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Increasing Knowledge and Comfort Levels of ICU Nurses in Goals of Care Discussions Through Palliative Care Education

Stephanie Harrison

Gardner-Webb University, sharrison3@gardner-webb.edu

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**Increasing Knowledge And Comfort Levels Of ICU Nurses In Goals Of Care
Discussions Through Palliative Care Education**

by

Stephanie Harrison

A project submitted to the faculty of
Gardner-Webb University Hunt School of Nursing
in partial fulfillment of the requirements for the degree of
Doctor of Nursing Practice

2022

Boiling Springs, NC

Submitted by:

Approved by:

Stephanie Harrison

Ashley Isaac-Dockery, DNP, ANP-BC

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Date

Date

Abstract

Critical care nurses are tasked with treating patients during the most complex times, typically beginning with aggressive treatment measures and in many cases, transitioning to end-of-life care. According to the literature review, critical care nurses report they frequently provide care that they feel is futile and palliative care resources are underutilized in the intensive care unit. They also report limited education/training and comfort in understanding their role in goals of care conversations and end-of-life care despite their vital role in providing direct patient care. The goal of this project was to implement an education program using the IMPACT-ICU toolkit to ultimately increase intensive care nurses' knowledge, comfortability, and involvement in goals of care discussions. All critical care nurses (n=25) on a neuroscience intensive care unit at a local community hospital were given a pre-and post-intervention survey to voluntarily complete. As well, all were required to complete the required education webinar via AACN consisting of information from the IMPACT-ICU toolkit. Results of the completed surveys revealed the educational intervention was effective in educating the bedside intensive care nurse role on identifying their role in prognosis, goals of care, and palliative care discussions. Overall, critical care nurses in the target community reported an increase in their ability to identify their role in prognosis, goals of care, and palliative care discussions.

Keywords: goals of care, ICU nurse, end-of-life, intensive care, ICU nurse role in end-of-life

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Introduction

In the intensive care unit (ICU), caring for dying patients and their families is often an everyday occurrence and therefore, goals of care and end of life discussions are commonplace. In fact, “28% of deaths occur in the hospital” (Price et al., 2017, pp. 329), and “in critical care units, the mortality rate ranges between 6.04% and 14.4%” (Arbour & Wiegand, 2014, pp. 212). Nursing care in critical care units is complex. On admission, aggressive curative treatment is typically ordered and may quickly or slowly change to palliative measures. Nurses provide direct care to patients and families throughout this continuum of their critical illness and at the end of life. As a result, nurses have a unique perspective as they carry out and witness the direct effects of both curative intensive care and palliative treatment on their patients.

Problem Identification

Despite how frequently these difficult goals of care conversations arise, nurses report feeling uncomfortable during end-of-life discussions because of limited formal education and a lack of clarity for their role. Many ICU nurses report “they sometimes provide treatment to patients that is one or more of futile, inappropriate, or unnecessary” (Anstey et al., 2019, pp. 460), and further felt that the “palliative care specialists are not consulted soon enough to help with patient decision making, symptom management, and communication” (Price et al., 2017, pp. 334). They are also tasked with providing family updates on the patient’s status and answering complicated plan of care questions. Researchers identify these conversations as often “planting the seed for beginning pivotal discussions regarding goals of care” (Arbour & Wiegand, 2014, pp. 212). Through personal discussions with nurses from the target population and community, they report

uncertainty and discomfort with their role in goals of care discussions. Also, through discussions with both the palliative and education departments, there are a plethora of available resources, but a lack of focused education provided directly to these nurses. Furthermore, the target community's manager verifies the need for the project on this unit through a letter of support for the project. Palliative care teams and experts "encourage nurses to take a more active role" (Pecanag & King, 2018, pp. 129) in goals of care communication and the end-of-life discussion. However, nurses reportedly feel "unprepared for roles they encounter providing care for dying patients and their families" (Arbour & Wiegand, 2014, pp. 218). Studies showed that increased education both formally and informally (i.e., through experience) leads to further understanding and comfortability of the nurse's role in caring for dying patients and their families.

Problem Statement

On initial literature review, critical care nurses are identified as an asset in end-of-life care and goals of care discussion. However, despite the vitality of their role, a lack of specialized, formal education with clarification of their defined role in the goals of care discussion, resulted in discomfort and limited participation. Will an educational session on the critical care nurses' role during goals of care discussion increase the critical care nurses' knowledge, comfortability, and involvement in these discussions?

Literature Review

Using databases including ProQuest, PubMed, and JAMA from 2012-2021, a thorough review of the literature was completed. Keywords specifically: goals of care, ICU nurse, end-of-life, intensive care, and combined with keyword ICU nurse role in end-of-life, were utilized to narrow the results from the literature search process. One

limitation to this search was focusing on articles written in the past 10 years. Many relevant articles were written outside of this limitation and used as references for the articles chosen. Ultimately, 11 studies were selected from peer-reviewed journals to be evaluated for a complete literature review. A detailed review of approximately 11 articles revealed the following themes: lack of a clearly defined role for the ICU in the goals of care discussion, nurses reported feeling discomfort and unprepared to provide care to dying patients, and improved education increases nurses' knowledge on the goals of care discussion.

Anderson et al. (2016) conducted a study to “assess nurses' perspectives on palliative care communication, including the importance and frequency of their involvement, confidence, and barriers” (pp. 589). The study concluded incorporating bedside ICU nurses into palliative discussions and processes improved patient care. However, the identified barriers highlighted interventions such as education that are needed to fully incorporate them into this process (Anderson et al., 2016).

Anderson et al. (2017) completed a study aimed to implement communication skills training workshops and coaching rounds. These workshops and coaching rounds were geared toward identifying and addressing patients' palliative care needs. This study found these programs were successful in improving the nurses' skills, but for long-term integration into practice in these settings, additional training may be necessary.

Anstey et al. (2019) focused on the providers' “perceptions of patients receiving a mismatch in treatment intensity” (pp. 459) and their congruence with one another. This study found that the majority of ICU staff found there was significant mismatch between

the intensity of care received and the “prognosis, patient’s wishes, or achievable goals” (Anstey et al., 2019, pp. 459).

A descriptive study in which interviews with critical care nurses were conducted to evaluate their perspective on navigating the transition from “aggressive lifesaving care to palliative and end-of-life care” (Arbour & Wiegand, 2014, pp. 212). The results of the study determined nurses “may be unprepared for roles they encounter providing care to dying patients” (Arbour & Wiegand, 2014, pp. 218). Improved education is one intervention highlighted through the study results that may aid in preparing nurses for these roles.

Jang et al. (2019) completed a qualitative study that focused on the ICU nurse’s perspective on caring for a patient at the end of life. The study found three main themes in the participants’ responses: (1) facing an extreme change in human existence, (2) being in the presence of the patient’s transition, and (3) being prepared as an intensive care unit nurse (Jang et al., 2019, pp. 5). Based on the responses from the study, the researcher ultimately concluded educational training and guidelines specifically for ICU nurses are vital and should include topics such as nurses’ perception of dying patients, how to manage palliative and end-of-life care, and nursing interventions to include both the patient and their families.

Krimshtein et al. (2011) evaluated the effectiveness of incorporating an interactive approach for an education program on ICU nurses as active members of the interdisciplinary team. The study concluded that “an interactive approach can also be effective in communication skills training for intensive care unit nurses” (pp. 1325).

Milic et al. (2015) highlighted the effectiveness of implementing an education program

geared toward critical care nurses consisting of “key roles and skills of nurses in communication about prognosis and goals of care” (pp. e56). Providing education which clearly defined the ICU nurse’s role and allowed time for practice and reflection, improved confidence; however, the education is limited by participant engagement (Milic et al., 2015). Nelson et al. (2011) used resources and nurse reflections to identify the nurse’s role in creating a sustainable integrative palliative care program. The study identified specific resources which may aid in developing a program, and stressed the importance of nurses proclaiming their role in palliative care programs and recognizing their role system-wide.

Pecanac and King (2019) “explored the nurse-family communication during and after family meetings” (pp. 129). The study found that nurse communication during family meetings was limited and focused on clarification or logistics. Increased incorporation of nurses in family meetings and “empowering nurses to share their expertise” (Pecanac & King, 2019, pp. 129) may improve the understanding of the nurse’s role in family meetings and goals of care discussions.

Price et al. (2017) aimed to evaluate inpatient bedside nurses’ “perceived competency” of palliative and end-of-life care to their patients. The study concluded ICU nurses have the highest level of perceived competency in their role. However, “addressing specific unit needs according to staff characteristics, patient population focus of care, and the acuity level of care” is necessary when designing educational programs (Price et al., 2017, pp. 339).

Wolf et al. (2019) focused on evaluating ICU nurses’ perceived knowledge of providing palliative care as well as morally distressing situations they have encountered.

The study revealed few ICU nurses reported confidence in their skills in providing palliative care and even fewer reported focused education on the topic. Overall, the study concluded critical care nurses are unprepared for their role and palliative care access is perceived as inadequate (with noted barriers).

Needs Assessment

Target Population and Community

The DNP project focused on addressing intensive care nurses' discomfort and reported a lack of preparation for their role in goals of care discussions and in providing palliative care to their patients. The ICU nurses in the neuroscience intensive care unit (ICU) at a local community hospital in central North Carolina represent the target population and community for this project. All registered nurses on the unit were required to partake in the educational program with participation in the study being voluntary.

Sponsors and Stakeholders

This DNP project focused on addressing the gap in education provided to intensive care units in the neuroscience ICU at a local community hospital in central North Carolina. Key stakeholders for the DNP project include the critical care nurses working in the ICU setting. Additional stakeholders include the education and palliative care departments within the local community hospital, and ultimately, the patients receiving care from these nurses on this unit.

SWOT Analysis

Table 1

SWOT Analysis

SWOT Analysis	
Strengths:	Weaknesses:
<ul style="list-style-type: none"> - Inpatient palliative care team/department - Active spiritual care team, works with palliative team - Comfort care order set - Can provide hospice care inpatient - Collaboration between palliative care and ICU physicians. 	<ul style="list-style-type: none"> - Physician consult to palliative care team required - Often only utilized at end-of-life or when patient declined further treatment - Spiritual care underutilized - No de-briefing following code or patient death - Decreased number of ICU nurses with experience because of the pandemic - Increased number of travel nurses staffing the ICU because of the pandemic
Opportunities:	Threats:
<ul style="list-style-type: none"> - Limited spiritual support throughout ICU admission - Culturally sensitive/specific care at end of life - Underutilization of nursing staff - Limited education provided to ICU nurses on their role in goals of care discussions. 	<ul style="list-style-type: none"> - Increased referrals may reduce ability to provide adequate care - Improving skills of others may reduce the need for palliative care specialists - Increased aging population - Increased number of new graduate nurses in the ICU.

Available Resources

The resources available for the DNP project included the resources provided by the education and palliative care departments in the target community. On the target community's intranet, available to all employees, the palliative care department's website is a hub of information for all staff to utilize, including resources on advance care planning, COVID-19, and discharge. Other education opportunities the palliative care department provides include an annual palliative care conference and palliative care champions composed of nurses from each unit in the hospital. The website also lists information specifically geared towards nurses including a comprehensive guide on advanced care planning, end of life, and caring for a dying patient. Other available resources on the topic of palliative care education programs include Integrating Multidisciplinary Palliative Care into the Intensive Care Unit (IMPACT-ICU) by Vital-Talk and End-of-Life Nursing Education Consortium (ELNEC) with online courses available for purchase, including critical care focused course.

Outcomes

The desired outcome for the DNP project was a reported increase in comfortability and understanding of the intensive care nurse's role in goals of care discussions. Another desired outcome was a process change to incorporate goals of care education into a formal requirement for all intensive care nurses in the targeted community. The expected outcome of the DNP project is a reported increase in comfortability and understanding of the intensive care nurse's role in goals of care discussions.

Team Selection

The DNP project consisted of a DNP project chair who was a faculty member of the School of Nursing at Gardner-Webb University and held a Doctorate in Nursing Practice and Adult Nurse Practitioner certifications. The practice partner for the DNP project had a Doctorate in Nursing Science and was the Director of Practice, Quality, and Research at the target community hospital. Three committee members for the DNP project included the critical care clinical nurse specialist, the clinical nurse educator for the target community, and a doctorally prepared nurse practitioner from the palliative care department.

Goals, Objectives, and Mission Statement

Goal of the Project

The goal of the DNP project were to provide education to critical care nurses on goals of care discussions to increase their knowledge and comfort with this topic. Additionally, increase critical care nurses' involvement with goals of care discussions with patients.

Project Objectives

1. Critical care nurses will report an increase in their comfortability and overall knowledge of their role in the goals of care discussion.
2. Critical care nurses will report an increase in their involvement in the goals of care discussion with patients.

Mission Statement

The DNP project was intended to develop a formal education program geared toward the critical care nurse's role in the goals of care discussion. Critical care nurses

provide direct care to patients and families throughout the patient's continuum of his or her critical illness and at the end of life. Critical care nurses are frequently involved in difficult goals of care conversations; however, despite how often these discussions arise, many critical care nurses report feeling uncomfortable during end-of-life discussions because of limited formal education and a lack of clarity about their role. The DNP project implemented an education program using the IMPACT-ICU toolkit to ultimately increase their knowledge, comfortability, and involvement in goals of care discussions.

Theoretical Underpinnings

The model for change to evidence-based practice was created to “guide nurses and other healthcare professionals through a systemic process for the change to evidence-based practice” (Rosswurm & Larrabee, 1999, p. 317). This is a step-by-step guide to assist nurses to implement change “beginning with the assessment of the need for change and ending with the integration of an evidence-based protocol” (Rosswurm & Larrabee, 1999, p. 318). This model is broken down into six steps: (1) Assess (need for change), (2) Link (problem interventions and outcomes), (3) Synthesize (best evidence), (4) Design (practice change), (5) Implement and evaluate (change in practice), and (6) Integrate and maintain (change in practice) (Rosswurm & Larrabee, 1999). This model provides a framework for improving processes and implementing evidence-based research to change and update current practice.

For the DNP project, the model for change was used to guide the project creation. By first assessing the need for change, the foundation for the project is laid. In the DNP project, the identification of a gap in the education and knowledge base of intensive care unit (ICU) nurses concerning their role in goals of care discussions. Through

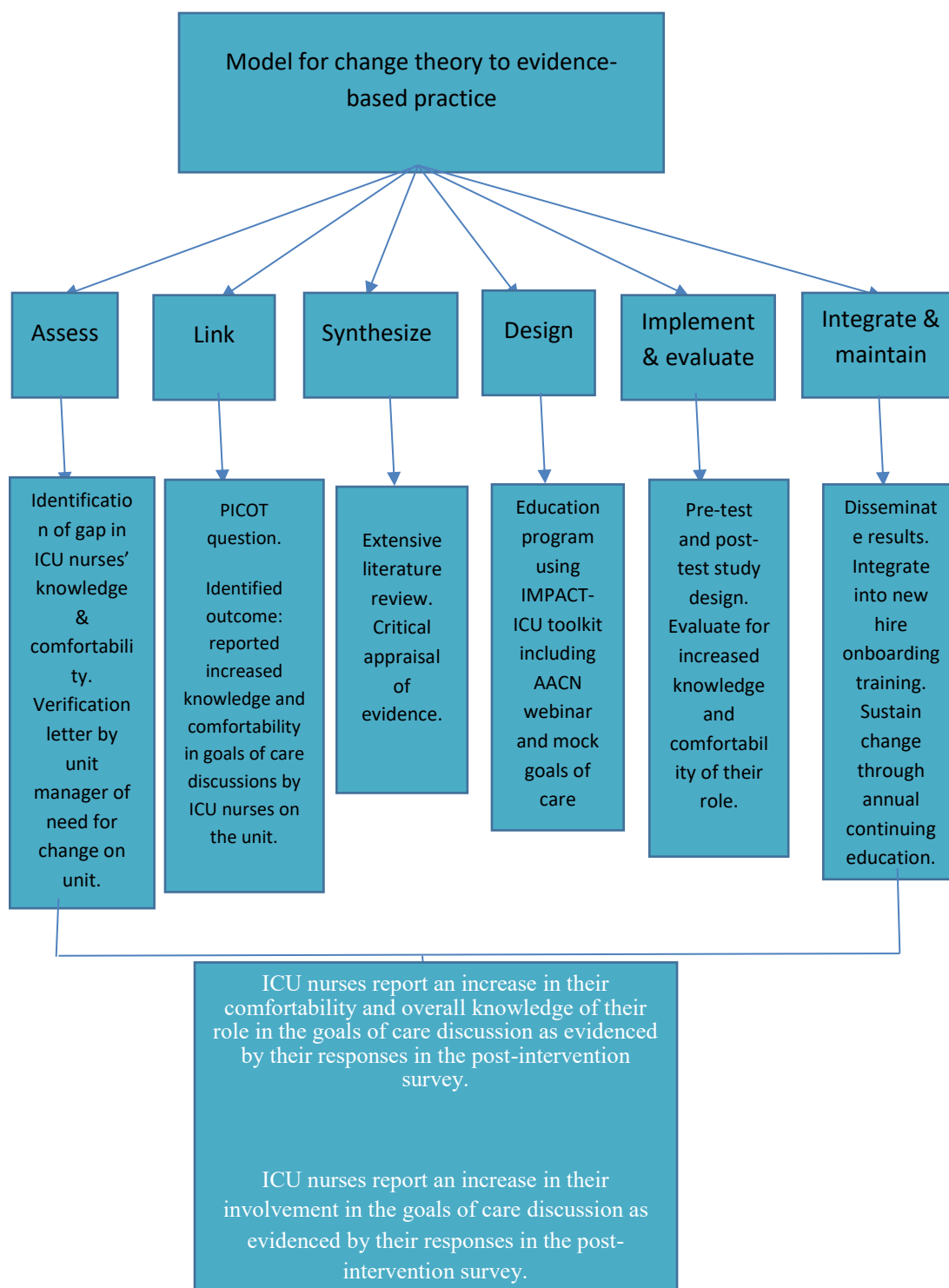
conversations in focus groups, the initial problem was identified and further verified through a confirmation letter by the unit's manager. The manager noted a need for change existed in this specific unit. Next, using the model for change theory, the problem is linked with interventions and outcomes. For example, provide focused education to ICU nurses on their role in goals of care discussions with an identified outcome of increasing these nurses' overall knowledge and comfortability. The next step is one of the most important steps in evidence-based research implementation, which is synthesizing the research to both further identify the problem that exists and to research evidence-based interventions addressing the identified problem. Step four involves designing a change in practice. For this project, based on the synthesis of evidence and intervention chosen, the change in practice is to provide formal education to critical care nurses on their role in goals of care discussions, including a formal webinar and mock conversation scenarios. The next step involves implementing and evaluating the practice change. The DNP project will measure the effectiveness of the intervention by utilizing a pre-and post-test to evaluate whether the formal education increased the critical care nurses' knowledge and comfortability. The final step of the model for practice change is integrating and maintaining the practice change, which included recommending the education used in the DNP project becomes a requirement for all new hires and becomes part of the annual continuing education for all critical care nurses on this unit.

The model for change theory is a step-by-step guide for implementing evidence-based practice. This model was utilized to guide the DNP project from assessment and problem identification to project sustainability. Although this model was not researched for use in graduate study or graduate-level research implementation, the evidence-based

model can be used alongside the American Association of Colleges of Nursing (AACN)'s DNP Essentials in developing a framework for a DNP project. (Figure 1)

Figure 1

Model for Change Theory



Cost/Budget

Figure 3 outlines the total budget for the DNP project including both direct and indirect costs. The costs to survey the nurses and interpret results are minimal, reflected in Table 3c. Tables 3a and 3b reflect indirect costs, primarily the cost of the time of each of the participants, the DNP student, DNP committee members, DNP practice partner, staff nurses, and unit manager. The cost to survey the unit nurses is negligible, as the survey has been modified to an online format for ease of use and ease of interpretation of results. The webinar, included as a part of the IMPACT-ICU toolkit, is completely online and is free to American Association of Critical-Care Nurses (AACN) members. Paid membership to the AACN is not required, a free account will allow access to the webinar. A badge buddy and printed resources were provided to all nurses on the unit to serve as a reminder of topics studied and learned. The total cost out of pocket to complete the DNP project was \$54.39.

Figure 3

Budget

Table 3a: Nurse Expenditures for Quality Improvement Program				
Activity Type	Number of Nurses	Average Hourly Wage	Number of Hours	Cost
Program Implementation	25	\$32.00	1	\$800.00
Total Cost				\$800.00
Table 3b: Volunteers Expenditures for Education/Quality Improvement Program				
Title	Number of Participant	Average Hourly Wage	Number of Hours	Cost
Clinical Nurse Specialist	1	\$43.00	10	\$430.00
Clinical Nurse Educator	1	\$38.00	10	\$380.00
Palliative Care Nurse Practitioner	1	\$50.00	15	\$750.00

Table 3b: Volunteers Expenditures for Education/Quality Improvement Program

Director of Quality Improvement	1	\$48.00	20	\$960.00
Staff ICU Nurses	21	\$30.00	1	\$630
Neuroscience ICU Clinical Manager	1	\$40.80	1	\$40.80
Total Cost				\$3,190.80

Table 3c: Additional Miscellaneous Expenditures for Quality Improvement Program

Product Type	Number Used per Participant	Number of Participants	Total Used	Cost per product	Cost
Paper	2	21	42	0.01	\$0.42
Badge	1	21	21	\$2.57	\$53.97
Buddy					
Access to AACN Webinar	1	21	21	\$0.00	\$0.00
Total Cost				\$54.39	

Table C4: Overall Budget Expenditures for Quality Improvement Program

DNP Student Expenditures	\$800.00
Participant Expenditures	\$3,190.80
Additional Miscellaneous Expenditures	\$54.39
Total =	\$4,045.19

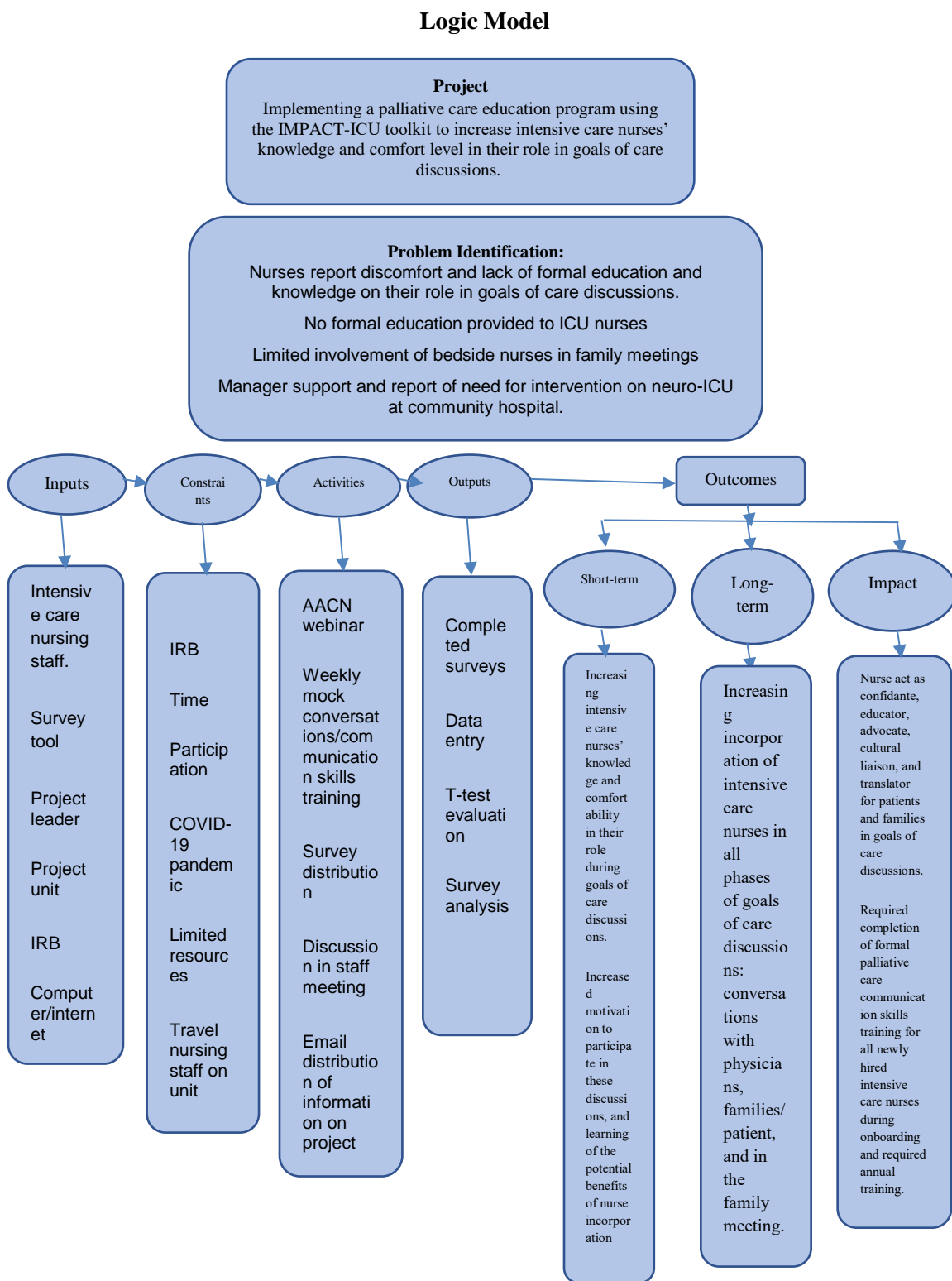
Evaluation Plan

The evaluation plan is a vital part of the project as it determines whether the intervention (education tool) was effective. The assessment of intensive care nurses' knowledge and comfortability in their role in goals of care discussions was evaluated using a survey developed in the IMPACT-ICU project. The IMPACT-ICU project is a project focused on integrating multidisciplinary palliative care into the intensive care unit using a communication skills training program (Vitaltalk, n.d.). The survey was developed by palliative care physicians, bedside intensive care nurses, and nurse educators. Permission to use this survey was granted by the author and leader of the

IMPACT-ICU project, Dr. Wendy Anderson. The survey focused on the critical care nurses' perception of his or her current knowledge and comfortability of their role in goals of care discussions. The survey was used for both pre-intervention and post-intervention to evaluate any change in reported knowledge and comfortability.

Logic Model

The logic model is needed to evaluate the DNP project. Using the logic model, a systematic approach to the project is determined to help ascertain the goal of the project, problem identification including a description of current practice, the desired change to current practice, and the goal outcomes and impact on healthcare (Zaccagnini & White, 2017). The logic model allows for change and adaptation as the project progresses. The overall goal of the logic model is to help organize and promote the timely completion of the project. (Figure 4)

Figure 4*Logic Model*

Problem Identification

Nurses report a lack of formal education and therefore, comfortability in their role during palliative care and goals of care discussions. Frequently bedside nurses are excluded from these formal conversations and therefore, are uncomfortable with discussing prognosis and report feeling overall uncertain of their role in these scenarios. Nurses are widely acknowledged as the patient and family “confidante, educator, advocate, cultural liaison, and translator” (Anderson, 2016,

Implementation

Implementation of a palliative care education program and assessment of the intensive care nurse’s knowledge and comfort level during goals of care discussions achieved approval for project implementation by the DNP committee members, the DNP practice partner, and the DNP project target community and unit manager. Written approval to complete the DNP project was provided by the respective DNP project partners. The DNP project proposal was approved by the DNP practice partner and the Gardner-Webb University faculty DNP project chair. Furthermore, the Institutional Review Board through the Hunt School of Nursing at Gardner-Webb University determined this project met the criteria for a quality improvement project and approved the project for implementation. The DNP practice partner provided written documentation, the institutional review board approval was not required for this project to be implemented in the target community.

Project Design

The DNP project leader had access to all critical care nurses in a neuroscience intensive care unit at a local community hospital. The unit manager had given a written

letter of support for the project, permission to access nurses on the unit, and the need for the DNP project in the neuroscience intensive care unit. All nurses in the neuroscience intensive care unit were sent a recruitment email with detailed information pertaining to the project including informed consent and access to the online survey.

Information within the recruitment email included a link to the online survey with the first page consisting of informed consent. After reading the information on the project and the informed consent, subjects wishing to participate in the project accessed the link to the Pre-Intervention Survey “ICU Nurse Palliative Communication Survey Instrument.” By continuing to complete the survey, the participant’s implied consent was given to participate in the study. Subjects who did not wish to participate in the survey simply closed their browser window and/or did not complete the full survey. There were no identifiable demographics on the surveys submitted. Therefore, the researcher has no knowledge of which participants completed or did not complete surveys.

The pre-intervention survey “ICU Nurse Palliative Communication Survey Instrument” was open to participants for 14 days from the day the recruitment email was sent. The participants were required to complete the educational webinar regardless of participation in the DNP project and had to provide a printed copy of the webinar completion to the unit’s manager. The educational webinar took 75 minutes to complete. Participants had 1 month to complete the online webinar/education (IMPACT ICU Toolkit). In addition, four 1-hour optional in-person communication training sessions, including mock conversation examples, were available to participants after completion of the initial survey and online webinar. Badge buddies with the information provided in the IMPACT-ICU toolkit were distributed to all critical care nurses working in the

neuroscience intensive care unit at a community hospital. After 28 days, a post-intervention survey email for the post-intervention survey was sent to all critical care nurses working in the neuroscience intensive care unit. The email contained the researcher's name, the researcher's contact information, purpose of the study, and a link to the online post-intervention Survey. The post-intervention survey "ICU Nurse Palliative Communication Survey Instrument," survey was open to participants for 14 days from the day the post-intervention survey email was sent. No participant identifiers were collected during the survey to maintain anonymity. The DNP project leader only had access to completed surveys. Completion of the survey took less than 15 minutes. Online data was password protected and only accessible by the DNP project leader.

The pre & post-intervention survey "ICU Nurse Palliative Communication Survey Instrument" consisted of six sections.

1. Section A consisted of two items that were scored using the 4-point Likert scale from 1 = 'Not Important,' 2 = 'Somewhat Important,' 3 = 'Important,' and 4 = 'Very Important.'
2. Section B consisted of eight items concerning how often the bedside nurse engages in certain goals of care/palliative care scenarios; they are scored using the 4-point Likert scale from 1 = 'Never,' 2 = 'Rarely,' 3 = 'Sometimes,' and 4 = 'Often.'
3. Section C consisted of 14 items concerning each of the nurse's levels of agreement with potential barriers to his/her involvement in discussions with families and clinicians about patient prognosis, goals of care, and palliative care.

The answers were scored using the 5-point Likert scale from 1= 'Strongly Disagree,' 2 = 'Disagree,' 3 = 'Neutral,' 4 = 'Agree,' and 5 = 'Strongly Agree.'

4. Section D consisted of one optional free text to list any other factors that the nurses feel limit his/her involvement in discussions about prognosis, goals of care, and palliative care.
5. Section E consisted of 15 items concerning the rate each of the nurse's level of confidence to perform goals of care related tasks using the 4-point Likert scale that are scored from 1 = 'Not Confident,' 2 = 'Somewhat Confident,' 4 = 'Confident,' and 5 = 'Very Confident.'
6. The survey concluded with a free text question for additional comments or thoughts.

All surveys were completed in Qualtrics online database and data was subsequently exported into Excel and each question was evaluated for statistical significance using a paired t-test.

Barriers and Threats

The DNP project leader encountered barriers and threats during the implementation phase of the project. An initial threat to the project was the concern expressed by the unit manager to require mandatory education for which the participants (critical care nurses) would not be paid. Ultimately, due to support of the project and the need on the unit, the unit manager was able to receive approval to reimburse staff nurses, who completed the educational seminar while not at work getting paid. Thus, this threat was avoided. Twenty-five pre and post-surveys were distributed, 16 pre-intervention surveys were returned completed, and 7 post-intervention surveys were fully completed.

All 25 critical care nurses completed the required education seminar, and only two nurses attended the optional in-person educational sessions. Lack of participation by the critical care nurses in the voluntary surveys was the only anticipated threat. Another possible barrier to project implementation was the timing of the implementation phase during the holiday season. Although the required education seminar was completed by all participants, the timing of the project during this period may have contributed to less participation.

Monitoring of Implementation

The DNP project leader monitored closely each step of the implementation phase of the project and acted as the leader of the project by ensuring a clear vision of the project was disseminated and the goals, objectives, and direction of the project were on track. In future dissemination of this project material, ideally, all three components of the AACN webinar will be required to be completed by all new hire critical care nurses at the local community hospital by incorporating the education into the mandatory onboarding information. Time requirements and budgeting concerns limited the project to one part with the additional information presented in the optional educational sessions. Additionally, annual re-education with up-to-date evidenced-based knowledge on palliative care education and goals of care discussions would also be included in all critical care nurse's annual education requirements.

Project Closure

The project's successes and shortcomings were evaluated. The DNP project practice partner and unit manager were notified of the project completion. Project data was disseminated to all stakeholders. No plans to amend the project were suggested and

plans to transfer leadership of the project to the institution in further iterations of the project were discussed.

Interpretation of Data

In section A, the participants were asked to rate how important they felt the two scenarios are to the quality of care for seriously ill ICU patients. All participants felt families and clinicians, as well as bedside nurses engaging in discussions about patient prognosis and goals of care, were either 3 = important or 4 = very important. The results of the pre-intervention survey are reflected in Figure 5 and the results of the post-intervention survey are displayed in Figure 6. The change between the pre-and post-intervention survey results was not significantly significant ($p = 0.17$ for question 1 and 0.10 for question 2 in section A).

Figure 5

Pre-Intervention Survey Results

Q1 - First, how important do you feel the following are to the quality of care for seriously ill ICU patients? Pre-Survey

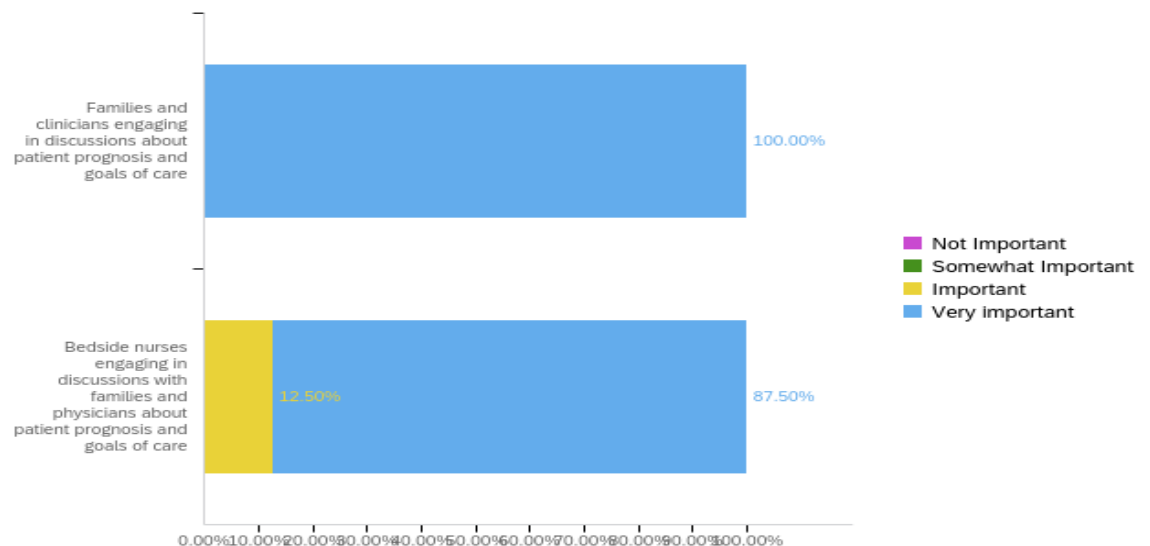
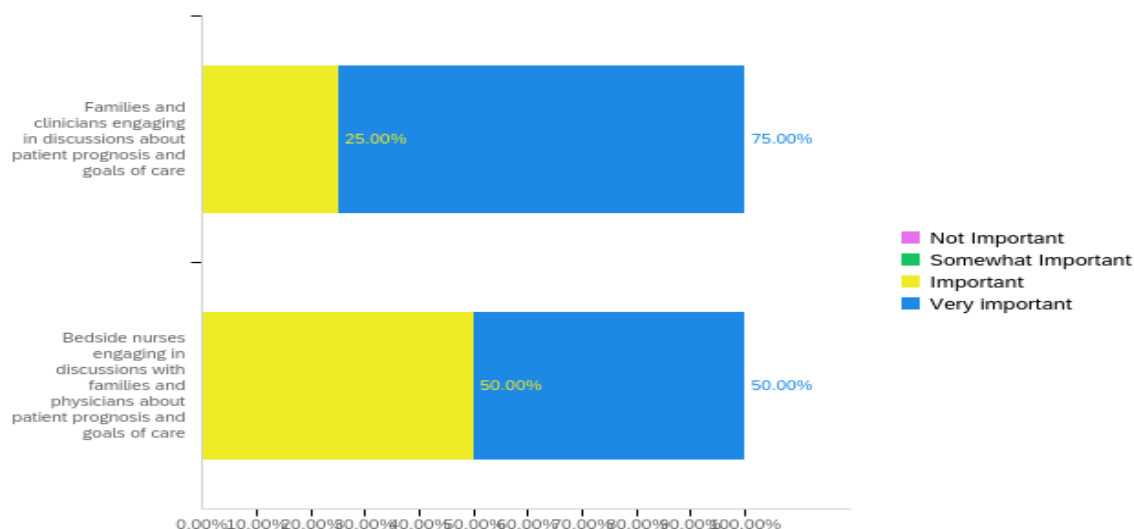


Figure 6*Post-Intervention Survey Results*

Q1 - First, how important do you feel the following are to the quality of care for seriously ill ICU patients? Post Survey



Section B of the surveys consisted of eight items concerning how often the bedside nurse engaged in certain goals of care/palliative care scenarios. Each of these sub-questions was evaluated pre- and post-interventions to evaluate the statistical significance of the change in comfort level and knowledge on the topic. Figure 7 displays the pre-intervention survey data as percentages of each response on the Likert scale for each sub-question. Figure 8 displays the same post-intervention data. The results from the pre-and post-intervention surveys are overall similar and none of the sub-questions revealed statistical significance. The education (intervention) was not able to significantly change the current practices of the bedside nurses in these scenarios. However, the results did reveal small changes, although not statistically significant. For example, pre-intervention, 75% of bedside nurses reported they discuss prognosis with patients' families 'sometimes' or 'often,' and 81.25% reported discussing goals of care with

patients' families 'sometimes' or 'often'. In the post-intervention survey, 85.72% of bedside nurses reported they 'sometimes' or 'often' discuss prognosis and goals of care with patients' families. Although small, there was an increase in reported involvement of bedside nurses in prognosis and goals of care conversations with patients and families. Similarly, although not statistically significant, in the initial pre-intervention survey, 75% of bedside nurses reported they 'never' or 'rarely' attended or participated in family meetings; however, during the post-intervention survey, 57.15% of bedside nurses reported they 'never' or 'rarely' attend or participate in family meetings. Therefore, after the required educational intervention, the bedside nurses reported an increase in their attendance and participation in family meetings.

Figure 7*Pre-Intervention Survey Data Percentages*

Q2 - How often do you as a bedside nurse do the following? Pre-Survey

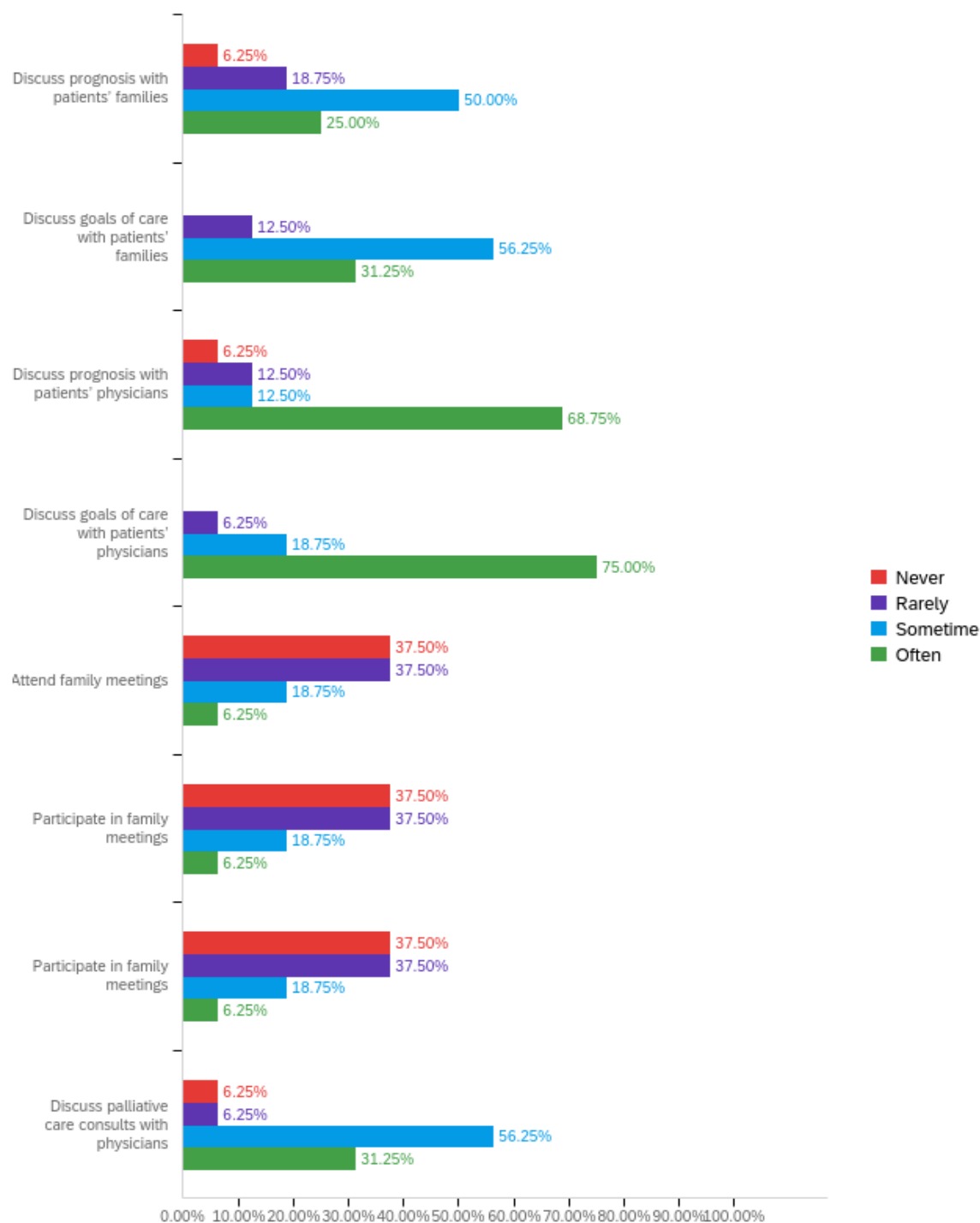
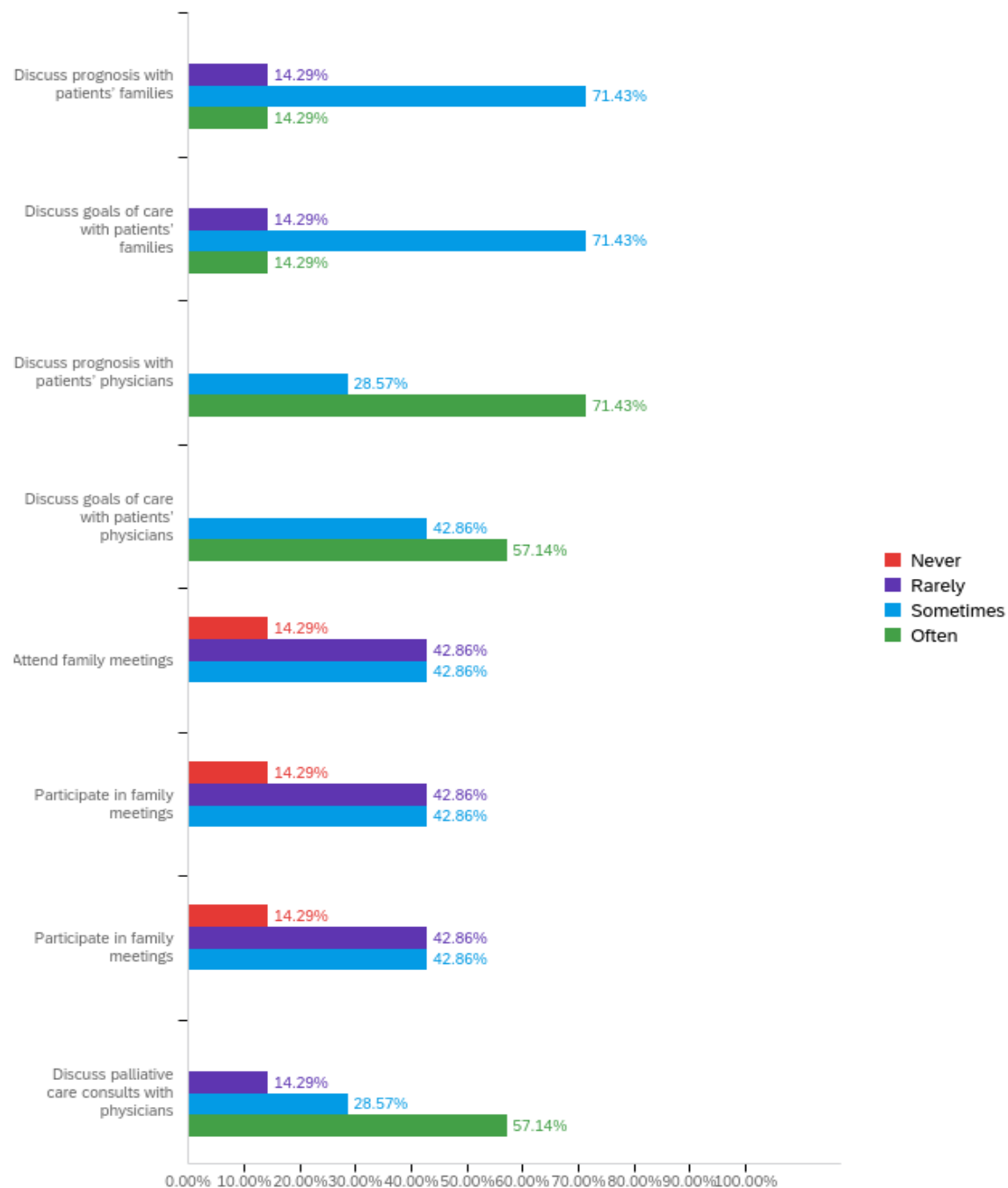


Figure 8*Post-Intervention Survey Data Percentages*

Q2 - How often do you as a bedside nurse do the following? Post-Survey



Section C of the surveys consisted of 14 questions aimed at identifying potential barriers to the bedside nurses' involvement in goals of care discussion and palliative care

initiatives. Figures 9 and 10 display the pre-and post-intervention survey data respectively as percentages of each response on the Likert scale for each sub-question. The first sub-question of this section asked nurses to rate their level of agreement with the statement: “I am unsure of my role in discussing prognosis, goals of care, and palliative care.” This was the sole question that revealed a statistically significant result: $p=0.02$. Based on the pre-intervention survey data, 50% of bedside nurses reported ‘agree’ or ‘strongly agree’ that they are unsure of their role. The post-intervention data revealed none of the nurses selected ‘agree’ or ‘strongly agree’ to the same statement, and in fact, 57.15% selected ‘disagree’ or ‘strongly disagree.’ Therefore, the educational intervention was effective in identifying the bedside intensive care nurse’s role in prognosis, goals of care, and palliative care discussions. Although not statistically significant, 82.25% of bedside nurses in the pre-intervention survey reported they needed more training in how to discuss prognosis, goals of care, and palliative care; whereas, after the educational intervention, only 42.86% of bedside nurses still felt they needed more training. Similarly, again although not statistically significant, 62.5% of bedside nurses in the pre-intervention survey versus 28.57% of nurses in the post-intervention survey reported they were not sure how to bring up prognosis and goals of care with families. Therefore, the education intervention was effective in providing sufficient training to bedside nurses and in providing strategies to bring up the topic of prognosis and goals of care to families.

Figure 9*Pre-Intervention Survey Sub Question Results*

Q3 - Please rate your level of agreement with the following potential barriers to your involvement in discussions with families and clinicians about patient prognosis, goals of care, and palliative care. (Pre-Survey)

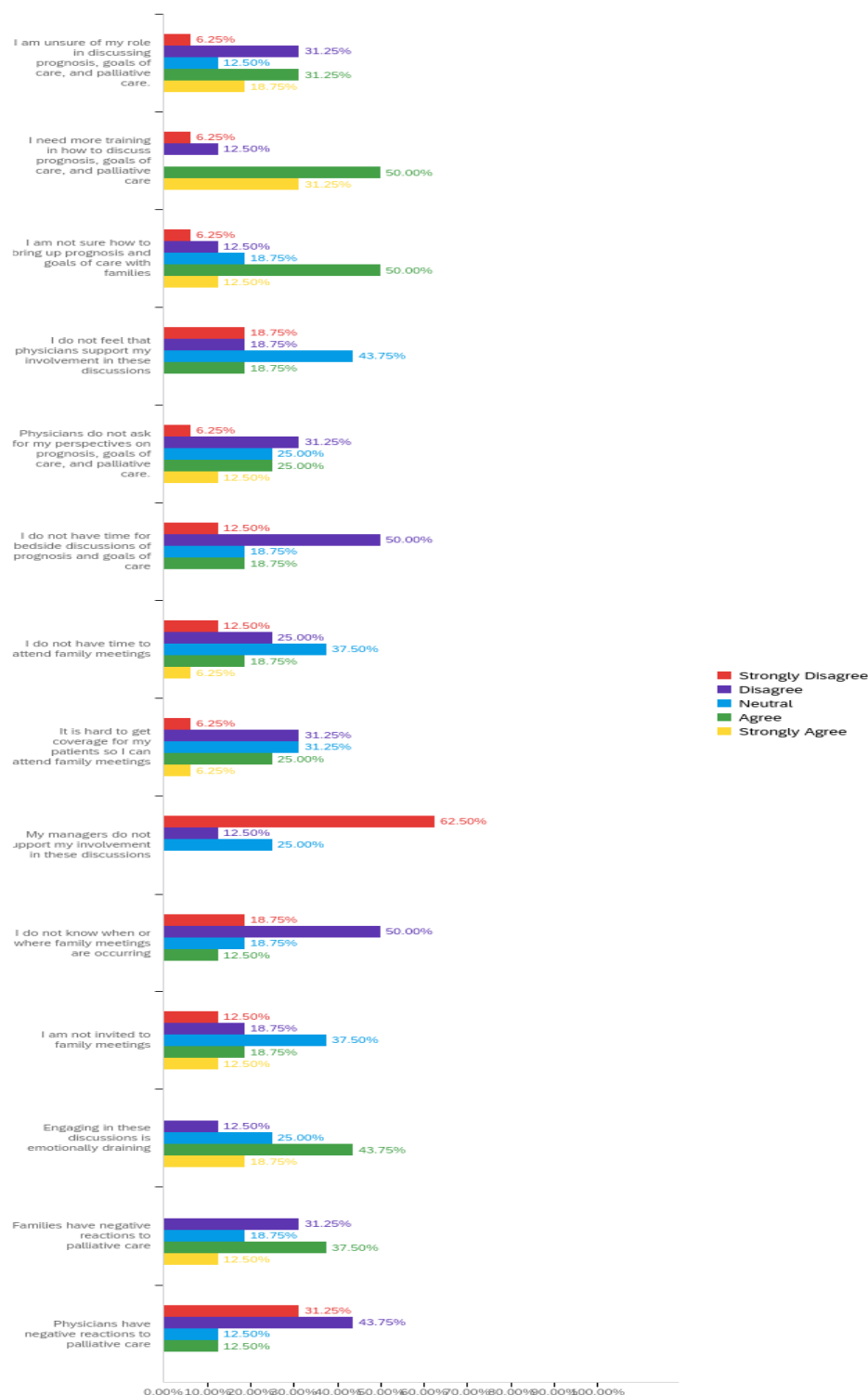


Figure 10*Post-Intervention Survey Sub Question Results*

Q3 - Please rate your level of agreement with the following potential barriers to your involvement in discussions with families and clinicians about patient prognosis, goals of care, and palliative care. (Post-Survey)



As previously stated, Section E consists of 15 items concerning the rate of each nurse's level of confidence to perform goals of care-related tasks. The results from the pre-and post-intervention surveys did not reveal any statistically significant changes, but they did display an overall improvement in the reported level of confidence by the critical care nurses. For example, 31.25% of nurses in the pre-intervention survey reported feeling 'not confident' or 'somewhat confident' in assessing the family's understanding of the patient's prognosis. However, by the post-intervention survey, only 28.57% of nurses still felt only 'somewhat confident' in assessing the family's understanding of the patient's prognosis and no one reported feelings of 'not confident.' Also, 31.25% of nurses in the pre-intervention survey reported they felt 'not confident' in arranging family meetings between families and clinicians; but, by the post-intervention survey, no one reported feeling 'not confident.' The education intervention provided a small boost in the confidence of the participants to perform goals of care-related tasks as noted in Figures 11 and 12.

Figure 11*Pre-Intervention Level of Confidence*

Q5 - Please rate your level of confidence to perform each of the following tasks. Pre-Survey

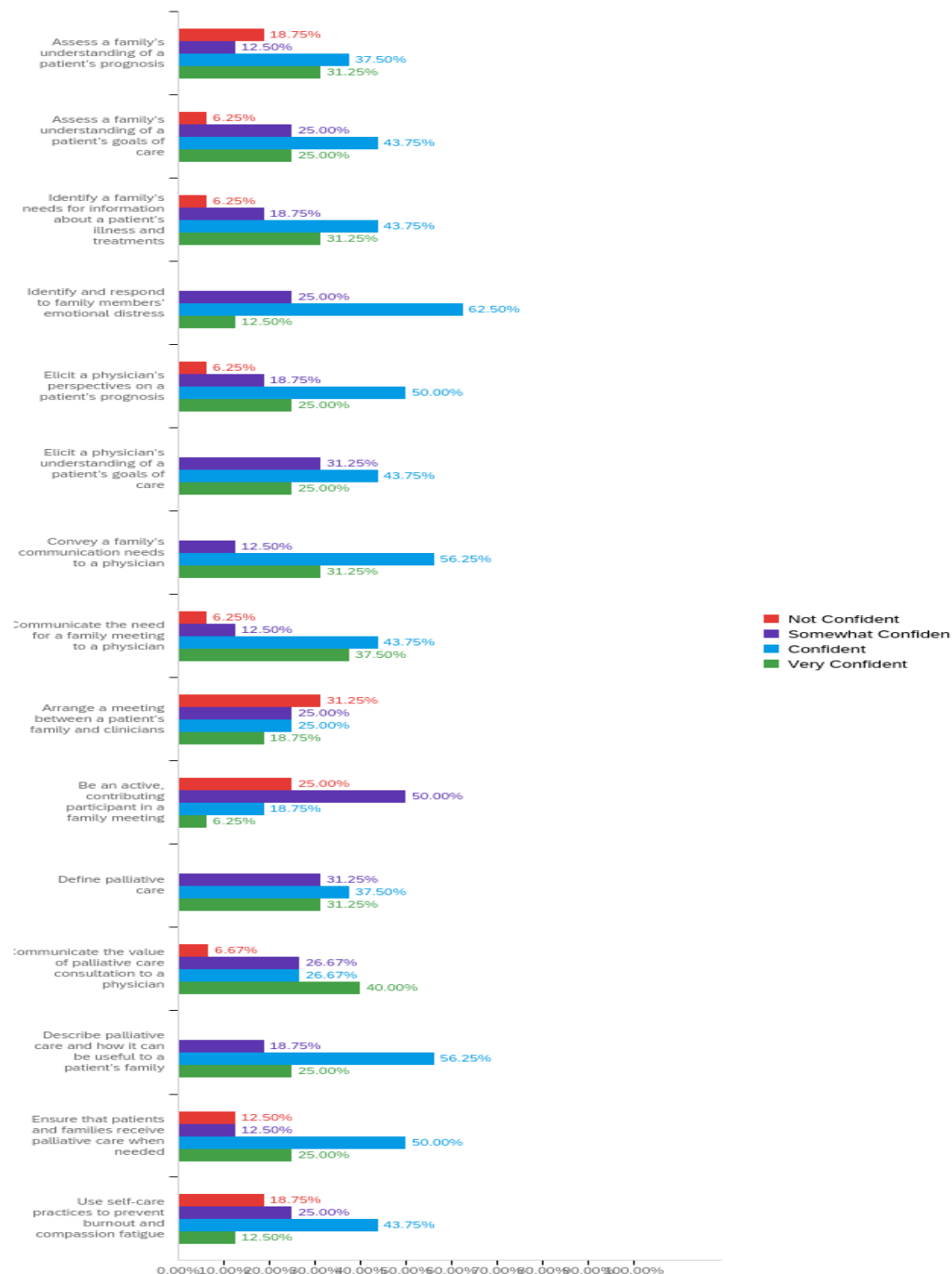
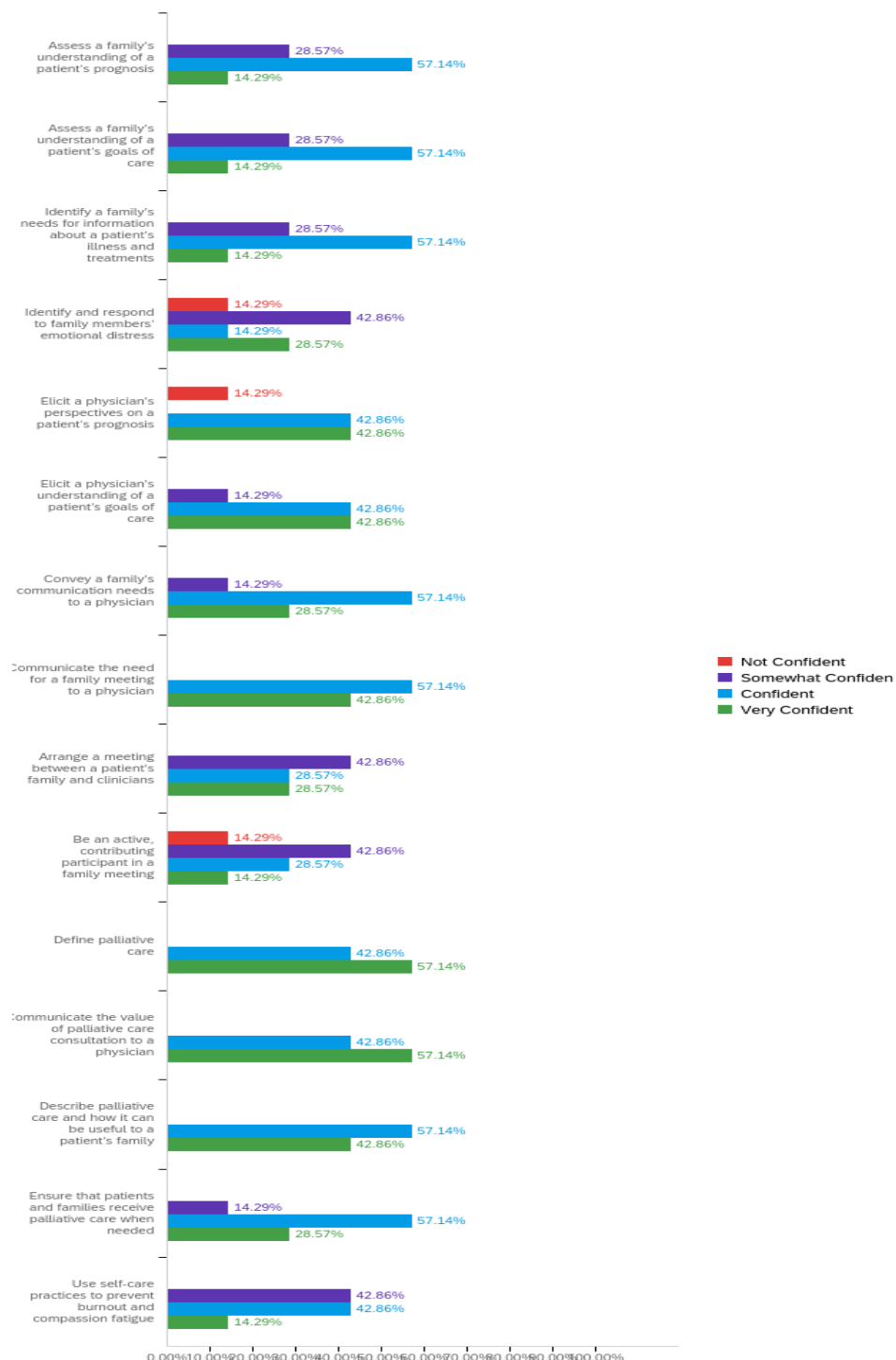


Figure 12*Post-Intervention Level of Confidence*

Q5 - Please rate your level of confidence to perform each of the following tasks. Post-Survey

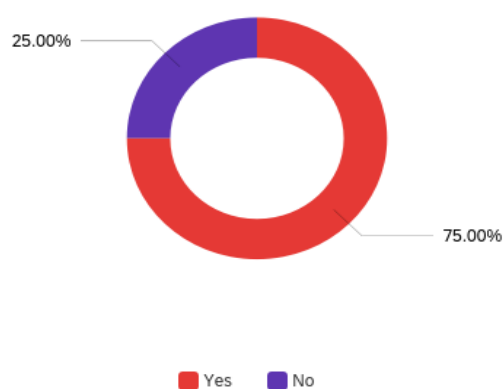


The post-intervention survey evaluated whether participants attended the in-person training session, and if so, did they find it beneficial to their learning. Figure 13 displays the results of 75% of attendees who found the in-person session beneficial.

Figure 13

In-Person Session Benefits

Did you find the in-person session beneficial?



Qualitative Data Results

Both the pre-and post-intervention surveys contained a free-text question in Section D requesting participants to list additional factors which they felt limited their involvement in prognosis, goals of care, and palliative care discussions. The results of pre-and post-intervention surveys are displayed in Figures 14 and 15. Answers from the free-text portion reveal barriers not previously listed in the surveys such as night shift and unclear plans. Often planned family meetings are scheduled during the day to accommodate the schedules of clinicians and families. Working the night shift presents a significant barrier to exposure to these formal discussions. As highlighted in the answers

in the post-intervention survey, the COVID-19 pandemic added an additional layer of complexity to prognosis, goals of care, and palliative care discussions.

Additionally, section F presented an additional section for any additional comments, which only received responses on the pre-intervention survey, shown in Figure 16. In this section, the participants highlighted some barriers addressed in the survey: lack of physician support and uncertainty of role. Although neither were displayed as statistically relevant barriers based on the quantitative data, it is clear the barriers exist for nurses in this target community and should be addressed as process improvement continues.

Figure 14

Pre-Intervention Free Text Results

Please list any other factors that you feel limit your involvement in discussions about prognosis, goals of care, and palliative care:
time, emotions
Lack of family meetings on night shift
lack of experience
Since I am night shift, I'm never around for organized family meetings so it is hard to carry on these conversations when we I participate in the entire conversation
working night shift
lack of time, phrasing, tone
Effective communication with family, knowing what I am allowed/not allowed to say to the family, unclear plan

Figure 15

Post-Intervention Free Text Results

Please list any other factors that you feel limit your involvement in discussions about prognosis, goals of care, and palliative care:

emotions

Lately the acuity of the patients we care for often makes it difficult. People's attitudes and beliefs around Covid often make it very difficult for them to accept what is happening.

Figure 16

Additional Text Section

Please share any other thoughts or comments:

I have been feeling that the conversations are often not as direct as they should be about prognosis and I never know my place and what I'm allowed/not allowed to say within my scope. Often after conversations with the provider, family then comes to me with all the questions they think of after or are too afraid to discuss with a provider.

Depending on The Physician, they may be agreeable to Palliative care, but some don't understand the benefit to palliative care. Even being psychosocially availability for patient's family.

Process Improvement

The project results allowed for a baseline sample of overall intensive care nurses' initial knowledge and level of comfort in prognosis, goals of care, and palliative care discussions, as well as, the effect of this educational program on their reported knowledge and level of comfort in their role. Process improvement begins with the dissemination of the project's results to the neuroscience intensive care (ICU) team and

its leadership. Phase two of the project would include disseminating this educational toolkit to the other intensive care units in the target community. This will allow for consistent education for all critical care nurses in the target community. Phase three of the project would include requiring the three-part AACN webinar and information presented by VitalTalk IMPACT-ICU toolkit to be incorporated into orientation for all new hires within intensive care units of the target community. Incorporating this education into the annual refresher or competencies of intensive care nurses to ensure the continued education of this material. Once established within the critical care it can be disseminated to all nurses within the target community further enhancing project sustainability.

Conclusion

Overall, critical care nurses within the target community reported an increase in their ability to identify their role in prognosis, goals of care, and palliative care discussions. According to data trends, following the educational program intervention, fewer nurses reported needing additional training and nurses reported more comfort/confidence in strategies for bringing up complicated topics on prognosis and goals of care with families. The educational intervention provided an increase in an intensive care unit (ICU) nurses' confidence in performing goals of care-related tasks.

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