($n = 1$, 12.5%) and *not at all true* ($n = 7$, 87.5%)

to the survey statement of "I have found/or would find it challenging to implement the

team-based and acuity-based staffing models during patient surges." In response to the

statement of "I often seek support from colleagues or superiors when implementing

alternative staffing models during patient surges," seven participants selected *not at all*

*true* and one selected *hardly true*. This may be due to the increase in knowledge and

confidence gained by the participants after viewing the education module. It is also

important to note that only one participant (12.5%) reported being completely satisfied with their level of knowledge and skills after viewing the module. Six of the participants selected *moderately true* and one (12.5%) selected *hardly true* to the statement of "I am satisfied with my current level of knowledge and skills related to alternative staffing models during patient surges." However, all participant responses increased favorably to this statement after comparing individual responses before and after the educational PowerPoint based on the unique identifiers. Although the module only slightly increased the participants' satisfaction, a majority of the participants indicated the module was still successful in increasing their knowledge, confidence, and satisfaction in implementing these models during patient surges.

## Project Evaluation

Posteducation survey analysis (Figure 1) revealed a marked increase in both the managers' self-reported knowledge of and confidence in implementing the alternative staffing models. Satisfaction levels with their current knowledge and skills related to alternative staffing models increased (Figure 1).

**Figure 1**

*Managers' Responses to Self-Reported Knowledge and Confidence Statements*
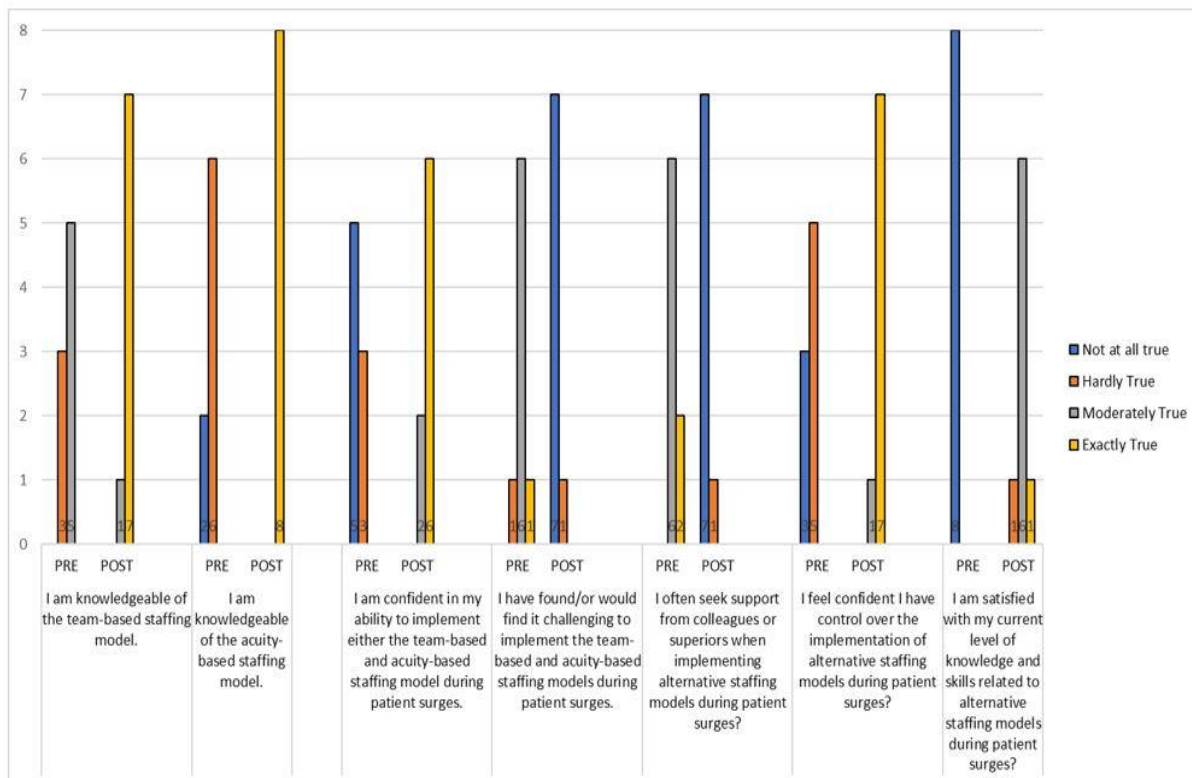


Additionally, the survey revealed that the education program was highly effective in improving the nurse managers' understanding of team-based and acuity-based staffing models. All respondents were able to correctly answer the questions related to the definitions, benefits, and key features of both models. This indicates that the education program provided comprehensive information on these staffing models, leading to an increased understanding of their implementation in practice.

**Figure 2**

*Managers' Knowledge of Alternative Staffing Models Before and After Education*
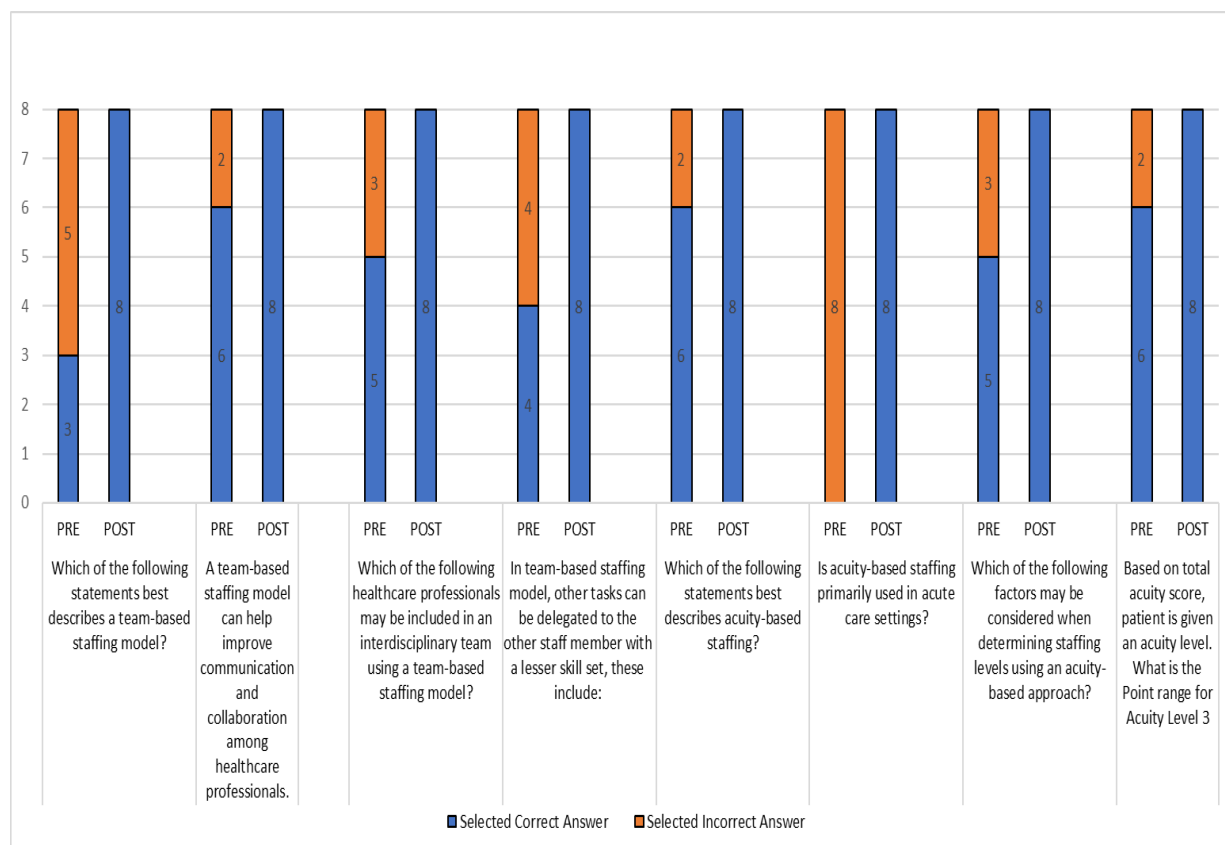


## Implications for Clinical Practice

The results of this study demonstrated that an education module on alternative staffing models during patient census surges effectively increased acute care nurse managers' knowledge and confidence levels in implementing team-based and acuity-based staffing strategies. This has crucial implications for clinical practice, as it suggests that providing targeted education on these staffing models can better prepare nurse managers to respond to future patient surges and maintain safe patient care during times of high patient care demands. The increased knowledge and confidence levels among

nurse managers, as evidenced by the posteducation survey results, could lead to improved patient outcomes, increased staff satisfaction, and more efficient use of resources during times of crisis. By understanding and applying the team-based and acuity-based staffing models, nurse managers can better allocate staff according to patient needs and the skill sets of health care professionals, enhancing communication and collaboration among interdisciplinary teams. Ultimately, this study highlights the importance of continuing education for nurse managers to keep them up-to-date on best practices in staffing models and patient care. As healthcare systems face increasing challenges due to fluctuating patient demands and resource limitations, equipping nurse managers with the knowledge and skills to implement alternative staffing models effectively becomes increasingly important in promoting high-quality patient care and efficient resource management.

## Strengths and Limitations of the Project

The project presented several notable strengths, such as providing targeted education to acute care nurse managers on team-based and acuity-based staffing models, addressing a critical need for knowledge and skill development in managing patient census surges. The use of pre- and posteducation surveys allowed for a clear comparison of nurse managers' knowledge and confidence levels, demonstrating the effectiveness of the education intervention. Additionally, the project offered practical guidance for implementing alternative staffing models during patient surges, which can be directly applied in clinical settings to improve patient care and resource management. The education module emphasized the importance of interdisciplinary teams in the team-based staffing model, promoting collaboration and communication among healthcare

professionals. By addressing nurse managers' knowledge gaps in alternative staffing models, the project contributed to better decision-making and more efficient staffing strategies during times of high patient care demands.

However, there were some limitations to the project. The study included a relatively small number of nurse managers, which may limit the generalizability of the findings to a larger population. The project was conducted at a single health care facility, potentially limiting the applicability of the findings to other settings with different patient populations, resources, and staffing practices. The project objectives assessed nurse managers' knowledge and confidence levels immediately after the education module, without examining the long-term impact of the intervention on clinical practice and patient outcomes. The study did not include a control group that did not receive the education intervention, limiting the ability to determine the specific impact of the education module on the observed changes in knowledge and confidence levels. Finally, the study relied on self-reported data from nurse managers, which may be subject to response bias and may not accurately reflect their actual knowledge and confidence in implementing alternative staffing models.

## Recommendations

Based on the findings and limitations of this project, the following recommendations are proposed for future research and clinical practice:

1. Conduct a larger-scale study with a more diverse sample of nurse managers from different health care facilities and settings to improve the generalizability of the findings.

2. Investigate the long-term impact of the education module on nurse managers' knowledge retention, confidence levels, and actual implementation of alternative staffing models during patient surges.

3. Include a control group in future studies to assess the specific effects of the education intervention compared to standard education or no intervention.

4. Utilize objective measures, such as observation or simulation, to evaluate nurse managers' abilities in implementing alternative staffing models, rather than relying solely on self-reported data.

5. Incorporate the education module into ongoing professional development programs for nurse managers, ensuring they have access to updated information and best practices for managing patient census surges.

6. Foster collaboration and communication among interdisciplinary team members in the clinical setting, emphasizing the importance of team-based staffing models to improve patient care and resource management.

**Summary**

In Section 4 of this paper, the findings of the project demonstrated the effectiveness of the evidence-based educational program in improving acute care nurse managers' knowledge and confidence levels in implementing team-based and acuity-based staffing models during patient census surges. The pre- and posteducation survey results revealed that nurse managers' knowledge and confidence increased after participating in the educational program. This suggests that providing targeted education on alternative staffing models can enhance nurse managers' preparedness for addressing

patient surges and ensure the delivery of safe patient care during high demand periods. The project also highlighted the importance of interdisciplinary collaboration and communication in implementing team-based staffing models, as well as the need to consider factors such as patient acuity and complexity of care when using acuity-based staffing models. Recommendations for future research and practice include conducting larger-scale studies, assessing the long-term impact of the education module, incorporating objective measures of skill evaluation, and integrating the educational program into ongoing professional development initiatives for nurse managers. By addressing the limitations of the current project and building on its findings, future research can contribute to the development of more effective strategies for managing patient census surges in acute care settings, ultimately improving patient outcomes, staff satisfaction, and resource utilization.

Section 5: Dissemination Plan

**Introduction**

The results of this DNP project demonstrated the positive impact of an evidence-based educational program on acute care nurse managers' knowledge and confidence levels in implementing alternative staffing models during patient census surges. The dissemination of the project findings is crucial to improving nursing practice and patient care outcomes in institutions facing similar challenges. My dissemination plan includes sharing the results within the project site and potentially publishing the findings in a peer-reviewed journal or presenting them at a professional conference.

**Analysis of Self**

Throughout the DNP journey, I have gained valuable knowledge and skills in evidence-based practice, research methodology, and critically appraising the literature. The experience has enhanced my ability to develop and implement an educational program addressing a practice gap in nursing management. As a future DNP graduate, I plan to continue my work in nursing management, focusing on disseminating evidence-based practices to nursing leaders and staff within health care institutions. After graduation, my role will involve collaborating with nursing leaders and staff to develop and implement evidence-based educational initiatives, including the alternative staffing models educational program. I will also explore innovative methods to provide ongoing education and support to nursing staff in the ever-evolving health care environment.

**Summary**

In this DNP project, I evaluated the effectiveness of an evidence-based educational program in improving acute care nurse managers' knowledge and confidence levels in implementing the team-based and acuity-based staffing models during patient census surges. The findings revealed that the educational program was successful in achieving the goal of gaining knowledge on alternative staffing models and self confidence levels, highlighting the importance of disseminating this work within the project site institution and the wider nursing community. Moving forward, my dissemination plan includes sharing the project results within the project site and considering publication in a peer-reviewed journal or presenting the findings at a professional conference. By disseminating the project findings, nursing leaders and staff across various health care institutions can benefit from the insights gained in this project, ultimately contributing to improved patient care outcomes and efficient resource utilization during patient census surges.

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Appendix A: Education Module Literature Review Summary Matrix Table

Learning Objectives:

1. Understand importance of using alternative staffing models in times patient surges

2. Identify alternative staffing models.

3. Describe the difference between acuity-based and team-based staffing model.

4. Explain the process for implementing acuity-based and team-based staffing models.

| Learning Objective | Content Outlined | Source of Evidence | Method of Presentation | Method of Evaluation |
|---|---|---|---|---|
| **Understand importance of using alternative staffing models in times patient surges** | During surges in patient census, alternative staffing models have been shown to:<br>• Maximize resources<br>• Expand capacity to admit patients<br>• Meet the needs of staff<br>• Maintain safe, quality patient care | CDC. (2022)<br><br>Hoogendoorn et al. (2021)<br><br>Kerfoot, (2020)<br><br>Saville et al. (2019) | PowerPoint | Pretest/Posttest Item #4, #5, #7, #8 |
| **Identify alternative staffing models** | Acuity-based Staffing Model<br><br>Team-based Staffing Model | American Hospital Association (2022) | PowerPoint | Pretest/Posttest Item #1, #2 |

| | | American Nurses' Association (n.d.)<br><br>Dickerson & Latina, (2017)<br><br>Gray & Kerfooot, (2016)<br><br>Hastings, Suter, E., Bloom., & Sharma, (2016).<br><br>Kaiser Permanente (n.d.)<br><br>Van Der Linden et al. (2023) | | |
|---|---|---|---|---|
| **Describe the difference between acuity-based and team-based staffing models** | Acuity-based Staffing Model: Considers the level of care each patient requires and adjusts the number of nurses accordingly.<br><br>Team-based Staffing Model: Experienced staff member is | American Hospital Association (2022)<br><br>American Nurses' Association (n.d.)<br><br>Dickerson & Latina, (2017)<br><br>Gray & Kerfooot, (2016) | PowerPoint | Pretest/Posttest Item # 1, #2 |

| | partnered with a staff member with varying levels of skill. | Hastings, Suter, Bloom., & Sharma, (2016).<br><br>Ingram & Powell, (2018)<br><br>Kaiser Permanente (n.d.)<br><br>Van Der Linden et al. (2023) | | |
|---|---|---|---|---|
| **Explain the process for implementing acuity-based and team-based staffing models** | | Bowblis, (2022)<br><br>Gray & Kerfooot, (2016)<br><br>Hastings, Suter, Bloom., & Sharma, (2016).<br><br>Kaiser Permanente (n.d.)<br><br>Van Der Linden et al. (2023) | PowerPoint | Pretest/Posttest Item #1, #2, #6 |

Appendix B: Nurse Managers Self-Confidence Preducation Survey

Please create a unique identifier: _ _ _ _ _ _
(unique identifier is to be the first and last initial of any person's name along with the last 4 digits of your personal phone number. For example, an identifier could be JD1234 for Jane Doe with last 4 digits of 1234)

1. Select your gender
   o Male
   o Female
   o Other
   o Do not wish to answer
2. How many years have you been an RN?
   o Less than a year
   o 2 to 10 years
   o 10-20 years
   o 21  years or more
3. How many years have you been a nursing manager of an inpatient unit?
   o Less than a year
   o 2 to 10 years
   o 10-20 years
   o 21  years or more

**Select the appropriate response based on your current knowledge and confidence to work with alternative staffing models.**

| Pre-Survey Results | | | | | |
|---|---|---|---|---|---|
| Question | | Not at all true | Hardly True | Moderat ely True | Exactly True |
| | | [1] | [2] | [3] | [4] |
| 1 | I am knowledgeable of the team-based staffing model. | | | | |
| 2 | I am knowledgeable of the acuity-based staffing model. | | | | |
| 3 | I am confident in my ability to implement either the team-based and acuity-based staffing model during patient surges. | | | | |
| 4 | I have found/or would find it challenging to implement the team-based and acuity-based staffing models during patient surges? | | | | |
| 5 | I often seek support from colleagues or superiors when implementing alternative staffing models during patient surges? | | | | |
| 6 | I feel confident I have control over the implementation of alternative staffing models during patient surges? | | | | |
| 7 | I am satisfied with my current level of knowledge and skills related to alternative staffing models during patient surges? | | | | |
| | **Questions addressing Nurse Managers knowledge level on the two alternative staffing models** | | | | |

| 8 | Which of the following statements best describes a team-based staffing model? | Staffing based solely on the number of patients in a unit. | Staffing based on the severity of illness and complexity of care required by patients. | Staffing based on the level of experience of the nursing staff. | Staffing based on the use of interdisciplinary teams to provide care to patients. |
|---|---|---|---|---|---|
| | | | | | |
| 9 | A team-based staffing model can help improve communication and collaboration among healthcare professionals. | TRUE | FALSE | | |
| | | | | | |
| 10 | Which of the following healthcare professionals may be included in an interdisciplinary team using a team-based staffing model? | Nurses | Physicians | Social Workers | All of the above |
| | | | | | |
| 11 | In team-based staffing model, other tasks can be delegated to the other staff member with a lesser skill set, these include: | Meal tray delivery | patient mobility | responding to call lights | All the above |
| | | | | | |
| 12 | Which of the following statements best describes acuity-based staffing? | Staffing based solely on the number of patients in a unit. | Staffing based on the severity of illness and complexity of care required | Staffing based on the level of experience of the nursing staff. | Staffing based on the availability of resources in the healthcare facility. |

| | | | | | |
|---|---|---|---|---|---|
| | | by patients. | | | |
| | | | | | |
| 13 | Is acuity-based staffing primarily used in acute care settings? | YES | NO | | |
| | | | | | |
| 14 | Which of the following factors may be considered when determining staffing levels using an acuity-based approach? | The number of beds in the unit | The level of experience of nursing staff | The severity of illness and complexity of care required by patients | The budget allocated for staffing |
| | | | | | |
| 15 | Based on total acuity score, patient is given an acuity level. What is the Point range for Acuity Level 3 | 1 to 15 | 16 to 30 | 31 to 45 | More than 45 |
| | | | | | |

Appendix C: Nurse Managers' Knowledge and Self-Confidence Posteducation Survey

Unique Identifier: _ _ _ _ _ _
(please use the same identifier as used in the Pre-Education survey)

**Select the appropriate response based on your knowledge and confidence to work with alternative staffing models at the completion of the self-learning module.**

| Pre-Survey Results | | | | | |
|---|---|---|---|---|---|
| Question | | Not at all true | Hardly True | Moderat ely True | Exactly True |
| | | [1] | [2] | [3] | [4] |
| 1 | I am knowledgeable of the team-based staffing model. | | | | |
| 2 | I am knowledgeable of the acuity-based staffing model. | | | | |
| 3 | I am confident in my ability to implement either the team-based and acuity-based staffing model during patient surges. | | | | |
| 4 | I have found/or would find it challenging to implement the team-based and acuity-based staffing models during patient surges? | | | | |
| 5 | I often seek support from colleagues or superiors when implementing alternative staffing models during patient surges? | | | | |
| 6 | I feel confident I have control over the implementation of alternative staffing models during patient surges? | | | | |
| 7 | I am satisfied with my current level of knowledge and skills related to alternative staffing models during patient surges? | | | | |

| | Questions addressing Nurse Managers knowledge level on the two alternative staffing models | | | | |
|---|---|---|---|---|---|
| 8 | Which of the following statements best describes a team-based staffing model? | Staffing based solely on the number of patients in a unit. | Staffing based on the severity of illness and complexity of care required by patients. | Staffing based on the level of experience of the nursing staff. | Staffing based on the use of interdisciplinary teams to provide care to patients. |
| | | | | | |
| 9 | A team-based staffing model can help improve communication and collaboration among healthcare professionals. | TRUE | FALSE | | |
| | | | | | |
| 10 | Which of the following healthcare professionals may be included in an interdisciplinary team using a team-based staffing model? | Nurses | Physicians | Social Workers | All of the above |
| | | | | | |
| 11 | In team-based staffing model, other tasks can be delegated to the other staff member with a lesser skill set, these include: | Meal tray delivery | patient mobility | responding to call lights | All the above |
| | | | | | |
| 12 | Which of the following statements best describes acuity-based staffing? | Staffing based solely on the number of patients in a unit. | Staffing based on the severity of illness and complexity of | Staffing based on the level of experience of the nursing staff. | Staffing based on the availability of resources in the healthcare facility. |

| | | | | | |
|---|---|---|---|---|---|
| | | care required by patients. | | | |
| | | | | | |
| 13 | Is acuity-based staffing primarily used in acute care settings? | YES | NO | | |
| | | | | | |
| 14 | Which of the following factors may be considered when determining staffing levels using an acuity-based approach? | The number of beds in the unit | The level of experience of nursing staff | The severity of illness and complexity of care required by patients | The budget allocated for staffing |
| | | | | | |
| 15 | Based on total acuity score, patient is given an acuity level. What is the Point range for Acuity Level 3 | 1 to 15 | 16 to 30 | 31 to 45 | More than 45 |
| | | | | | |