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The Effectiveness of a Webinar to Improve ICU Nurses' Competency in Palliative Care

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College of Education and Health Professions
Eleanor Mann School of Nursing

The Effectiveness of a Webinar to Improve ICU Nurses' Competency in Palliative Care

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Abstract

Patients with serious illness lack access to quality patient-centered care despite the growth in palliative care awareness and services. Palliative care is an interdisciplinary care system intended to optimize the quality of life of patients with serious, life-limiting illness and their families. Patients admitted to the intensive care unit (ICU) are facing critical illnesses and can benefit from palliative care integration into their care. This DNP quality improvement (QI) project, grounded in Benner's Novice to Expert nursing theory, aimed to increase ICU nurse competency in palliative care from novice to competent through a continuing education webinar. The study analyzed nurses' competency in palliative care management pre-and post-webinar implementation using the Palliative Care Nurses Self-Competency instrument, which assessed competency in addressing pain and other symptoms, psychosocial and spiritual needs, functional status, ethical and legal issues, communication, personal and professional issues, and end-of-life (EOL) care. The results showed no significant difference in the overall total competency scores pre-webinar ($M = 4.01$, $SD = 0.54$) and post-webinar ($M = 4.39$, $SD = 0.54$) conditions; $t(9) = -1.89$, $p = .091$. There was an overall increase in nurses' pre- to post-intervention competency in all 10 domains, which was statistically significant in the Physical Needs: Other Symptoms domain. The greatest increase in competency was seen in Physical Needs: Other Symptoms, Social Needs, and Ethical and Legal Issues, and the lowest increase in Physical Needs: Pain, EOL Care, and Functional Status Needs. These project results will guide further educational interventions in palliative care management.

Keywords: palliative care, end-of-life, nurses, critical care, intensive care, ICU, education, webinar, competency, and knowledge

The Effectiveness of a Webinar to Improve ICU Nurses' Competency in Palliative Care

The purpose of this DNP quality improvement (QI) project was to improve the competency of registered nurses (RNs) in palliative care within the intensive care unit (ICU) through an online educational webinar. All patients with serious, life-limiting illness should have access to quality palliative care and healthcare professionals in all settings must have the knowledge and skill set to provide primary palliative care to their patients. Nurses' inadequate understanding of palliative care management has led to a gap in care leading to reduced quality of care, increased symptom burden, and family and nurse distress. This project addressed existing barriers to palliative care access in ICU patients and detailed the significant role nurses play for patients admitted to the ICU unit in need of palliative care services. This lack of understanding among nurse participants is addressed through a continuing education webinar developed to increase nurses' competency in palliative care management. This paper details the project's background and significance, review of literature, theoretical framework, methodology, and evaluation.

Background and Significance

Palliative Care

Palliative care is an interdisciplinary care delivery system intended to optimize the quality of life of patients and their families with serious illness by managing their physical, social, psychological, and spiritual suffering (Ferrell et al., 2018). The eight domains of quality palliative care include: structure and process of care; physical aspects of care; psychological and psychiatric aspects of care; social aspects of care; spiritual, religious, and existential aspects of care; cultural aspects of care; care of the patient nearing the end of life; and ethical and legal

aspects of care (Ferrell et al., 2018). Palliative care aims to improve patients' quality of life and lower their symptom burden (Center to Advance Palliative Care [CAPC], 2018b).

Palliative care can be received alongside curative and life-prolonging treatment, as it is delivered based on the patient's need, not their prognosis (Ferrell et al., 2018). Palliative care services include pain and other symptom management, ethics and decision making, communication, and end-of-life (EOL) care (Rosa et al., 2020a). This care focuses on what is important to the patient, their values, goals, and preferences, and how best to achieve these (Ferrell et al., 2018). Palliative care can be provided in a hospital, nursing home, patient's home, or a medical office (CAPC, 2018a).

Prevalence

Approximately 40 million people need palliative care each year; however, only 14% of these people worldwide receive it (World Health Organization [WHO], 2020). Any person with a serious illness could benefit from palliative care and an estimated 41% to 76% of individuals in the United States died from conditions that indicate a need for palliative care (CAPC, 2018a; Morin et al., 2017). Serious illness is defined as "a health condition that carries high risk of mortality and negatively impacts a person's daily function or quality of life, or excessively strains their caregivers" (Kelley & Bollens-Lund, 2018, p. S-8). Most adults in need of palliative care have a chronic disease (WHO, 2020). In the United States, 60% of adults have at least one chronic disease, and 40% of adults have two or more (Centers for Disease Control and Prevention [CDC], 2021). Examples of chronic illnesses are diabetes, Alzheimer's disease, chronic kidney disease, cancer, heart disease, and chronic lung disease (CDC, 2021). Additionally, 40% of Americans will be diagnosed with cancer in their lifetime and cancer remains the second leading cause of death (May et al., 2016). Pain and shortness of breath are

two of the most common symptoms related to serious illnesses that warrant palliative care management (WHO, 2020).

The need for palliative care has risen over time due to the aging population and increase in the burden of diseases (WHO, 2020). This field has been one of the fastest growing as providers, payers, and policymakers recognize its potential to not only improve quality but decrease costs related to length of stay and resource utilization (CAPC, 2018a). The number of hospitals with 50 beds or more that have a palliative care program has tripled to 75% in the last 16 years; however, many of these programs remain understaffed and under resourced illuminating the importance of basic palliative care competency for all nurses (CAPC, 2018a). Healthcare systems are slow to integrate palliative care inpatient services, with Maryland being the only state that mandates hospitals with 50 beds or more have a palliative care program (Donlon et al., 2018).

Palliative Care Management

The *National Consensus Project Clinical Practice Guidelines for Quality Palliative Care* (NCP) fourth edition guidelines aim to improve access to quality palliative care and encourage and guide clinicians and organizations with palliative care integration and best practices (Ferrell et al., 2018). It comprises eight domains that guides safe, evidence-based practice to all people with serious illness in every healthcare setting. One of the changes from the previous edition is the inclusion that timely palliative care is the responsibility of all clinicians and disciplines (Ferrell et al., 2018).

Various healthcare providers can provide palliative care in diverse healthcare settings (Ferrell et al., 2018). Specialty palliative care is provided by palliative care experts, such as fellowship-trained or board-certified physicians and palliative care certified advanced practice

nurses, registered nurses, chaplains, social workers, and pharmacists (Ferrell et al., 2018). Specialists in palliative care provide time-intensive patient and family counseling and family meetings, skilled communication on what to expect so expectations match goals of care, expert symptom management, and coordination and communication of the care plan among healthcare professionals (CAPC, 2018b). Primary palliative care is palliative care delivered by any other healthcare professional, not a specialist (Ferrell et al., 2018). Studies show evidence that palliative care specialists add value to patients' quality of care; however, specialists and other healthcare professionals must provide palliative care in parallel (Nelson et al., 2010).

There are two main models for palliative care in the ICU. The first is a consultative model which focuses on palliative care consultants for those ICU patients and families with the highest risk for poor outcomes. The second is an integrative model which embeds palliative care skills and principles into everyday practices by the ICU team for all their patients and families facing serious, acute illness (Nelson et al., 2010). These two models are not exclusive, but rather a continuum of palliative care services. ICU triggers for a palliative care approach include advanced age, increased length of stay, and duration of life support. Triggers that most commonly prompt consideration for specialist referral are metastatic cancer, end of life decision making, unrealistic goals of care, and persistent organ failure (Wysham et al., 2017).

Hospice is a particular type of palliative care that is eligible to patients with a life-expectancy of months instead of years (Ferrell et al., 2018). Hospice organizations provide patients with EOL care in their home, hospice facility, or nursing facility. In hospice, patients and families desire treatments focused on comfort and quality of life and forego insurance coverage for other curative, disease-directed treatments. Adults must have an estimated prognosis of six months or less to be eligible for hospice services (Ferrell et al., 2018).

COVID-19 Impacts

The novel coronavirus (COVID-19) outbreak that began in 2019 has made the importance of palliative care clearer and indispensable (Rosa et al., 2020a). COVID-19 brought attention to death and dying, as mortality has become a daily headline in worldwide media and politics, intensifying the stress on patients with serious illness through functional decline and social and economic instability (Rosa et al., 2020a). COVID-19 illuminated gaps in the healthcare system and added a set of patients to palliative care services who were healthier on admission and presented with more acute illnesses necessitating urgent advanced care planning (Moriyama et al., 2020). For example, one New York hospital palliative care service saw a 59% increase in the number of palliative care consults during the initial outbreak of COVID-19 (Moriyama et al., 2020). This challenging time was a call to fully incorporate palliative care into healthcare, and the urgency of the pandemic may catalyze healthcare to better relieve suffering (Radbruch et al., 2020). Expanding ICU nurses' knowledge in palliative care will also strengthen the health system's resilience, not only to aid in the current pandemic, but in all future patient interactions (Rosa et al., 2020a).

Economic Benefits

Patients diagnosed with serious conditions account for a large percentage of health care spending and these costs are projected to continue to grow due to increased insurance eligibility, increased cost of care, and continued use of nonbeneficial treatments at EOL (May et al., 2016). Patients with a Elixhauser comorbidity score of between two and three who had a palliative care consult within two days had 22% cost saving, and a score of four or higher had 32% cost savings (May et al., 2016). Furthermore, acute care hospitals have the potential to reduce costs for patients eligible for palliative care services by increasing their palliative care capacity to meet

national guidelines (May et al., 2018). Palliative care consultations within three days of admission reduce direct hospital costs for adults with life-limiting illness (May et al., 2018). Additionally, cost savings were higher in patients with four or more comorbidities and even higher for patients with cancer (May et al., 2018).

Nurse Education and Role

Nurses comprise over half of the global healthcare workforce and have the highest direct patient care time (Rosa et al., 2020a). Approximately 86% of care time in the ICU is with nurses (Butler et al., 2018). Patient care time is defined as the time that at least one health care worker is in the patient's room. Nurses can have a significant impact on the quality and type of care that patients receive because of the significant time they spend at bedside (Ganz & Sapir, 2019). The relationship between the patient, family, and ICU nurse is fundamental because patients admitted to the ICU are suddenly confronted with life-threatening and potential EOL situations (Zante et al., 2017).

Palliative care requires specific training beyond clinical nurses' fundamental skills and basic symptom management, and nurses do not always receive this specialized education (Davis et al., 2021). Integrating palliative care proficiencies into the undergraduate nursing curriculum remains challenging due to barriers such as limited content expertise, saturated curricula, and cost (Davis et al., 2021). The nursing standard for palliative care practice includes a competent level of care involving assessment, diagnosis, outcome identification, planning, implementation, and evaluation (Matzo & Sherman, 2018). About 25% of undergraduate programs are incorporating The End-of-Life Nursing Education Consortium (ELNEC) undergraduate online modules into their programs (Davis et al., 2021). This contains six modules of interactive primary palliative care content including introduction; communication; pain management;

symptom management; loss, grief, and bereavement; and final hours of life. Despite undergraduate nursing programs slowly integrating palliative care education into curricula, nursing educators and healthcare systems still lack awareness regarding the importance of palliative care and the increasing demand of patients that warrant palliative care services (Davis et al., 2021). Continuing education in nursing must address this lack of training in undergraduate programs to build understanding of the benefits of palliative care and ensure access to all patients that may benefit. Improvement in patient outcomes related to satisfaction and cost will also build this awareness of the advantages of a palliative care approach in the ICU.

Webinar

Technology provides an opportunity to provide palliative care education and support to a diverse audience of nurses. Webinars are a technology that allow experts to present material online that can be accessed from a participant's home or other suitable location (Chiswell et al., 2018). A cancer webinar with 438 participants, including people affected by cancer and health professionals, showed 93% were interested in participating in future webinar opportunities (Chiswell et al., 2018). This same study assessed knowledge, awareness of resources, and confidence pre- and post-webinar and demonstrated that webinars are an effective, accessible, and sustainable means to deliver information to health professionals and patients (Chiswell et al., 2018). Virtual education has filled a need during the COVID-19 pandemic and while it will likely never replace traditional conferences, it does reduce carbon footprint, increase access, and promote a "sustainable academia" (McMahon et al., 2021). E-learning webinars promote greater attendee satisfaction and deep learning with less barriers to participation (McMahon et al., 2021).

Problem Statement

The problem statement for this DNP QI project is that ICU patients are not receiving essential palliative care services. There is a shortage of palliative care specialists, and the COVID-19 pandemic has brought the urgent need for universal palliative care and symptom relief to the surface (Rosa & Davidson, 2020). Currently, nurses face barriers to navigate chronic illness treatment, assist with goals of care planning and symptom management, and advocate for specialist referral to fill this gap in care. These barriers include lack of interdisciplinary working practices, communication structures, and training in palliative care principles (Nevin et al., 2020). Specific ICU barriers include treatment that has historically been focused on saving lives and norms that encourage continuation of therapy at all costs (Ganz & Sapir, 2019).

Purpose Statement

The purpose statement for this DNP QI project was to increase ICU patient access to palliative care services through the implementation of a continuing education webinar enhancing ICU RN palliative care knowledge. This webinar sought to increase competency in palliative care management among ICU nurses by addressing goals of care conversations, basic symptoms management, communication, interdisciplinary working practices, and specialist referral practices. This project determined the impact that a continuing education webinar has on ICU nurses' knowledge so that healthcare systems can support their nurses to participate in these opportunities and provide effectual palliative care to their patients with serious, complex illnesses.

PICOT Question

In RNs working in critical care (P), how does an education webinar tailored to primary palliative care management (I), compared to current educational methods (C), effect RN competency regarding palliative care (O) 4-8 weeks after completion (T)?

Needs Assessment

The objective of this Needs Assessment was to further explore ICU nurses' role in providing palliative care services. The Institute of Medicine (IOM) recognized a shortage of palliative care specialists to care for the increasing number of patients and families that would benefit from palliative care prior to the COVID-19 pandemic (Neiman, 2020). People are living longer with serious illnesses, and the current healthcare system is struggling to meet their complex needs (CAPC, 2018b). Sleeman et al. (2019) estimated 48 million people will die with serious health-related suffering by 2060, which is an 87% increased from 2016. This shows that the need for palliative care services is expected to grow, and with a previous shortage of specialists, other healthcare professionals must address this demand and reduce health-related suffering.

Palliative care services provide patients with life-threatening illness relief of symptoms and improve their quality of life. The IOM has advocated that all health care professionals have fundamental competency in palliative care (Neiman, 2020). Additionally, the American Nurses Association's *Call for Action: Nurses Lead and Transform Palliative Care* concluded that all patients and families with serious illness should receive quality palliative care, necessitating that every nurse must be competent to provide primary palliative nursing care to accomplish this goal (American Nurses Associations, 2017).

The American Association of Critical-Care Nurses noted that palliative care education and communication skills can increase nurses' confidence in participating in goals of care

discussions and recommends ICU nurses remain up to date on evidence-based palliative care (The American Association of Critical-Care Nurses, 2021). Educational resources include journal articles, webinars, and continuing education activities. The American Association of Critical-Care Nurses past president, Clareen Wiencek, stated "remember that (palliative care) can be offered simultaneously with curative, aggressive, lifesaving treatments. People do not have to wait. They do not have to choose" (American Association of Critical-Care Nurses, 2021).

COVID-19 has increased mortality around the world and raised awareness of serious health-related suffering (Paice et al., 2021). There is a desperate need to improve access to quality palliative care. It is vital to understand the role of nurses in providing palliative care to develop the appropriate tools and resources for nurses to provide this quality care to patients in all settings. The palliative nursing role is focused on symptom improvement, alleviating psychosocial suffering, communication skills to begin advanced care planning, awareness of community resources, and knowledge of triggers for specialty palliative care referral (Paice et al., 2021). Neiman (2020) examined nurses' respective perception of basic palliative care in the acute setting, and the main themes of basic palliative care were chronic illness navigation, empowering families, and patient advocacy. In parallel to the *Clinical Practice Guidelines for Quality Palliative Care*, nurses fell short in recognizing their role in palliative assessments, care planning, symptom management other than pain, psychological assessments, family care during conflict, and early recognition of benefits of hospice (Neiman, 2020).

Education status appears to impact the level of burnout experienced by nurses delivering palliative care (Lowe et. al., 2020). Additional educational opportunities can assist nurses in all settings to provide quality palliative care during the COVID-19 pandemic and beyond. Lori Bishop, MHA, BSN, RN, the vice president of palliative care and advanced care at the National

Hospice and Palliative Care Organization, has hope that palliative care during the pandemic will give the community a better understanding of the varied uses and importance of palliative and hospice services. She feels it is an opportunity to look at our healthcare system overall and its contact with palliative care services (McCarthy, 2020).

Professional healthcare organizations nationwide support the need for increased access to palliative care and all healthcare professionals providing this care. The results of this Needs Assessment will be used to plan a continuing educational webinar that supports nurses in delivering quality primary palliative care services to patients with life-threatening illness. The online webinar can reach nurses who live throughout the United States, increasing the scope of the project.

Aims and Objectives

This DNP QI project aimed to increase ICU nurses' palliative care competency by 25% from pre-post survey by March 2022. Refer to Appendix A to view the complete global AIM statement. The objectives were as follows:

- To increase ICU nurses' competency in principles in palliative care.
- To increase ICU nurses' competency in palliative care communication.
- To increase ICU nurses' competency in palliative care specialist referral triggers.
- To increase ICU nurses' competency in palliative care symptom management
- To increase ICU nurses' competency in EOL care.

Review of Literature

A review of literature was conducted with assistance from a University of Arkansas research librarian to collect current information about nurses' competency in palliative care. Keywords searched in MEDLINE, Web of Science, and CINAHL were "palliative care," "end-

of-life," "nurses," "critical care," "intensive care," "ICU," "education," "competency," and "knowledge." The search was limited to peer-reviewed articles and journals with dates between 2016 and 2021, and a total of 360 records were screened. Refer to Appendix B for a PRISMA diagram of the literature search. Inclusion criteria included articles that related to nursing and addressed palliative care management for adults. Articles that were more than five years old, written in a language other than English, focused only on pediatric palliative care, or did not relate to ICU palliative care delivery were excluded. Articles depicting pediatric palliative care management were excluded as pediatric palliative care requires different criteria than adult palliative care. Fourteen peer-reviewed articles for this review of literature met the search criteria. Additionally, two peer-reviewed articles from cited references in the original search were included in the review. One palliative care evidence-based guideline and two reputable evidence-based palliative care nursing textbooks were also included, ending with a total of 19 sources that were identified in the literature review. Refer to Appendix C for a detailed table of evidence.

The American Association of Critical-Care Nurses identified four categories for ICU nurses to engage and support patients and families in the ICU in need of palliative care integration (American Association of Critical-Care Nurses, 2020). The four C's recognized by the American Association of Critical-Care Nurses (2020) are convening, checking, caring, and continuing. These fit alongside the ELNEC models of interactive primary palliative care content including introduction, communication, pain management, symptom management, loss, grief, and bereavement, and final hours of life (Davis et al., 2021). Additionally, the NCP Guidelines entails eight palliative care domains: structure and process of care; physical aspects of care; psychological and psychiatric aspects of care; social aspects of care; spiritual, religious, and

existential aspects of care; cultural aspects of care; care of the patient nearing the end of life; and ethical and legal aspects of care (Ferrell et al., 2018). Institutions can use the The NPC Guidelines to develop and refine educational programs (Ferrell et al., 2018). The categories and integrated literature will guide this DNP project on content and themes to be included in the continuing educational webinar to best enhance ICU nurses' competency in palliative care.

ICU Palliative Care Knowledge

An overall lack of knowledge about palliative care management may affect ICU nurses' ability to integrate palliative care principles into their practice. Thirty-eight percent of nurses received no palliative care education within the last year and 41% of another group of 386 ICU nurses had poor palliative care knowledge (Wolf et al., 2019; Walia et al., 2020). The nurses' lack of knowledge correlated to poor quality of care, as 62.5% of ICU nurses reported poor practices and only 36.5% had satisfactory practices in palliative care and EOL (Walia et al., 2020). Satisfactory clinical practice of ICU nurses in palliative care significantly correlates to their knowledge and attitude in all palliative care domains (Walia et al., 2020).

Supportive data among ICU nurses' detailed competencies supports which topics I need to include in the webinar and which themes should be covered in greater detail. ICU nurses self-reported their own skills as "not competent" or "somewhat competent" in several areas: 45.8% in their knowledge of advanced directives, 27.3% in assessing support and resources, 27.1% in providing culturally sensitive care, and 26.9% in assessing and supporting spiritual needs (Wolf et al., 2019).

ICU Integration

Palliative care educational interventions strive to attain a standard of primary palliative care so that all nurses have basic knowledge to improve the care of patients and families, as

stated by the (American Nurses Association [ANA], 2016). A multifaceted education intervention to improve palliative care documentation in the ICU showed success in increased advance directives, DNR orders, and social work visits (Constantine, 2016). There was no improvement in offering a spiritual visit or interdisciplinary family meeting (Constantine, 2016).

One hundred and twenty-two ICU nurses attended a 112-hour continuing education course on palliative care that included content on principles of palliative care, symptom management, communication, EOL care, spiritual care, ethics, legal aspects, and patient and family centered care (Ganz et al., 2020). Palliative care knowledge, attitude, practice, and assessment of death and dying all increased over time, however, there was only a statistically significant difference in attitude and practices (Ganz et al., 2020). The nurses shared several barriers during this intervention, including: personal conflict between willingness and ability, differences of opinion between clinicians, physicians not familiar with advantages of palliative care, and resistance from fellow nurses (Ganz et al., 2020). One major barrier that will be directly addressed in this DNP project is an overall lack of palliative care education among medical personnel in the ICU (Ganz et al., 2020).

Ninety-five percent of ICU nurses reported their palliative care education "very" or "somewhat" useful in their practice and considered this education "extremely" or "very" important for all ICU nurses (Wolf et al., 2019). Fifty-two percent of new graduate nurses reported a change in their clinical practice one month after a palliative care educational intervention (Mazanec et al., 2020). This literature supports additional education in palliative care for ICU nurses as well as the indication to assess competency a period in time after the educational webinar to allow the nurses to m.

Known barriers to integrating palliative care include lack of prognosis acceptance among family members, differences in physicians' opinions about treatment, and families understanding of what "lifesaving" care entails (Walia et al., 2020). ICU nurses report a range of barriers to integrating palliative care into the ICU and awareness of these barriers will aid in increasing the ICU nurses' competency regarding each domain. Other difficulties and sources of distress that nurses report within the ICU regarding palliative care are unclear goals of care, prolonging the dying process, lack of consensus regarding treatment, inadequate staffing and experience, providing false hope, and inadequate communication among the team (Wolf et al., 2019). ICU patients are often unable to advocate for themselves, leaving medical decision-making in the hands of inadequately prepared surrogates (HPNA, 2015).

One method reported by nurses to improve these barriers is nurse involvement. Out of 386 ICU nurses, 83% said palliative or EOL should be provided by the same nurse to improve continuity, 82% felt family members should be involved in palliative care discussions, 77% suggested good communication among doctors and nurses, and 69% said there should be in-service training for ICU nurses in palliative care (Walia et al., 2020). Sixty-six percent of ICU nurses agreed or strongly agreed that the most frequent barrier to nurses' involvement in discussions about goals of care, prognosis, and palliative care was the need for more training (Anderson et al., 2016).

Palliative Care Principles

Components of palliative care management include physical, social, psychological, and spiritual needs. Nurses need to be able to identify, assess, and advocate for each competent of their patients' care in the ICU. Palliative care is appropriate from the time patients are diagnosed with a serious or life-limiting illness and throughout its course (HPNA, 2015). Among 598 ICU

nurses, only 13% reported feeling “very confident” in describing palliative care to a patient’s family (Anderson et al., 2016). Of 167 ICU nurses, fewer than 40% stated they felt “highly competent” in any palliative care domain (Wolf et al., 2019). All ICU patients deserve palliative care and optimal family care occurs at any point along the illness trajectory by nursing information sharing, support, and access (Ferrell & Paice, 2019). ICU nurses can advocate for patient and family preferences, offer guidance with healthcare decision-making, and communicate with the care team to provide continuity of care with patients undergoing concurrent disease-directed treatment (HPNA, 2015).

Referral Triggers

It is essential for nurses to provide primary palliative care, but also to appropriately capture those that warrant specialist care. While bedside nurses must have primary palliative care skills, there are triggers that suggest to the ICU team that a referral should be made for specialist palliative care services. For example, of 1110 ICU patients, 82% were identified to have palliative care needs and only 36% received a palliative care consult (Anderson et al., 2017). ICU nurses in all settings recognized in open-ended responses that the palliative care specialists are not consulted soon enough for assistance with communication, decision making and symptom management (Price et al., 2017). Fourteen percent of nurses reported that palliative care services were “never or rarely” used and 41% reported there were “sometimes” used when indicated in the ICU (Wolf et al., 2019). Repeat ICU admissions had such a strong relationship with hospital death or discharge to hospice that researchers studying a group of 518 surgical ICU admissions suggested considering palliative care referral for all patients readmitted (Finkelstein, 2016). Additionally, metastatic cancer was associated with hospice discharge and hospital death (Finkelstein, 2016). Sixty-eight of a group of 99 patients who discharged to hospice or died in

the hospital matched one of these two triggers of readmission or metastatic cancer (Finkelstein, 2016).

One 24-bed medical-surgical ICU developed criteria through appraisal of evidence for what patients may benefit from a palliative care specialist (O'Donnell et al., 2020). They suggested an intermediate role or an ICU palliative care nurse communicator to consult on all patients with metastatic, incurable malignancy, length of stay greater than 10 days, over 80 years old with at least 2 chronic diseases, cardiac arrest, ICU transfer from long-term care hospital, multiple hospital admissions due to chronic health conditions, and concerns for significant brain injury (O'Donnell et al., 2020). Further specialist referral was recommended if goals were unclear, complex goals of care, complex symptom management, or significant patient, family, or staff distress (O'Donnell et al., 2020). Differing from this study, another found prolonged SICU length of stay over 10 days and post-cardiac arrest were less associated with outcomes such as hospital death or discharge to hospital and may not be as useful in identifying unmet palliative care needs (Finkelstein, 2016). Overall, through increased palliative care knowledge, ICU nurses will be able to use clinical judgement to determine patients in need of additional palliative care services, even in the absence of an exact trigger (Finkelstein, 2016). Among 199 patients admitted to the ICU, 97 who received palliative care intervention and 102 that did not, early triggered palliative care was associated with greater transition to DNR/DNI preference and hospice referral (Ma et al., 2019). There was also fewer resource utilization including less mechanical ventilation days, tracheostomies, post discharge emergency department visits and/or readmissions (Ma et al., 2019).

Communication

Communication is a key domain of palliative care noted by several stakeholders such as the American Association of Critical-Care Nurses**,** Center to Advance Palliative Care (CAPC), and American Nurses Association (ANA)**.** The *Nurses' Roles and Responsibilities in Providing Care and Support at the End of Life* specified that nurses will be comfortable communicating about death (American Nurses Association [ANA], 2016). stated. Forty-two percent of ICU bedside nurses reported a lack of clarity about their role in palliative care communication (Anderson et al., 2016). Communication between healthcare providers and families about goals of care and prognosis are very important to the quality of care for ICU patients who are seriously ill. Three helpful mnemonics for communication in the ICU are VALUE, NURSE, and ASK-TELL-ASK. NURSE stands for name, understand, respect, support, and explore (Ferrell & Paice, 2019). Eighty-eight percent of a group of 598 ICU nurses felt their role in communicating prognosis and goals of care with physicians and families was very important to the patient's quality of care (Anderson et al., 2016). ICU nurses had lower perceived competence pertaining to communication and collaboration (Price et al., 2017). Only 24% of nurses reported they "often" attended family meetings and even less, 19%, "often" participated in the meeting (Anderson et al., 2016). The role of the ICU nurse is to ensure all information is conveyed and advocate for questions (American Association of Critical-Care Nurses, 2020). According to the American Nurses Association (2016), nurses will collaborate with the care team to ensure that patients and families have current and accurate communication about the probability of a patient's approaching death. They will also use communication skills to encourage patients and their family to participate in health care decision-making, including advanced directives (ANA, 2016).

Education and training in communication is a vital part of effective palliative care delivery. One communication intervention planning workshop involved the topics predisposing, enabling, and reinforcing (Anderson et al., 2017). Predisposing included themes such as what is palliative care and how to assess symptoms, family support, prognosis, and goals of care. Enabling included assessing symptoms, assessing understanding or prognosis and goals of care, collaborating with the care team, and coping with stress of ICU work. The last topic, reinforcing, included the nurse contributing to the palliative care assessment as part of daily care (Anderson et al., 2017). There was significantly higher nurse reported scores of a very good or excellent level of skill in all 15 palliative care communication tasks after they completed the palliative care workshops (Anderson et al., 2017). Another training workshop involving 428 bedside ICU nurses focused on teaching nurses to define palliative care and describe it to families using patient-centered language. This training resulted in an increase in the ICU nurses' knowledge in palliative care communication (Anderson et al., 2016).

Symptom Management

Nurse compassion and knowledge are vital skills when relieving pain and "caring present is an essential intervention" (HPNA, 2015, p. 95). The effectiveness of pain management is directly related to nurses' ability to accurately assess the nature and quality of pain. Patients and families may be reluctant to report pain due to beliefs that pain is an expected outcome from their disease, fear of addition and/or tolerance, admission that the disease is worse, fear of side effects and belief that strong pain medications may hasten death (HPNA, 2015). Fifty-five new graduate RNs had the highest knowledge in pain assessment and management prior to educational intervention (Mazanec, et al., 2020). A multifaceted online education module to improve palliative care documentation in the ICU showed a decrease in the percentage of those

who had optimal pain management based on 4-hour intervals but did show an increased in patient assessments of pain base on these same 4-hour intervals (Constantine, 2016). The Society of Critical Care Medicine recommends two tools for pain assessment of critically ill adults who are unable to self-report: Critical-Care Pain Observation Tool and the Behavioral Pain Scale (Ferrell & Paice, 2019).

Assessment of pain in palliative care dives into the impact on quality of life and patient's values. For example, self-identified pain threshold, cultural aspects of pain, expectations on relief, and emotional or spiritual components (HPNA, 2015). Pain is experienced by patients and families and nurse must consider the type of pain, quality, and common effects of the pain and its treatment. Interventions include nonopioids, opioids, adjuvant analgesics, physical modalities, cognitive behavioral interventions, and anticancer therapy (HPNA, 2015). Examples of nonpharmacological pain management intervention in the ICU include using a calming voice, providing information, music therapy, and family presence (Ferrell & Paice, 2019).

Patients experience a variety of symptoms when they are facing serious or life-threatening illness. Common symptoms related to ICU care that will be included in the webinar include dyspnea, constipation, diarrhea, nausea and vomiting, mental status change, and anxiety (HPNA, 2015). Five hundred and eighty-three ICU nurses reported through open-ended responses that they needed specific palliative care education in symptom management during withdrawal of care (Price et al., 2017). Patient who are nearing the end of life may experience reconciliation and peace and appropriate symptom management can aid this process by maximizing comfort (HPNA, 2015).

End-of-Life Care

EOL care is one specific subset of palliative care services. Most patient deaths in the ICU occur from removing or withholding life-sustaining treatment. The focus of outcomes shifts to the quality of the dying experience when death is expected (Boyle et al., 2017). The ICU is not a preferred site of death for patient's families because it is often correlated to poor EOL care (Boyle et al., 2017). Thematic analysis of 10 ICU nurses showed one main theme of their feelings of being under-prepared to provide EOL care (Ong et al., 2017). The nurses further explained that some of their education was only on cancer patients and may not relate to the patients they care for at the EOL in the ICU (Ong et al., 2017). Patients may become nonverbal in the final days of life, so nurses cannot use their typically assessment skills (HPNA, 2015). Thematic analysis suggested improvements in support and education in this EOL care to alleviate the tension nurses face in the ICU (Ong et al., 2017). The nurse's role at the EOL is to outline normal changes of dying, facilitate expression of emotions and refer to social work and/or chaplain as needed, interpret and anticipate symptoms and guide families in management, and assess family readiness and understanding (HPNA, 2015).

The ICU medical care team most often withdraw life-sustaining therapies when they believe death is inevitable despite all aggressive medical intervention, however, there is no moral difference between withholding and withdrawing therapy (Ferrell & Paice, 2019). The term "withdraw of care" is not appropriate to use with patients and families and instead should be phrased as ongoing quality of care with a change in focus on comfort (Ferrell & Paice, 2019). Two methods of mechanical ventilator withdrawal are immediate extubation and terminal weaning and the optimal methods is based on clinician, patient, and family preference (Ferrell & Paice, 2019).

Nurses who feel uncomfortable or unprepared to provide EOL care may impact patient suffering during the final days of life and cause nurse distress. Fifty-five new graduate RNs had the lowest knowledge in caring for patients at the EOL prior to an educational intervention and 26.9% of ICU nurses self-rated as not competent or somewhat competent in communication about death and dying (Mazanec, et al., 2020; Wolf et al., 2019). Rosa et al. (2020b) review of palliative care literature and guidelines recommends prioritizing nurse self-care and promotion of health work environments due to the critical nature of ICU care, particularly in the EOL. Nurses who reported specialist palliative care was “always used when indicated” had significantly lower levels of moral distress than “never used when indicated” (Wolf et al., 2019). Several other reports noted nursing distress in relation to palliative care and EOL, enhancing the need to address this within the educational webinar for this DNP project. The webinar will not only address enhanced management of patients and families at EOL but also references for nurse resiliency and self-care.

Competency Scale

There are few available instruments that measure nursing self-competency in palliative care without reliability and validity concerns. Scales such as the Palliative Care Quiz for Nursing and the Palliative Care Knowledge Test had no reliability or validity concerns but the content was not appropriate to assess palliative care nurse competency in the ICU setting (Soikkeli-Jolenen et al., 2019). The Palliative Care Nurse Self-Competency (PCNSC) scale is a measurement instrument intended to determine educational needs and evaluate the influence of educational programs (Desbiens & Fillion, 2011). The content validity index computed for the entire 50-item scale was 0.95 (Desbiens & Fillion, 2011). The PCNSC scale measures 10 domains with one to six rated strengths of self-competence from not at all capable to highly

capable. The items are physical needs: pain; physical needs: other symptoms; psychological needs; social needs; spiritual needs; needs related to functional status; ethical and legal issues; interprofessional collaboration and communication; personal and professional issues related to nursing care; and last hours of life (Desbiens & Fillion, 2011). Desbiens & Fillion (2011) generated the framework for this scale from a theoretical definition of perceived palliative care nursing self-competency derived from the literature. Each competency item is phrased in terms of what a nurse can do, what a nurse should minimally do, and implementation must rely on nursing disciplinary knowledge. A three-phrase process was used to develop the original PCNSC tool, which consisted of 50-items, 5 items per dimension. Phase I used literature and palliative care expert nurses to select the nursing competency dimensions and generated the item pool, phase II assessed content validation and refined the items, and phase III assessed the formulation and comprehension of the items amount the target population (Desbiens & Fillion, 2011). The PCNSC tool can be used in various healthcare settings to precisely define nurses' educational needs, providing an opportunity to areas that need improvement for targeted nursing training (Desbiens & Fillion, 2011). A cross-sectional descriptive survey exploring palliative care knowledge, attitudes, and perceived self-competence of 251 nurses working on oncology utilized a 34-item modified version of the PCNSC tool and reported a Cronbach's alpha value of 0.97, indicating high internal consistency (Nguyen, 2014). The researcher averages the five items in the dimension category to calculate the mean competency for each of the domains.

The literature supports a need for palliative care education within the intensive care unit. It identifies barriers to this integration, as well as themes for greater focus. "Palliative care is critical care" and ICU nurses are ideally positioned to ensure this patient-centered approach to care is translate in practice to improve quality outcomes (Rosa et al., 2020b).

Theoretical Framework

Nurses use nursing models to guide them in leadership roles to improve patient's quality of care and outcomes (Ozdeimir, 2019). Nurses require ongoing career development due to the complex nature and responsibility of current nursing practice (Benner, 1982). Benner's Novice to Expert Theory considers how nurses develop nursing skill, knowledge, and clinical competence through theoretical training and experiential learning (Ozdeimer, 2019). This theory was first introduced in 1982 by Patricia Benner and generated from the Dreyfus Model of Skill Acquisition (Ozdeimer, 2019). Benner's theory takes into account advances in skillful performance based on education and experience (Benner, 1982). There are five levels of competency in Benner's theory: novice, advanced beginner, competent, proficient, and expert (Benner, 1982). Nurses begin in the novice stage and as they acquire new knowledge and skills, they progress through the stages (Davis & Maisano, 2016). Nurses can move up and down the range of competencies as they learn new strategies or change job responsibilities (Leighton et al., 2018). Transitioning from an expert to novice warrants thoughtful investigation of the responsibilities to ensure safe and competent care in this new domain (Dunbar et al. 2019). Benner's Novice to Expert Theory guided this DNP project as critical care nurses acquired new proficiencies in palliative care knowledge, advancing through the stages of novice to expert through an educational webinar. A concept map of how Benner's theory was integrated through this project is in Appendix D.

Novice

Novice nurses are those with no prior experience with a particular clinical situation. This would include new graduate nurses or those in a new nursing role. They are taught rules to guide their action in regard to diverse circumstances (Benner, 1982). In this initial stage, nurse have no

applied background experience, only theoretical knowledge (Davis & Maisano, 2016). Through an educational webinar, nurses were taught simple, objective attributes in palliative care. These attributes included symptom management, ethics and decision making, communication, and EOL care. Nurses then integrated this knowledge to actual patient situations to move up in the range of competencies to advanced beginner (Ozdeimer, 2019).

Advanced Beginner

Advanced beginners have limited professional experience and can demonstrate marginally acceptable performances (Benner, 1982). These nurses still need clinical assistance since they are operating on general guidelines but have knowledge and experience above and beyond a theoretical base (Benner, 1982). The educational webinar created and implemented for this project provided the critical care nurses with clinical support guidelines and decision aids, such as when to consider a specialty palliative care referral. According to Benner's theory, advanced beginner nurses need support setting priorities to ensure principal patient needs do not get overlooked (Benner, 1982. Management of patients with complex conditions, sudden increases in responsibilities, and heavy workloads can be stressors for nurse at this stage (Ozdeimer, 2019). Patients that warrant palliative care services have serious life-limiting illness that are regularly complex and this webinar provided the education to reduce these stressors. This study reassessed nurses' competency four to eight weeks following the webinar, which allowed nurses to apply the information to patient experiences and move up in the stages of competency.

Competent

The nurse begins to see their actions in terms of long-range plans in the competency stage (Benner, 1982). They now have the skill and confidence to foresee patient recovery which allows

them to make individualized nursing care plans (Ozdeimer, 2019). Increased experience and exposure to the skills allow nurses to reach this competent level quicker, so it may take critical care nurses at smaller hospitals or nurses who work less often longer to reach this stage (Benner, 1982). Also, nurses begin to recognize patterns in this stage, such as recurring signs and symptoms in patients and families that warrant palliative care referrals (Benner, 1982). Numerous nurses will stay at this level of competency, and this level is often supported and reinforced institutionally (Benner, 1982). The goal of this DNP project webinar was to facilitate nurses to achieve this competent stage in palliative care management in the ICU.

Proficient

The nurse can move to proficiency with continued experience and practice, and in this stage, they characteristically recognize and take into consideration all aspects of the plan of care (Benner, 1982). They are guided by maxims which Benner described as pieces of evidence that provide direction to what is vital in a situation (Davis & Maisano, 2016). Providing proficient nurses with rules may leave them unsatisfied and questioning situations that may contraindicate the rule (Benner, 1982). At this stage they can assume leadership roles, implement strategies that guide less experience nurses, alter health policy and change organizational processes (Ozdeimer, 2019).

Expert

The expert nurse combines technical and existential skills to make critical clinical decisions and come up with innovative solutions (Ozdeimer, 2019). This is the final stage of the competencies. The nurse no longer relies on rules, guidelines, or maxims to understand the situation and accomplish tasks (Davis & Maisano, 2016). Because of this, expert nurses cannot simply tell all they know due to the complex depth of their understanding. However, encouraging

patient outcomes verify this expert nursing practice (Benner, 1982). Expert critical care nurses view situations differently than novice nurses, yet these expert skills do not translate to another field of practice such as palliative care (Dunbar et al., 2019). At this level, nurses may develop comprehensive curriculums and training programs and evaluate the outcomes of these. They can develop new nursing theory and models. Most importantly, their expertise guides the less experienced nurses to move up in the competency stages (Ozdeimer, 2019). For example, this webinar was designed by a nurse expert in palliative care, with the goal for ICU nurses to gain competency in palliative care.

Further Application to DNP Project

In this project, the target participants excel in critical care management, but are novices in palliative care. They moved down the competency stages as they stepped into this new skill set of palliative care. The goal of this palliative care webinar was to advance critical care nurses to the competency stage of skill development. Benner (1982) has stated that most in-services are aimed at the competent level of achievement and very few aim at proficient or expert (Benner, 1982). This is because of the time and experience that is required to obtain these higher levels of performance. While Benner (1982) described a competent nurse having two to three years on the job, ICU nurses are already experts in fundamental nursing skills and are building on this to obtain palliative care knowledge and enhance their practice. Armed with education from the webinar and past nursing experience, the participant nurses begin to develop feelings of mastery and become competent in providing primary palliative care and initiating specialty referrals in the critical care unit. Moving up or down the five stages can be stressful and timely (Dunbar et al., 2019). Two crucial strategies for success in moving up the stages is personal reflection on the reason for the transition to the new or additional practice domain and setting personal goals to

achieve (Dunbar et al., 2019). The webinar informed nurses of the necessity of palliative care and allowed them to reflect on the benefits this new domain can have on ICU patient care. When critical care nurses sustain these skills and gain more experience they can continue to move up the competency stages after implementation to reach the proficient and expert stages.

Methodology

Project Description

This DNP project aimed to increase the nurses' competency in providing palliative care in the ICU and referring to specialists when clinically appropriate. The main purpose was to evaluate the effectiveness of an educational webinar to increase RN competency in palliative care management and to determine if there was a significant difference in baseline competency and change in competency after intervention between diverse participant demographics. The outcome measured was competency before and after participation in the palliative care continuing education webinar.

Project Design

This DNP QI project utilized a quasi-experimental research design intended to enhance the competency of nurses practicing in the ICU through a palliative care educational intervention. Quasi-experiments generate novel insights on associations between interventions and outcomes in healthcare and they have become a foundation for health interventions and impact evaluation of health policy (Barnighausen et al., 2017). They typically do not have the financial, political, and ethics constraints that randomized control trials do because quasi-experiments can be conducted using regularly collected outcomes (Barnighausen et al., 2017). Pre-test and post-test research is one type of quasi-experimental design that tests a dependent variable, nurse competency, before and after intervention with an independent variable, the

webinar (Stratton, 2019). This project takes place among ICU nurses across the United States. It began with participant recruitment through convenience and snowball sampling methods, followed by a pre-implementation survey, an educational webinar, and then a post-implementation survey. The change in nurses' competency scores from pre- and post-webinar assessed the effectiveness of the webinar on enhancing the nurse's ability to provide primary palliative care within the ICU. The webinars' content design aligned with the survey content to ensure the surveys adequately assessed the effectiveness of the intervention.

Setting

The setting for this project was an online webinar. The webinar occurred virtually on-demand targeting nurses working in ICUs. It can also be used for intuitional QI development and as an education resource.

Study Population

The study population for this project consisted of RNs working in the ICU, who were selected using non-probability sampling, a method that allows participants to be selected by or referred to the researcher, or participants can self-select to partake in the study (Stratton, 2021). I utilized two forms of non-probability sampling: convenience and snowball. For convenience sampling, I announced the study through the American Association of Critical-Care Nurses and various social media platforms and participants self-selected to participate. For snowball sampling, participants recruited participants through nurse colleague referrals and link sharing on social media. Nurses were excluded if they worked in the pediatric ICU or did not provide bedside nursing care. Children have very diverse palliative care needs than adult patients. Children experience complex illnesses not seen in adults, their illnesses can act differently because of their unique anatomy and physiology, and medical decisions are typically made by

family or caregivers (Center to Advance Palliative Care, 2021). All adult ICU specialty areas were included such as trauma, medical, neurovascular, and surgical. Demographic characteristics such as nursing experience, practice location, and education were assessed as these may have bearing on the interpretation of results. The target sample size was 100 nurses.

Study Interventions

This QI project intervention consisted of a palliative care continuing education webinar with five modules for ICU nurses. Module categories for the webinar were chosen from the review of literature which showed evidence in areas where ICU nurses had low levels of knowledge and competency in palliative care. This online, self-paced webinar was approximately three hours of content. Nurses completed a pre- and post-webinar survey through the University of Arkansas Qualtrics software to evaluate the influence the intervention had on their competency in providing palliative care within the ICU. Implementation began January 25, 2022.

Pre-Implementation Phase. After final approval of the proposal for this QI from the University of Arkansas Eleanor Mann School of Nursing Doctoral Committee on September 14, 2021, the project received approval from the University of Arkansas Institutional Review Board (IRB) on November 1, 2021. Simultaneously, while gaining these approvals, I worked on several other tasks including webinar completion, website design, survey development, contact hour approval, and recruitment.

Webinar Completion. On September 2, 2021, I began collaboration with the University of Arkansas Global Campus department to complete the webinars. I worked directly with the instructional designer at the university throughout the pre-implementation phase to put together the five palliative care modules. There was an additional instructional designer available

throughout the process for added input and support, as well as involvement from the media team for PowerPoint visual aids. We met via Microsoft Teams Video approximately 11 times to communicate and discuss progress, as well as used comment threads directly on the PowerPoint slides. The original target date for completion of the webinars was December 1, 2021. Due to unforeseen illnesses, scheduling conflicts, and high demand of Global Campus services at the university this was pushed back to January 1. After additional delays, including university closure for the holiday, Global and I had the modules complete on January 14, 2022. The instructional designer uploaded the videos to Kaltura and provided me with the direct embed links for my webpage.

The five original topic modules were: Principles in Palliative Care, Communication, Specialist Referral Triggers, Symptom Management, and End-of-Life. During the planning process, for me to attempt to make each module approximately the same length, some content was transferred or grouped differently than intended. Specifically, social, spiritual, and cultural care content was taken out of the Principles in Palliative Care module and made into its own module, and specialist referral trigger content was transferred into the Principle in Palliative Care module. The five module topics for implementation were: Principles in Palliative Care, Social, Cultural, and Spiritual Aspects, Communication, Symptom Management, and End-of-Life. With this variation, the module objectives were changed accordingly and are attached in Appendix F. Additionally, after I included all essential content into the modules, the estimated time doubled from 90 minutes to three hours.

Website Design. I applied for a university WordPress webpage to present my research, and this application was approved on September 2, 2021. I added information to the website throughout this phase as it was completed, including participant consent, researcher biographies,

surveys, IRB information, contacts, and module resources. Once I completed all the module videos, I submitted my webpage back to the web development manager for final approval. The University of Arkansas webmaster reviewed my website and made formatting edits, as well as edits to ensure all content complied with the Americans with Disabilities Act. Once the webmaster completed these final edits, the website was approved by the web development manager. It took two days for the literal mechanics of setting the website domain, and the website was ready for public view on January 24, 2022. I also navigated through each page on the website and clicked each link on various electronic devices to ensure accuracy.

Survey Development. I received approval to use the Palliative Care Nurse Self-Competency Scale tool for my personal research from Dr. Desbiens on September 7, 2021. I entered this survey into Qualtrics, an online survey tool that collected, analyzed, and exported my data. I added demographics questions, as well as qualifying questions to the pre-implementation survey. Additionally, I incorporated a section for participants to record their email address for follow up and to link the pre- and post-survey. I included a section in the post-survey for participants to record their name as they wish for it to appear on their contact hour certificate. I also inputted an additional module satisfaction survey into Qualtrics. The University of Arkansas statistical department provided me one on one video support to review my surveys in Qualtrics and provided me with suggestions for accessibility and ease of use for participants. I completed a test run of each survey to ensure the technology was working correctly.

Contact Hour Approval. The University of Arkansas Eleanor Mann School of Nursing is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation (ANCC). The teaching assistant professor that oversees the accreditation provided me with all the forms needed for approval of contact

hours for my project on September 14, 2021. The professor guided me in applicable outcomes that apply to the ANCC guidelines. I then emailed submission of the Gap Analysis Worksheet, Educational Planning Form, and Presenter Conflict of Interest Form back to the professor on January 13, 2022.

Participant Recruitment. I reached out directly by email to several nursing organizations to prepare for participant recruitment including the American Association of Critical-Care Nurses, the American Association of Colleges of Nursing, and the Michigan Nurses Association. During the pre-implementation phase my website was not yet published to share with these organizations, so I shared a brief overview of the project and the targeted start date. I did not receive any responses from organizations at that time. Additionally, I joined various nursing Facebook groups including New Grads RNs, The Nurse's Network, and Nursing Education and Research.

Implementation Phase. I began the implementation phase on January 25, 2022, the day following successful completion of the website domain.

Plan-Do-Study-Act Cycles. There were two unexpected challenges during the implementation process. The first was a deviation in the timeline of webinar completion. The second was a limited sample size. In response to these challenges, I utilized Plan-Do-Study-Act (PDSA) cycles to make necessary changes. The PDSA cycles noted in Appendix **X** focused on enhancing communication to speed up the webinar completion timeline and increasing the study sample size.

Participant Requirement. My target sample size was 50 to 100 ICU nurses. My goal was 10 to 15 participants per week. The participant recruitment period was shorted by over half due to waiting for webinar completion. Within the first week, I posted on several social media outlets

such as Facebook and LinkedIn. I reached out in-person to local ICU nurses and contacted the University of Arkansas BSN program director who sent the opportunity to current BSN students. Ten participants completed the initial survey in week one.

I reached out as a second attempt to several organizations such as the Michigan Nurses Association, Arkansas Nurses Association, and the American Association of Critical-Care Nurses (ANCC). I received a response from the ANCC regarding their research opportunity page on January 31, 2022. I submitted a request with supporting information, such as IRB approval and research proposal, and the ANCC posted my research opportunity to their website February 4, 2022. However, I found this page difficult to locate from their home page, and I did not see a large increase in participation after this posting, which is noted on my participation run chart. I monitored the social media posts daily and responded to questions. Additionally, I reposted the recruitment opportunity to large Facebook groups approximately every three days. Three days prior to closing initial participation, I commented on each post letting interested participants know that they had limited time left to participate in the research opportunity. This notified all social media users that previously "liked" or commented on my posts. This was my second largest increase in participants, as noted on the participation run chart.

I removed the pre-survey link from my webpage on March 3, 2022. I inserted a comment in this area to let participants know that the study is closed for participant enrollment. At the four-week mark after each participant completed their pre-webinar survey, I emailed them a reminder for the post-survey, which also included a direct link to the survey. I followed up approximately every three days with a reminder email.

Post-implementation Phase. After each participant completed the post-survey, I emailed them a pdf copy of their continuing education certificate, which is noted in Appendix O. I

exported the data from Qualtrics into Excel and SPSS. I saved the Excel data to my personal computer as a backup. I cleaned the data in SPSS and analyzed this with assistance from the statistics department at the University of Arkansas. I then assembled the data in preparation for dissemination.

Study Measures

Conceptual Definitions. The conceptual definitions for the purpose of this DNP project included:

- A n*ovice* nurse does not have experience with a situation; they can apply simple attributes but have no ability to use judgement (Benner, 1982).
- *Competency* is nurses' ability to recognize the nature of clinical situations accurately and quickly by relying on analytical thinking, deliberate planning, and organization (Benner, 1982).
- *Primary palliative care* is physical, psychological, social, and spiritual care provided to patients and their families with life-threatening illness by a healthcare professional that is not a palliative care specialist (Ferrell et al., 2018).
- An *ICU* is an organized department in the hospital, with enhanced monitoring, that provides specialized and intensive medical care to critically, seriously ill patients (Marshall et al., 2017).

Operational Definitions. The operational definitions for the purpose of this DNP project included:

- *Competency* was operationally defined by 10 constructs within the PCNSC tool and used a Likert scale, with 0 rating as not at all capable and 5 rating as highly capable.

- Physical Needs: Pain assessed nurse competency in discussing pain, medication, side effects of medication, and complementary or alternative therapy use.
- Physical Needs: Other Symptoms assessed nurse competency in relief of nausea and vomiting, alleviating constipation, managing fatigue, relief of dyspnea, and providing mouth care.
- Psychological Needs assessed nurse competency in detecting delirium, assessing depression, reducing psychological distress, coping with stress, and supporting patients and families with grief.
- Social Needs assessed nurse competency in family dynamics, maintaining cultural traditions, identifying coping resources, promoting communication in conflict, and referring to appropriate resources for social needs.
- Spiritual Needs assessed nurse competency in spiritual needs, signs of spiritual distress, exploring sources of hope, exploring meaning, adapting care in accordance with spiritual beliefs.
- Needs Related to Functional Status assessed nurse competency in activities of daily living, practical support to prevent burnout in caregivers, maintaining functional independence, empower families to provide care, and reduce caregiver burden.
- Ethical and Legal Issues assessed nurse competency in active participation in interdisciplinary meetings, supporting continuity of care, information sharing, communication in conflict, and collaboration of health professionals.

  - Personal and Professional Issues assessed nurse competency in recognizing own beliefs, coping with loss and grief, identifying stressors, personal resources, and discussing death and dying.
  - Last Hours of Life assessed nurse competency in managing pain in last hours, respiratory distress in last hours, signs and symptoms of imminent death, authentic presence in last hours, and encouraging expression of traditions in the last hours of life.
- *Palliative Care* was operationally defined by the criteria met to receive this care approach. All patients with serious, life-limiting illness qualify to receive palliative care. Serious illness is any health condition that conveys a high risk or mortality and negatively impacts a persons' quality of life.
- The *ICU* was operationally defined by the differing ICU environments nurse participants practice in including, but not limited to: medical, neurovascular, trauma, surgical, and cardiovascular.

Outcome Measures. The outcome measure for this DNP project was nurses' palliative care competency attainment. This was assessed using the Palliative Care Nursing Self-Competency (PCNSC) scale located in Appendix K.

Process Measures. Process measures included the percentage of participants that completed the webinar and the percentage of participants that complete the final post-webinar survey. The completion goal was 75%, meaning 75% of participants that took the pre-webinar survey and participated in the webinar completed the post-webinar competency survey.

Balancing Measures. One balancing measure was the participants' satisfaction with the webinar after completion. This was evaluated by a post-webinar satisfaction survey immediately

following the webinar. The satisfaction survey contained a Likert scale rating aspects of the webinar from terrible to excellent. It also included an open-ended question for general comments. This brief survey is noted in Appendix M**.**

Study Instrument. The PCNSC survey intended to measure competency in palliative care proficiencies among nurses. The survey was quantitative and gathered numerical data from a Likert scale that ranged from zero to five, with zero being not at all capable and five being highly capable. There were five items in each measured domain. The average score of the five items was the final self-competency result for each domain. It also gave participants the option to select "don't know" so they were not forced to rate an item they have not preformed or were unsure of their capability in. I input the survey into Qualtrics and it was linked to the research webpage. See Appendix K for the full version of the PCNSC instrument.

Benefits and Risks

The benefits of this project and webinar were increased competency in palliative care. There was minimal risk of physical harm. There was a risk of emotional distress due to the emotional nature of palliative care involving EOL. I provided resources for nursing resilience and self-care to minimize the emotional risks involved. Financial benefits included an increase in resources matched to the patient's goals of care resulting in lower healthcare costs. There was also minimal risk of loss of subject's privacy and confidentiality. To minimize this risk, I only requested that participants provide their email address and name. Email address was used to match pre- and post-webinar competency surveys and to send reminders for post-webinar survey completion and continuing education certificates. Their name was used to fill out their continuing education certificate.

Subject Recruitment

Subjects were recruited through several sources. I contacted the American Association of Critical-Care Nurses board through their email contact: boardofdirectors@aacn.org. Through their research webpage, members of American Association of Critical-Care Nurses received a brief explanation of the study and a link to the project's webpage which contained detailed information on participation, including eligibility, and links to content. The webinar was a free opportunity for nurses to earn continuing education credit. I also reached out to the Michigan Nurses Association and American Association of Colleges of Nursing. Recruitment also took place through professional networks and social media. The snowball sampling method aided in recruitment since participants since several nurses shared the opportunity on their social media. I also working with Global Campus at the University of Arkansas for an adapted version of the webinar to be available as a non-credit class at the university.

Consent Procedures

The first question in the pre-webinar Qualtrics survey included consent. This question included the purpose of the project, project procedures, risks, benefits, confidentiality, contact information, voluntary participation, and a statement of understand and consent. The survey asked the participants to enter their email address and proceed with the survey if they consent to the research study. Nurses that did not consent did not proceed with the Qualtrics survey.

Subject Costs and Compensation

Study participants received no financial compensation for participating in this project. They incurred no costs during the process. I provided the nurses with a continuing education credit certificate, shown in Appendix O, worth 3.0 hours after they completed all post-implementation surveys.

Project Timeline

The main deviation in the original project timeline was webinar completion. This adjusted all processes in the timeline after webinar completion back approximately six weeks. Unfortunately, this left less time for participant recruitment. Appendix P shows the evolution of the timeline from planning to expected.

Resources and Economic Considerations

This project did not require a budget as there was no expected costs for this QI project. I did need access to my personal computer and the internet for all steps of the project. Nurse participants had to have technology resources to participate in the research, including a computer and internet access. The University of Arkansas provided access to needed software including, Statistical Package for the Social Sciences, WordPress, and Qualtrics.

Evaluation Plan

Data Maintenance and Security

I collected all project data through Qualtrics, a web-based survey tool. Qualtrics complies with all pertinent data privacy laws and backs up respondent data (Qualtrics, 2021). I then exported the data from Qualtrics into SPSS on my password protected private computer. I removed all personal health identifiers from the data and substituted this with a new variable. My codebook contains all information about the variables in the data set, such as what each variable key represents. The codebook is also stored on my personal computer, which is stored at my home. I am the only one who can access this computer. All data collected includes:

- Pre-webinar survey participant numbers
- Demographics: gender, ICU experience, nursing experience, education, certificate, and palliative care training

- Pre- and post-webinar palliative care competency scores in each of the 10 domains
- Post-webinar satisfaction scores
- Post-webinar survey participant numbers

Data Analysis

I analyzed the research data to determine the impact of the palliative care educational intervention on nurses' competency in providing primary palliative care to patients in the ICU. The independent variable for the data analysis was the palliative care continuing education webinar, and the dependent variable was the nurses' palliative care competency scores. A total of 22 participants began the study and 10 completed the research study. One participant did not spend greater than half their time at bedside and two only completed part of the pre-intervention survey. Their partial responses were omitted from the data analysis and these participants were not included in post-survey follow up, leaving 19 study participants. After multiple follow up attempts, 10 participants completed the post-survey competency survey and participated in the entire research study. The participants' background characteristics are noted in Table 1. All participants were Registered Nurses and 70% had no prior palliative care education. Additionally, the most common ICU environment was the medical ICU, 80% of participants had a bachelor's degree, and 80% were female. Lastly, all participants had less than 10 years of experience in the ICU and 80% had less than 10 years of experience as an RN.

Table 1

Background Characteristics of Participants

Description	N	Percentage	Total N
Gender			10
Male	2	20%	
Female	8	80%	
Race			10
White	8	80%	

Black or African American	1	10%	
Asian	1	10%	
Hispanic or Latino			10
Yes	1	10%	
No	9	90%	
Education			10
Associates	1	10%	
Bachelors	8	80%	
Masters	1	10%	
Palliative Care Education			10
Formal training	2	20%	
Informal	1	10%	
None	7	70%	
ICU Setting			10
Medical	6	60%	
Cardiovascular	2	20%	
Trauma	1	10%	
Other ICU	1	10%	
Nursing Experience in Years			10
0-2	2	20%	
3-5	2	20%	
6-10	4	40%	
11-15	1	10%	
16+	1	10%	
ICU Experience in Years			10
0-2	4	40%	
3-5	3	30%	
6-10	3	30%	

Outcome Measures

I analyzed data from the pre- and post-competency survey to determine the difference in palliative care competency scores before and after the webinar. The statistical method that I employed was a paired samples *t* -test. This test was used to compare the means of two measurements from the same person taken at two different times (Kent State University, 2021). The purpose of the paired samples *t*-test was to determine if there was a statistically significant difference between the observations (Kent State University, 2021). For example, in this QI project, if there was a significant increase in competency after the palliative care educational

webinar. The two measurements were the pre-competency survey and the post-competency survey, with the webinar intervention between the two time points. Palliative care competency score, the dependent variable, is continuous ratio data and the independent variable, the webinar, separates the data into two categories, pre-intervention and post-intervention. A p-value less than 0.05 from *t*-test analysis indicated a statistically significant difference in the pre- and post-intervention.

The results showed no significant difference in the overall total competency scores pre-webinar (M = 4.01, SD = 0.54) and post-webinar (M = 4.39, SD = 0.54) conditions; t (9) = -1.89, p = .091. There was a significant difference in the scores for pre-competency Physical Needs: Other Symptoms (M = 4.02, SD = 0.62) and post-competency Physical Needs: Other Symptoms (M = 4.57, SD = 0.42) conditions; t (9) = -2.62, p = .028. While not statistically significant, the overall competency scores and competency scores in each of the other nine domains all increased post-webinar intervention. Table 2 and Figure 1 shows pre- and post-competency scores in each of the 10 domains, with zero being not at all capable and five being highly capable. They also show the p-value, the statistical significance of the observed differences. The greatest increase in competency was seen in Physical Needs: Other Symptoms, Social Needs, and Ethical and Legal Issues. The least significant increase was seen in Physical Needs: Pain, EOL Care, and Functional Status Needs. Cronbach's Alpha (.936) showed high internal consistency

Table 2

Overall change in palliative care competency as measured by the PCNSC Scale

Competency	Pre-test mean (SD)	Post-test mean (SD)	P-Value
Overall Scores	4.01 (.54)	4.39 (.54)	.091

Table 3

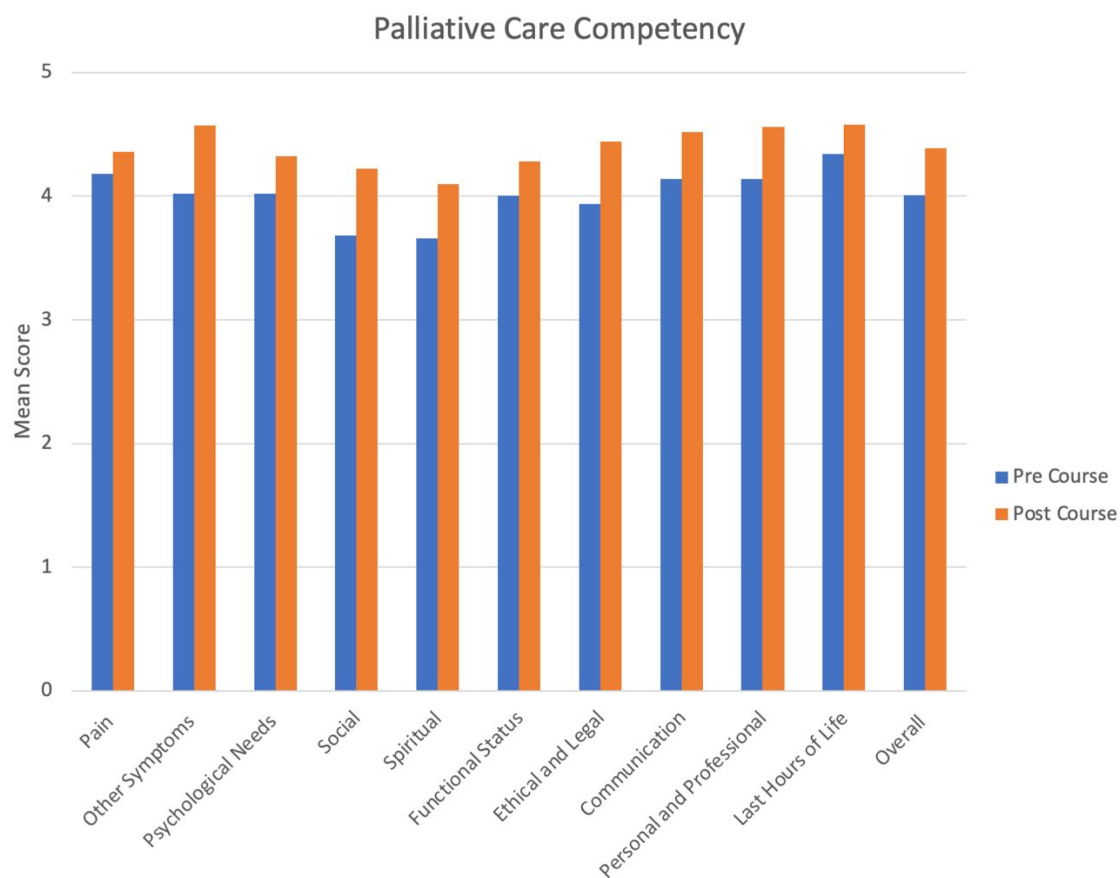
Changes in each domain as measured by the PCNSC Scale

Competency Domain	Pre-test mean (SD)	Post-test mean (SD)	P-Value
Physical Needs: Pain	4.18 (.55)	4.36 (.68)	.525
Physical Needs: Other Symptoms	4.02 (.62)	4.57 (.42)	.028
Psychological Needs	4.02 (.57)	4.32 (.71)	.134
Social Needs	3.68 (.82)	4.22 (.71)	.065
Spiritual Needs	3.66 (.73)	4.10 (.80)	.062
Functional Status	4.00 (.73)	4.28 (.69)	.363
Ethical and Legal Issues	3.94 (.72)	4.44 (.65)	.083
Communication	4.14 (.63)	4.52 (.48)	.199
Personal and Professional Issues	4.14 (.63)	4.56 (.56)	.106
End of Life Care	4.34 (.47)	4.58 (.51)	.292

Note. All domains measured on a 5-point scale; 0 is not at all capable; 5 is highly capable; $p<0.05$ on the paired-sample t-test; SD – standard deviation

Figure 1

Competency in Each Domain

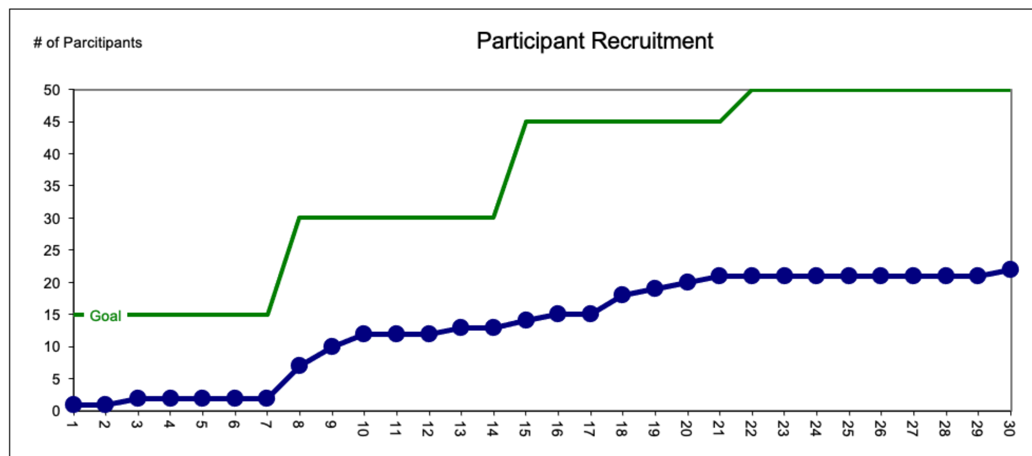


Process Measures

Throughout implementation, I tracked the number of participants daily that took the pre-survey to begin participation in the webinar and the overall number of participants. Figure 2 shows these numbers over the 30 days. This process measure evaluated the achievement of targeting ICU nurses to participate in the project. I also tracked participation in post-webinar survey completion daily. The goal was for 75% of participants who began the study to finish. After extensive follow up and participant reminders, 53% of participants completed the research project. Lower participation led to a smaller than expected sample size which limited the outcome measures analysis. Tracking initial participation and follow-up allowed me to shift recruitment efforts and send reminders to participants.

Figure 2

Run Chart of Participant Recruitment



Balancing Measures

While this QI project aimed to increase ICU nurses' competency in palliative care, I also assessed the participant's satisfaction with the webinar after completion. I analyzed this balancing measure of webinar satisfaction using descriptive statistics as noted in Table 4. Based

on these results, participants had an overall excellent experience participating in the webinars and were somewhat or extremely likely to refer it to a colleague.

Table 4

Participant Webinar Satisfaction

Question	N	Percentage
Presenter's knowledge of the topic		
Excellent	4	66.7%
Good	1	16.7%
Average	1	16.7%
Presenter's presentation skills		
Excellent	4	66.7%
Average	2	33.3%
Content of the slides/visual aids		
Excellent	3	50%
Good	2	33.3%
Average	1	16.7%
Accuracy of webinar content to the description		
Excellent	4	66.7%
Good	1	16.7%
Average	1	16.7%
Overall experience		
Excellent	4	66.7%
Good	1	16.7%
Average	1	16.7%
How likely are you to refer to a colleague		
Extremely likely	4	66.7%
Somewhat likely	2	33.3%

Economic and Cost Benefits

Attempts at cost reduction that do not consider patient outcomes can be unsafe and are unacceptable in healthcare (Dalal & Bruera, 2017). The main benefit of palliative care is improvements in the quality of life of patients and their families, while cost reduction is a secondary and unintended outcome (Dalal & Bruera, 2017). The recent focus on value-based performance measures allows for consideration of personalized treatment and necessitates palliative care approaches to explore the patients' goals of care (Dalal & Bruera, 2017). Due to

recent rapid growth, there is limited economic research about the extent of costs involved in providing palliative care. There are several economic perspectives to be considered such as insurance, government, and patient expenses (Gardiner et al., 2017). Additionally, the complicated nature of palliative care interventions makes a single approach in economic evaluation inappropriate (Gardiner et al., 2017). There was substantial evidence of reduced hospital costs with palliative care in one systematic review of 16 studies (Yadav et al., 2020). There was additional evidence of attributes related to decreased ER visits, number of admissions, and ICU length of stay (Yadav et al., 2020). Increased access to palliative care services has been shown to achieve higher quality care at lower costs, ensure resources are matched to patient and family values, and provide an effective solution to the growing challenge of increasing healthcare costs (CAPC, 2018b). In direct response to this intervention, increasing nurses' competency in primary palliative care ensures more patients have access to these services, lowering overall healthcare costs. Additionally, palliative care consultation by day four of admission was associated with reduction of average direct variable costs compared to patients who received no palliative care (Zalenski et al., 2017).

Discussion

Of 167 ICU nurse participants in a study by Wolf and colleagues (2019), fewer than 40% felt "highly competent" in any palliative care domain, similar to this project's findings where the majority of participants did not feel highly capable in any domain prior to the intervention. There was also in increase in overall mean competency in palliative care communication, yet not statistically significant as seen in a study of 428 bedside ICU nurses who participated in palliative care training related to communication (Anderson et al., 2016). Additionally, Anderson and colleagues (2017) found significantly higher nurse reported scores

of a very good or excellent level of skill in all 15 palliative care communication tasks after nurses completed palliative care workshops, which again was similar to results of this project which showed an overall increase and in all palliative care categories. The lowest pre-competency score in this study was in Spiritual Needs of the patient and families, correlating to ICU nurse self-reports that 26.9% ICU nurses were “not competent” or “somewhat competent” in assessing and supporting spiritual needs and 27.1% in providing culturally competent care (Wolf et al., 2019).

Pre-competency scores were higher than anticipated based on previous literature review. Forty-one percent of a group of 386 ICU nurses had poor palliative care knowledge and only 36.5% had satisfactory practices in palliative care which significantly correlated to their knowledge and attitude in all palliative care domains (Walia et al., 2020). The literature showed an overall lack of palliative care education within the ICU setting. This is a possible reason that the observed pre-competency scores were higher than anticipated, and therefore leading to less of an increase in mean competency scores.

Healthcare Quality Impact

Improvements in nurses’ competency in palliative care will increase ICU patient access to essential palliative care services. This will impact patient-centered outcomes by improving quality of life, emotional well-being, and symptom burden (CAPC, 2018b). Hospital data has shown significant improvements in family-perceived quality of care and quality of death after the implementation of a palliative care program (Maeda et al., 2016). Evidence consistently shows an association between palliative care interventions and patients’ quality of life, as well as lower levels of symptom burden (Kavalieratos et al., 2016). Additionally, in the ICU, patients with early palliative care involvement had higher rates of DNR, increased hospice

referrals, and slightly lower 30-day readmission rates (Zalenski et al., 2017). Palliative care consultation by day four of admission was associated with a significant reduction in hospital length of stay (Zalenski et al., 2017).

Policy Implications

In 2018, the House of Representatives passed the Palliative Care and Hospice Education and Training Act (PCHETA) (Sinclair, 2019). This act allows the Department of Health and Human Services to give contracts and grants for education to promote healthcare professionals career development and support research and outreach in palliative care delivery. This bill expanded access to palliative care and will continue to improve the quality of life of Americans living with serious illness (Sinclair, 2019). Project results from this DNP project will reinforce these efforts. Improved knowledge and competency after palliative care education will result in further advocacy in policy change in individual sites to expand patient access in this rapidly growing field.

Translation

This project was implemented among ICU nurses across the United States, not one specific ICU site. Healthcare professionals in all settings must establish palliative care knowledge to effectively care for their patients. This webinar is applicable for all ICU sites and can also be translatable to other nursing environment such as medical surgical and oncology. Additionally, this webinar can be used in educational settings such as a non-credit continuing education course or supplemental learning module in undergraduate nursing curriculum.

Limitations

One main factor that impacted the project results was the sample size. Due to delay in webinar completion, recruitment time was significantly decreased. One large scale study

indicated that during the COVID-19 pandemic, nurses who identified as working in the ICU and as women had higher scores in mental health outcomes, such as emotional exhaustion and trauma (Chen et al., 2021). Eighty percent of participants in this project were female and all worked within an ICU department. This increased emotional exhaustion and trauma likely corelated to decreased participation, as well as follow up participation for post-surveys. The PCNSC scale used to measure competency was 50 questions. While a high number of questions aided in high internal consistency, measured by Cronbach's Alpha greater than 0.9, it may have turned participants away at the beginning of the research. Development of a shorter tool to measure palliative care competency, with high reliability and validity, could increase participation in future studies. A longer period of implementation and in-person recruiting within the ICUs may also increase participation for future studies.

Parts of this project webinar were tailored specifically to the inpatient population which limits its transferability to outpatient organizations. Additionally, children have very diverse palliative care needs than adult patients. They experience complex illnesses not seen in adults and their illnesses can act differently because of their unique anatomy and physiology (Center to Advance Palliative Care, 2021). This limits the projects transferability to pediatric systems. During implementation, there was no definite way to ensure each study participant participated in all webinar activities, which could impact the internal validity of the study. To minimize impacts on validity, I provided a disclosure on the study webpage stating that to obtain nursing contact hours, participants must attend the entire educational program and complete/submit the surveys. The webinar satisfaction survey also showed room for improvement with visual aids and slide content for future studies.

Sustainability

The palliative care continuing education webinar will stay available through the Eleanor Mann School of Nursing at the University of Arkansas. I modified this webinar for all nursing environments and it is available at the University of Arkansas as a non-credit education course. This webinar will remain a very sustainable method to educate nurses. The webinar will be accessible for three years unless there are any major changes in content that would no longer be evidence-based best practice. Additionally, the palliative care team I am on at our local hospital is in the process of adapting the webinar for a hospital wide continuing based learning module.

Dissemination

Site and DNP Committee Reporting

Dissemination of the results of research is not only important to the nursing profession but also professional development of the researcher (Smaldone et al., 2019). I will disseminate the results of this DNP project through Zoom platform on April 19th at 9 am to the Eleanor Mann School of Nursing student and faculty. I will also add a tab to my webpage with results. This will allow all participants who have viewed my webpage to view them. I will present a short presentation to my palliative care coworker team with the results. The results will guide us as we adapt the webinars into a continuing based learning module for our hospital system. The results will also guide modifications to the palliative care non-credit course at the University of Arkansas Eleanor Mann School of Nursing. Another consideration for public dissemination is at a West Michigan Hospice and Palliative Medicine Physicians Roundtable. This is a unique opportunity for clinicians in palliative care to gather as colleagues, share stories, experiences, and best practices.

Professional Reporting

The results can be provided to the *American Journal of Critical Care* (AJCC)*, Journal of Hospice and Palliative Care Nursing, and Journal of Palliative Care.* The AJCC is the American Association of Critical-Care Nurses' (AACNs) preeminent peer-reviewed publication for communicating advances in critical care research. It is published bimonthly.

Conclusion

This DNP QI project delivered understanding in ICU nurses' competency in palliative care. The aim was to increase ICU nurses' palliative care competency by 25%. There was an increase in pre-intervention and post-intervention mean overall and in all the 10 palliative care domains, however, a 25% increase was not obtained. This is attributed partially to pre-competency scores that were higher than anticipated based on previous literature review. Currently, not all patients admitted to the ICU who qualify for palliative care services receive said service, yet the standard for quality care is for all patients in the ICU to receive necessary palliative care services. Palliative care can optimize patient's quality of life and prevent and relieve suffering for the patient and their families (Ferrell et al., 2018). This DNP QI aimed to fill this gap in care and guide further research in improving access to quality palliative care. This research proves there is a gap in ICU nurse competency in palliative care and provided insight into the growing need for nurses to gain this competency. The project results prove that an on-demand webinar can be an effective tool to educate nurse in providing palliative care to their patients and families in need. The research can be extended to inpatient nurses outside the ICU population to determine strengths and weaknesses in palliative care competency within different departments and organizations. While this project gave great insight into an education tool effective at increasing nurses' competency in palliative care, further research with an extended

implementation time is needed to reach additional nurses, increase the sample size, and gather more data for further interpretation and guidance in palliative care education.

References

American Association of Critical-Care Nurses. (2020). Palliative care in the ICU: A 360° view of the nurse's role. *Critical Care Nurse, 40*(5), 84-84. https://doi.org/10.4037/ccn2020615

American Association of Critical-Care Nurses. (2021). *Palliative care in the acute and critical care setting*. Retrieved July 5, 2021 from https://www.aacn.org/clinical-resources/palliative-end-of-life

American Nurses Association. (2016). *Nurses' roles and responsibilities in providing care and support at the end of life.* https://www.nursingworld.org/~4af078/globalassets/docs/ana/ethics/endoflife-positionstatement.pdf

American Nurses Association. (2017). *Call for action: nurses lead and transform palliative care.* https://www.nursingworld.org/~497158/globalassets/practiceandpolicy/health-policy/palliativecareprofessionalissuespanelcallforaction.pdf

Anderson, W. G., Puntillo, K., Boyle, D., Barbour, S., Turner, K., Cimino, J., Noort, J., Pearson, D., Boyle, D., Grywalski, M., Meyer, J., O'Neil-Page, E., Cain, J., Herman, H., Barbour, S., Turner, K., Moore, E., Liao, S., Ferrell, B., Mitchell, W., Edmonds, K., Fairman, N., Joseph, D., MacMillan, J., Milic, M. M., Miller, M., Nakagawa, L., O'Riordan, D. L., Pietras, C., Thornberry, K., & Pantilat, S. Z. (2016). ICU bedside nurses' involvement in palliative care communication: A Multicenter Survey. *Journal of Pain and Symptom Management*, *51*(3), 589. https://doi.org/10.1016/j.jpainsymman.2015.11.003

Anderson, W. G., Puntillo, K., Boyle, D., Barbour, S., Turner, K., Cimino, J., Moore, E., Noort, J., MacMillan, J., Pearson, D., Grywalski, M., Liao, S., Ferrell, B., Meyer, J., O'Neil-Page, E., Cain, J., Herman, H., Mitchell, W., & Pantilat, S. Z. (2017). Palliative care

professional development for critical care nurses: A multicenter program. *American Journal of Critical Care*, *26*(5), 361-371. https://doi.org/10.4037/ajcc2017336

Bärnighausen, T., Røttingen, J., Rockers, P., Shemilt, I., & Tugwell, P. (2017). Quasi-experimental study designs series—paper 1: Introduction: Two historical lineages. *Journal of Clinical Epidemiology, 89*, 4-11. https://doi.org/10.1016/j.jclinepi.2017.02.020

Benner, P. (1982). From novice to expert excellence and power in clinical nursing practice. *The American Journal of Nursing, 84*(12), 1479. https://doi.org/10.1097/00000446-198412000-00025

Boyle, D. A., Barbour, S., Anderson, W., Noort, J., Grywalski, M., Myer, J., & Hermann, H. (2017). Palliative care communication in the ICU: Implications for an oncology-critical care nursing partnership. *Seminars in Oncology Nursing, 33*(5), 544-554. https://doi.org/10.1016/j.soncn.2017.10.003

Butler, R., Monsalve, M., Thomas, G. W., Herman, T., Segre, A. M., Polgreen, P. M., & Suneja, M. (2018). Estimating time physicians and other health care workers spend with patients in an intensive care unit using a sensor network. *The American Journal of Medicine, 131*(8), 972.e9-972.e15. https://doi.org/10.1016/j.amjmed.2018.03.015

Center to Advance Palliative Care. (2018a). *Growth of palliative care in U.S. hospitals: 2018 snapshot (2000-2016).* https://www.capc.org/the-case-for-palliative-care/

Center to Advance Palliative Care. (2018). *The case for palliative care.* https://www.capc.org/the-case-for-palliative-care/

Center to Advance Palliative Care. (2021). *Pediatric vs. adult palliative care.* https://getpalliativecare.org/whatis/pediatric/adult-vs-pediatric-palliative-care/

Centers for Disease Control and Prevention. (2021). *About chronic disease.* U.S. Department of Health and Human Services. https://www.cdc.gov/chronicdisease/about/index.htm

Chen, R., Sun, C., Chen, J., Jen, H., Kang, X. L., Kao, C., & Chou, K. (2021). A large-scale survey on trauma, burnout, and posttraumatic growth among nurses during the COVID-19 pandemic. *International Journal of Mental Health Nursing, 30*(1), 102-116. https://doi.org/10.1111/inm.12796

Chiswell, M., Smissen, A., Ugalde, A., Lawson, D., Whiffen, R., Brockington, S., & Boltong, A. (2018). Using webinars for the education of health professionals and people affected by cancer: Processes and evaluation. *Journal of Cancer Education, 33*(3), 583-591. https://doi.org/10.1007/s13187-016-1138-7

Constantine, L. (2016). Evaluation of a multifaceted educational intervention to improve palliative care in the intensive care unit: Adopting the care and communication bundle. *Journal of Hospice and Palliative Nursing, 18*(6), 519-525. https://doi.org/10.1097/NJH.0000000000000288

Dalal, S., & Bruera, E. (2017). End-of-Life care matters: Palliative cancer care results in better care and lower costs. *The Oncologist, 22*(4), 361-368. https://doi.org/10.1634/theoncologist.2016-0277

Davis, A., Lippe, M., Glover, T. L., McLeskey, N., Shillam, C., & Mazanec, P. (2021). Integrating the ELNEC undergraduate curriculum into nursing education: Lessons learned. *Journal of Professional Nursing, 37*(2), 286-290. https://doi.org/10.1016/j.profnurs.2020.12.003

Davis, A., & Maisano, P. (2016). Patricia Benner: Novice to expert- A concept whose time has come (again). *The Oklahoma Nurse, 61*(3), 13.

https://www.nursingald.com/articles/16408-patricia-benner-novice-to-expert-a-concept-whose-time-has-come-again

Desbiens, J., & Fillion, L. (2011). Development of the palliative care nursing self-competence scale. *Journal of Hospice and Palliative Nursing, 13*(4), 230-241. http://doi.org/10.1097/NJH.0b013e318213d300

Donlon, R., Purington. K., & Williams, N. (2018). Advancing palliative care for adults with serious illness: A national review of state palliative care policies and programs. *National Academy for State Policy.* https://www.nashp.org/wp-content/uploads/2018/12/Palliative-Care-Brief-Final.pdf

Dunbar, G., Kawar, L. N., & Scruth, E. A. (2019). The transition from expert to novice and back to expert: Ensuring competent and safe practice. *Clinical Nurse Specialist, 33*(3), 106-109. https://doi.org/10.1097/NUR.0000000000000442

Ferrell, B., Malloy, P., Mazanec, P., & Virani, R. (2016). CARES: AACN's new competencies and recommendations for educating undergraduate nursing students to improve palliative care. *Journal of Professional Nursing, 32*, 327–333. https://doi.org/10.1016/j.profnurs.2016.07.002

Ferrell, B. R., Twaddle, M. L., Melnick, A., & Meier, D. E. (2018). National consensus project clinical practice guidelines for quality palliative care guidelines, 4th edition. *Journal of Palliative Medicine, 21*(12), 1684-1689. http://doi.org/10.1089/jpm.2018.0431

Finkelstein, M., Goldstein, N. E., Horton, J. R., Eshak, D., Lee, E. J., & Kohli-Seth, R. (2016). Developing triggers for the surgical intensive care unit for palliative care integration. *Journal of Critical Care*, *35*, 7-11. https://doi.org/10.1016/j.jcrc.2016.04.010

Ganz, F. D., & Sapir, B. (2019). Nurses' perceptions of intensive care unit palliative care at end of life. *Nursing in Critical Care, 24*(3), 141-148. https://doi.org/10.1111/nicc.12395

Ganz, F. D., Ben Nun, M., & Raanan, O. (2020). Introducing palliative care into the intensive care unit: An interventional study. *Heart & Lung, 49*(6), 915-921. https://doi.org/10.1016/j.hrtlng.2020.07.006

Gardiner, C., Ingleton, C., Ryan, T., Ward, S., & Gott, M. (2017). What cost components are relevant for economic evaluations of palliative care, and what approaches are used to measure these costs? A systematic review. *SAGE Publications, 31*(4), 323-337. https://doi.org/10.1177/0269216316670287

Kavalieratos, D., Corbelli, J., Zhang, D., Dionne-Odom, J. N., Ernecoff, N. C., Hanmer, J., Hoydich, Z. P., Ikejiani, D. Z., Klein-Fedyshin, M., Zimmermann, C., Morton, S. C., Arnold, R. M., Heller, L., & Schenker, Y. (2016). Association between palliative care and patient and caregiver outcomes: A systematic review and meta-analysis. *The Journal of the American Medical Association, 316*(20), 2104-2114. https://doi.org/10.1001/jama.2016.16840

Kelley, A. S., & Bollens-Lund, E. (2018). Identifying the population with serious illness: The "denominator" challenge. *Journal of Palliative Medicine, 21*(S2), S7–S16. https://doi.org/10.1089/jpm.2017.0548

Kent State University. (2021). *SPSS tutorials: Paired samples t tests.* https://libguides.library.kent.edu/SPSS/PairedSamplestTest

Leighton, K., Mudra, V., & Gilbert, G. E. (2018). Development and psychometric evaluation of the facilitator competency rubric. *Nursing Education Perspectives, 39*(6), E3-E9. https://doi.org/10.1097/01.NEP.0000000000000409

Lowe, M., Prapanjaroensin, A., Bakitas, M, Hites, L., Loan, L., Raju, D., & Patrician, P. (2020). An exploratory study of the influence of perceived organizational support, coworker social support, the nursing practice environment, and nurse demographics on burnout in palliative care nurses. *Journal of Hospice & Palliative Nursing, 22*, 465-472. https://doi.org/10.1097/NJH.0000000000000686

Ma, J., Chi, S., Buettner, B., Pollard, K., Muir, M., Kolekar, C., Al-Hammadi, N., Chen, L., Killeff, M. & Dans, M. (2019). Early palliative care consultation in the medical ICU: A cluster randomized crossover trial. *Critical Care Medicine, 47*(12), 1707. http://doi.org/10.1097/CCM.0000000000004016

Maeda, I. D., Miyashita, M., Yamagishi, A., Kinoshita, H., Shirahige, Y., Izumi, N., Yamaguchi, T., Igarashi, M., Kato, M., & Morita, T. (2016). Changes in relatives' perspectives on quality of death, quality of care, pain relief, and caregiving burden before and after a region-based palliative care intervention. *Journal of Pain and Symptom Management, 52*(5), 637-645. https://doi.org/10.1016/j.jpainsymman.2016.03.022

Marshall, J. C., Bosco, L., Adhikari, N.K., Connolly, B., Diaz, J. V., Dorman, T., Fowler, R. A., Meyfroidt, G., Nakagawa, S., Pelosi, P., Vincent, J. L., Vollman, K., & Zimmerman, J. (2017). What is an intensive care unit? A report of the task force of the World Federation of Societies of Intensive and Critical Care Medicine. *Journal of Critical Care, 37*, 270-276. http://doi.org/10.1016/j.jcrc.2016.07.015

Matzo, M. & Sherman, D. W. (2018). *Palliative care nursing: Quality care to the end of life* (5th ed.). Springer Publishing Company.

May, P., Garrido, M. M., Cassel, J. B., Kelley, A. S., Meier, D. E., Normand, C., Stefanis, L., Smith, T. J., & Morrison, R. S. (2016). Palliative care teams' cost-saving effect is larger

for cancer patients with higher numbers of comorbidities. *Health Affairs Web Exclusive, 35*(1), 44-53. https://doi.org/10.1377/hlthaff.2015.0752

May, P, Normand, C, Cassel, J. B., Del Fabbro, E., Fine, R. L., Menz, R., Morrison, C. A., Penord, J. D., Robinson, C., & Morrison, R. S. (2018). Economics of palliative care for hospitalized adults with serious illness: A meta-analysis. *JAMA Internal Medicine, 178*(6), 820–829. http://doi.org/10.1001/jamainternmed.2018.0750

Mazanec, P., Ferrell, B., Virani, R., Alayu, J., & Ruel, N. H. (2020). Preparing new graduate RNs to provide primary palliative care. *The Journal of Continuing Education in Nursing, 51*(6), 280-286. https://doi.org/10.3928/00220124-20200514-08

McCarthy, M. (2020, October 1). *No hugs: How the COVID-19 pandemic has implemented palliative, hospice care*. Healthline. https://www.healthline.com/health-news/no-hugs-how-the-covid-19-pandemic-has-impacted-palliative-hospice-care\

McMahon, C. J., Tretter, J. T., Faulkner, T., Krishna Kumar, R., Redington, A. N., & Windram, J. D. (2021). Are e-learning webinars the future of medical education? An exploratory study of a disruptive innovation in the COVID-19 era. *Cardiology in the Young, 31*(5), 734-743. https://doi.org/10.1017/S1047951120004503

Morin, L., Aubry, R., Frova, L., MacLeod, R., Wilson, D. M., Loucka, M., Csikos, A., Ruiz-Ramos, M., Cardenas-Turanzas, M., Rhee, Y., Teno, J., Öhlén, J., Deliens, L., Houttekier, D., & Cohen, J. (2017). Estimating the need for palliative care at the population level: A cross-national study in 12 countries. *Palliative Medicine, 31*(6), 526. http://doi.org/10.1177/0269216316671280

Moriyama, D., Scherer, J. S., Sullivan, R., Lowy, J., & Berger, J. T. (2021). The impact of COVID-19 surge on clinical palliative care: A descriptive study from a New York

hospital system. *Journal of Pain and Symptom Management, 61*(3), e1–e5. https://doi.org/10.1016/j.jpainsymman.2020.12.011

Nevin, M., Hynes, G., & Smith, V. (2020). Healthcare providers' views and experiences of non-specialist palliative care in hospitals: A qualitative systematic review and thematic synthesis. *Palliative Medicine, 34*(5), 605. http://doi.org/10.1177/0269216319899335

Neiman, T. (2020). Acute care nurses' experiences of basic palliative care. *Journal of Hospice & Palliative Nursing*, *22*, 101-107. https://doi.org/10.1097/NJH.0000000000000622

Nguyen, L. T., Yates, P., & Osborne, Y. (2014). Palliative care knowledge, attitudes and perceived self-competence of nurses working in Vietnam. *International Journal of Palliative Nursing, 20*(9), 448-456. https://doi.org/10.12968/ijpn.2014.20.9.448

O'Donnell, A., Buffo, A., Campbell, T. C., & Ehlenbach, W. J. (2020). The critical care nurse communicator program: An integrated primary palliative care intervention. *Critical care Nursing Clinics of North America*, *32*(2), 265-279. https://doi.org/10.1016/j.cnc.2020.02.008

Ong, K. K., Ting, K. C., & Chow, Y. L. (2018). The trajectory of experience of critical care nurses in providing end-of-life care: A qualitative descriptive study. *Journal of clinical nursing*, *27*(1-2), 257-268. https://doi.org/10.1111/jocn.13882

Ozdemir, N. G. (2019). The development of nurses' individualized care perceptions and practices: Benner's novice to expert model perspective. *International Journal of Caring Sciences, 12(*2), 1-7. https://www.proquest.com/scholarly-journals/development-nurses-individualized-care/docview/2303666905/se-2?accountid=8361

Paice, J, A., Wholihan, D., Dahlin, C., Rosa, W. E., Mazanec, P., Long, C. O., Thaxton, C., & Greer, K. (2021). Palliative nursing: The core of COVID-19 care. *Journal of Hospice & Palliative Nursing, 23(*1), 6-8. http://doi.org/10.1097/NJH.0000000000000709

Price, D. M., Strodtman, L., Montagnini, M., Smith, H. M., Miller, J., Zybert, J., Oldfield, J., Policht, T. & Ghosh, B. (2017). Palliative and end-of-life care education needs of nurses across inpatient care settings. *Journal of Continuing Education in Nursing*, *48*(7), 329-336. https://doi.org/10.3928/00220124-20170616-10

Qualtrics. (2021). *Privacy statement.* https://www.qualtrics.com/privacy-statement/

Radbruch, L., Knaul, F. M., de Lima, L., de Joncheere, C., & Bhadelia, A. (2020). The key role of palliative care in response to the COVID-19 tsunami of suffering. *The Lancet, 395*(10235), 1467-1469. https://doi.org/10.1016/S0140-6736(20)30964-8

Rosa, W. E., & Davidson, P. M. (2020). Coronavirus disease 2019 (COVID-19): Strengthening our resolve to achieve universal palliative care. *International Nursing Review, 67*(2), 160-163. https://doi.org/10.1111/inr.12592

Rosa, W. E., Gray, T. F., Chow, K., Davidson, P. M., Dionne-Odom, J. N., Karanja, V., Khanyola, J., Kpoeh, J., Lusaka, J., Matula, S. T., Mazanec, P., Moreland, P. J., Pandey, S., de Campos, A. P., & Meghani, S. H. (2020a). Recommendations to leverage the palliative nursing role during COVID-19 and future public health crises. *Journal of Hospice and Palliative Nursing*, *22*(4), 260–269. https://doi.org/10.1097/NJH.0000000000000665

Rosa, W. E., Ferrell, B. R., & Wiencek, C. (2020b). Increasing critical care nurse engagement of palliative care during the COVID-19 pandemic. *Critical Care Nurse, 40*(6), e28-e8. https://doi.org/10.4037/ccn2020946

Sinclair, S. (2019). *Flex your advocacy muscles with the palliative care and hospice education and training act*. Center to Advance Palliative Care. https://www.capc.org/blog/palliative-pulse-palliative-pulse-june-2017-flex-advocacy-muscles-pcheta/

Smaldone, A., Heitkemper, E., Jackman, K., Joanne Woo, K., & Kelson, J. (2019). Dissemination of PhD dissertation research by dissertation format: A retrospective cohort study. *Journal of Nursing Scholarship, 51*(5), 599-607. https://doi.org/10.1111/jnu.12504

Soikkeli-Jalonen, A., Stolt, M., Hupli, M., Lemetti, T., Kennedy, C., Kydd, A., & Haavisto, E. (2020). Instruments for assessing nurses' palliative care knowledge and skills in specialised care setting: An integrative review. *Journal of Clinical Nursing, 29*(5-6), 736-757. https://doi.org/10.1111/jocn.15146

Sleeman, K. E., de Brito, M., Etkind, S., Nkhoma, K., Guo, P., Higginson, I. J., Gomes, B., & Harding, R. (2019). The escalating global burden of serious health-related suffering: Projections to 2060 by world regions, age groups, and health conditions. *The Lancet Global Health, 7*(7), e883-e892. https://doi.org/10.1016/S2214-109X(19)30172-X

Stratton, S. J. (2019). Quasi-experimental design (pre-test and post-test studies) in prehospital and disaster research. *Prehospital and Disaster Medicine, 34*(6), 573-574. https://doi.org/10.1017/S1049023X19005053

Stratton, S. J. (2021). Population research: Convenience sampling strategies. (2021). *Prehospital and Disaster Medicine, 36*(4), 373-374. https://doi.org/10.1017/S1049023X21000649

Walia, A., Sharma, K. K., Garg, R., & Das, S. (2020). A descriptive study to assess the knowledge, attitude, practices, perceived barriers, and support regarding palliative care

and end-of-life care among critical care nurses of tertiary care medical institute. *Indian Journal of Palliative Care*, 26(4), 479-489. https://doi.org/10.4103/IJPC.IJPC_227_19

Wolf, A. T., White, K. R., Epstein, E. G., & Enfield, K. B. (2019). Palliative care and moral distress: An institutional survey of critical care nurses. *Critical Care Nurse, 39*(5), 38-49. https://doi.org/10.4037/ccn2019645

World Health Organization. (2020). *Palliative care.* https://www.who.int/news-room/fact-sheets/detail/palliative-care

Wysham, N. G., Hua, M., Hough, C. L., Gundel, S., Docherty, S. L., Jones, D. M., Reagan, O., Goucher, H., Mcfarlin, J., & Cox, C. E. (2017). Improving ICU-based palliative care delivery: A multicenter, multidisciplinary survey of critical care clinician attitudes and beliefs. *Critical Care Medicine, 45*(4), e372-e378. http://doi.org/10.1097/CCM.0000000000002099

Yadav, S., Heller, I. W., Schaefer, N., Salloum, R. G., Kittelson, S. M., Wilkie, D. J., & Huo, J. (2020). The health care cost of palliative care for cancer patients: A systematic review. *Supportive Care in Cancer, 28*(10), 4561-4573. https://doi.org/10.1007/s00520-020-05512-y

Zante, B., Schefold, J. C., Nelson, J. E., Edwards, J. D., & Voigt, L. P. (2017). One ring to rule them all: Education in ICU palliative care: Discussion on “Ten key points about ICU palliative care”. *Intensive Care Medicine, 43*(5), 720-721. https://doi.org/10.1007/s00134-017-4719-y

Zalenski, R. J., Jones, S. S., Courage, C., Waselewsky, D. R., Kostaroff, A. S., Kaufman, D., Beemath, A., Brofman, J., Castillo, J. W., Krayem, H., Marinelli, A., Milner, B., Palleschi, M. T., Tareen, M., Testani, S., Soubani, A., Walch, J., Wheeler, J., Wilborn, S.,

Gronovsky, H. & Welch, R. D. (2017). Impact of palliative care screening and consultation in the ICU: A multihospital quality improvement project. *Journal of Pain and Symptom Management, 53*(1), 5-12.e3. https://doi.org/10.1016/j.jpainsymman.2016.08.003

Appendix A

Global Aim Statement

Dissemination

Write a Theme for Improvement: __Enhance ICU nurses' competency in palliative care ______

Global Aim Statement

We aim to improve: ____nurses' competency in the palliative care practices __________
(Name the process)

In: _________intensive care units in the United States_______________________________________
(Clinical location in which process is embedded)

The process begins with: ______exploring the hindrances to palliative care management. __________
(Name where the process begins)

The process ends with: _________dissemination of a continuing education webinar to nurses.________
(Name the ending point of the process)

By working on the process, we expect: _nurses to increase their knowledge and skills to provide palliative care services to their patients with confidence and improve the quality of care they provide to patients and their families in the ICU. We also expect to improve their competence in palliative care.____
(List benefits)

It is important to work on this now because: __There is a shortage of palliative care specialists in the United States healthcare system and people are living with serious illness is increasing. Additionally, there is under referral to the palliative care specialty due to the unfamiliarity of palliative care by healthcare professionals.____________
(List imperatives)

Create Flowchart

Specific Aim Statement

We will: increase

The: percentage of ICU nurses' palliative care competency
(process)

By: _______25%_ from pre-post survey____
(percentage)

By: ____implementing a palliative care educational webinar_______________________
(describe the change in quality or state the number/amount/percentage)

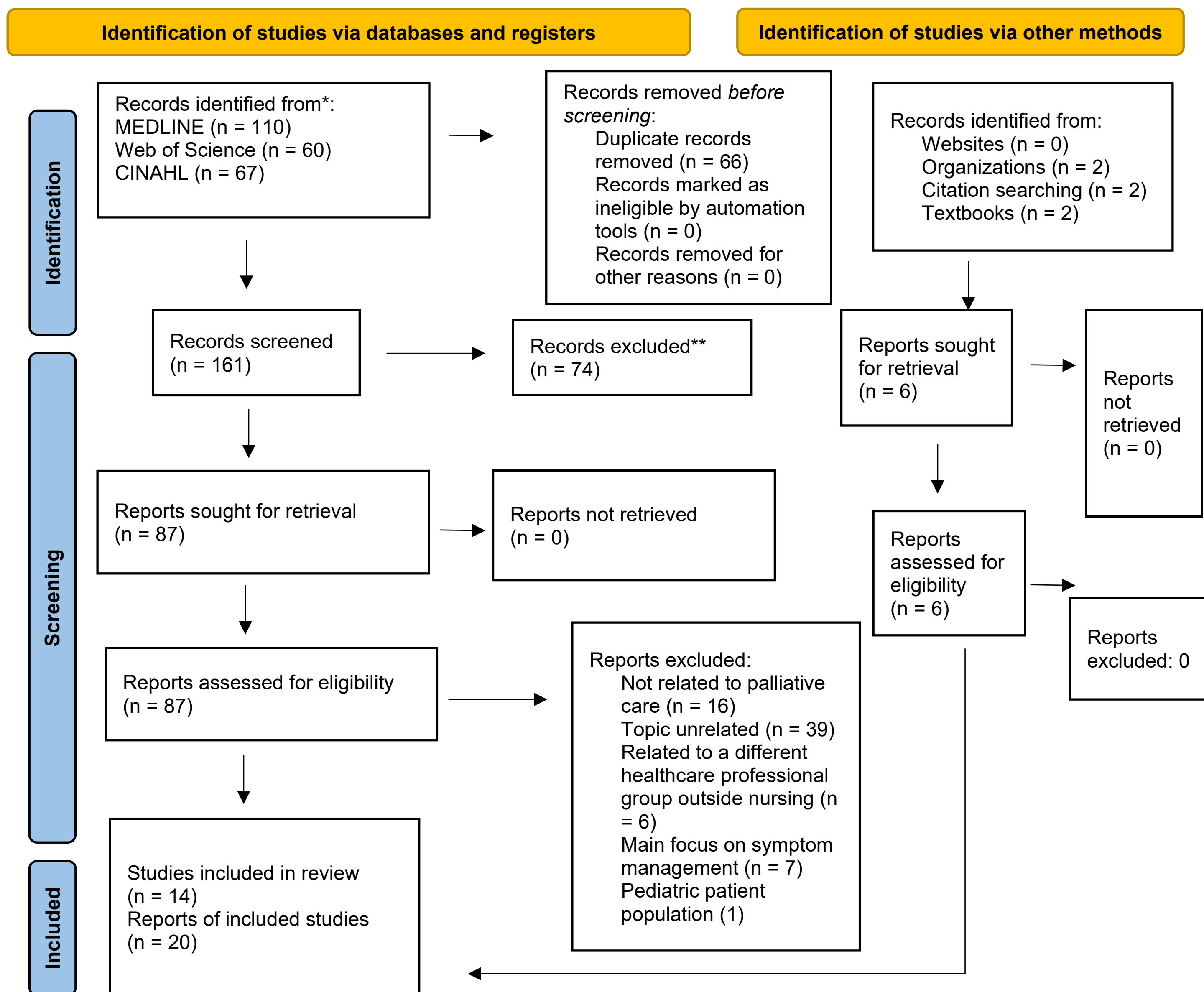
By: ___March 2022___________________________
(date)

Adapted from 2008 Trustees Dartmouth College, Godfrey, Nelson, Batalden

Cooley Dickinson Hospital

Appendix B

Prisma Flow Diagram



*Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all databases/registers).

**If automation tools were used, indicate how many records were excluded by a human and how many were excluded by automation tools.

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. Doi: 10.1136/bmj.n71. For more information, visit: http://www.prisma-statement.org/

Appendix C

Evidence Table

Authors	Year	Country where research conducted	Theory guiding the study and identification of concepts	Independent or Treatment Variable(s)	Dependent or Outcome Variable(s)	Research Design	Sample Method (N=)	Data Collection Process	Brief Summary of Results	Strength of evidence (Level)
Anderson et al.	2016	U.S.	N/A	N/A	palliative care communication	descriptive exploratory	598 ICU nurses	survey	ICU bedside nurses see their involvement in discussions of prognosis, goals of care, and palliative care as a key element of overall quality of patient care	VI
Anderson et al.	2017	U.S.	health belief model, theory of planned behavior, social cognitive theory, an ecological perspective, and transtheoretical model	palliative care professional development program	nurses' ratings of their palliative care communication skills in surveys, nurses' identification of palliative care needs during coaching rounds	qualitative analysis	428 ICU nurses	thematic analysis surveys	Communication skills training increased ratings of their palliative care communication skills Coaching rounds supported nurses in identifying palliative care needs	IV

Constantine	2016	U.S.	Rogers' diffusion of innovation	multifaceted educational intervention	frequencies of documentation of the nine quality measures of the Care and Communication Bundle, length of stay, and patient mortality data	quality improvement pre/post design	55 patient charts	chart reviews	documentation of an appropriate decision maker, advance directives, resuscitation status, and social work contact significantly improved	IV
Ferrell et al.	2019	U.S.	N/A	N/A	N/A	N/A	N/A	Evidence-based guideline	8 domains	I
Finkelstein et al.	2016	U.S.	N/A	palliative care triggers in the SICU	hospital death or hospice discharge	prospective cohort study	517 SICU admissions	chart review	Factors significantly associated with hospital death or hospice discharge were repeat SICU admission, metastatic/advanced cancer, SICU physician referral, and the matching of 2 or more secondary criteria	IV
Ganz et al.	2020	Isreal	N/A	112-hour continuing education	scores of knowledge levels, attitudes, practices and assessment of the quality of death and dying	prospective longitudinal, cohort study	122 ICU nurses	Questionnaires through use of a Knowledge Café	The course was successful in building participants capacity to provide palliative care however; barriers made introduction of palliative care into the ICU difficult	IV

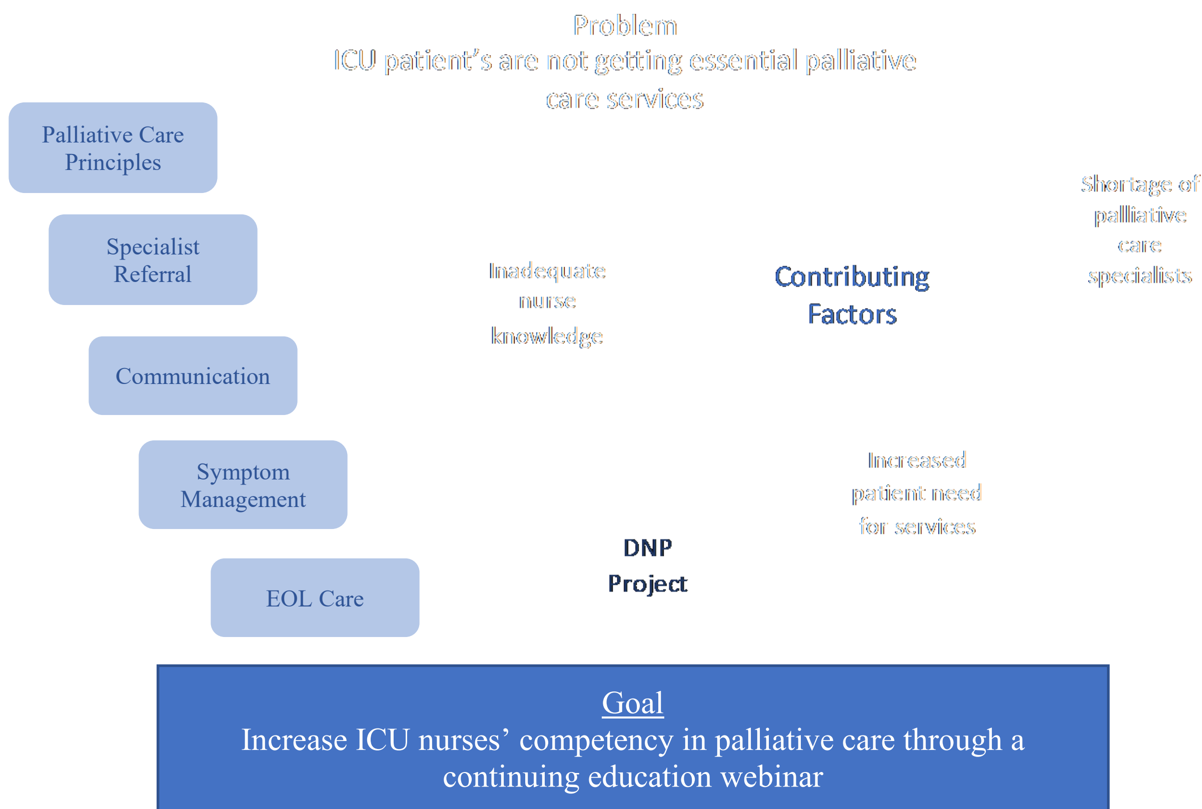
Ma et al.	2019	U.S.	N/A	palliative care consultation	transition to DNR/DNI and to hospice care decreased ICU and post-ICU healthcare resource utilization post-discharge emergency department visits and/or readmissions trach/ventilator use, total operating cost, LOS, mortality	Single-center cluster randomized crossover trial	2 medical ICUs 199 patients	Chart review. EMR	Early triggered palliative care consultation → greater transition to DNR/DNI and to hospice care and decreased ICU and post-ICU healthcare resource utilization routine palliative care consultation may positively impact the care of high risk, critically ill	II
Mazanec et al.	2019	U.S.	N/A	ELNEC Undergraduate Curriculum	comfort with caring for patients with serious illness,	pre-post educatio	55 new grad RNs	Questionarre	All eight evaluation questions demonstrated statistically significant improvement	IV

					competence , and knowledge	nal in- terventi on			posteducational intervention. change in clinical practice 1 month post education	
O'Donn ell et al.	2020	U.S.	N/A	Nurse led primary palliative care intervention	Communica tion and surrogate decision-making support	Pre-post education interventi on	24 bed ICU	Questionar re	CCNC program was successful and innovative subspecialized palliative care intervention in the ICU setting	IV
Price et al.	2017	U.S.	N/A	N/A	nurses' perceived competency	descripti ve study	25 pediatri c and adult acute and ICU N = 583	Questionar re	that perceived competency in palliative and EOL care is significantly higher in the ICU nurses Mean scores were significantly higher when nurses had more than 10 years of experience Concerns regarding improved communication behaviors, decision making, and facilitation of continuity of care	VI
Walia et al.	2020	India	N/A	N/A	knowledge, attitude, practices, and perceived barriers	A cross-sectional study	386 critical care nurses	Questionar re	considerable gap between critical care nurses' knowledge and practices, in spite of having a good attitude	VI

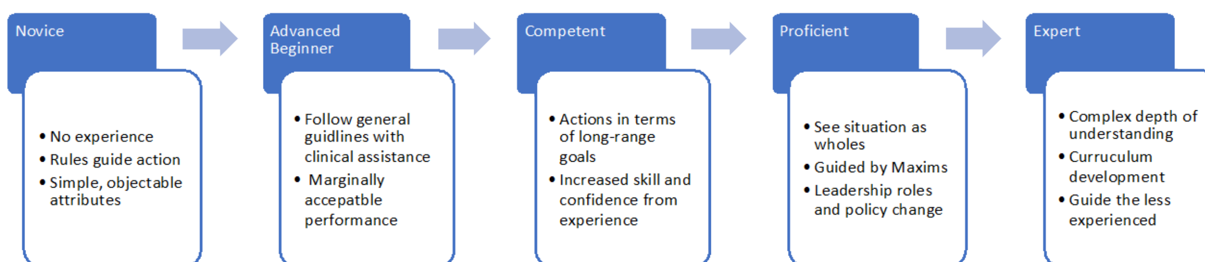
									regarding palliative and EOL care	
Wolf et al.	2019	U.S.	N/A	N/A	perceptions of palliative care in their practice setting and their recent experiences of moral distress	quantitative, descriptive study	517 critical care nurses across 7 intensive care units	survey questionnaires	critical care nurses do not feel prepared to provide palliative care	VI

Appendix D

Conceptual Map



Goal
Increase ICU nurses' competency in palliative care through a continuing education webinar



Desired Outcome
Enhance ICU access to palliative care services to provide relief of suffering in patients with serious, life-limiting illness

Appendix E

Gantt Chart

Proposed Timeline	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22
Proposal Development												
Proposal Presentation												
Obtain IRB Approval												
Survey and Webinar Creation												
Participant Recruitment												
Pre-Survey and Webinar Implementation												
Monitor Webinar Participation												
Post-Survey Implementation												
Analyze Data												
DNP Presentation												
Dissemination												

Project Timeline	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22
Proposal Development												
Proposal Presentation												
Obtain IRB Approval												
Survey and Webinar Creation												
Participant Recruitment												
Pre-Survey and Webinar Implementation												
Monitor Webinar Participation												
Post-Survey Implementation												
Analyze Data												
DNP Presentation												
Dissemination												

Appendix F

Module Objectives

Module 1: Principles in Palliative Care
• Describes the role of palliative care to patients and their family
• Determines when to advocate for a specialist palliative care consultation
• Illustrates self-care strategies that promote wellness
Module 2: Social, Cultural, and Spiritual Aspects of Palliative Care
• Recognizes social aspects of care including social support, relationships and resources
• Identifies the role that culture plays in patients and their family with serious illness
• Summarizes appropriate spiritual assessment questions and signs of spiritual distress
Module 3: Communication
• Recognizes how to assess patient and family understanding of clinical conditions
• Acknowledges how to respond to patient and family questions about their illness
• Identifies communication techniques related to ethical dilemmas or conflict
Module 4: Symptom Management
• Recognize methods for evaluating pain
• Identify other common symptoms in palliative care such as nausea, dyspnea, and depression
• Understand pharmacological and non-pharmacological approaches to symptom management
Module 5: EOL Care
• Understands the nurse roles in caring for patients in the last days to hours of life
• Identifies indicators of imminent death
• Recognizes ethical and legal issues at the end of life

Appendix G

Participant Recruitment

Dear Fellow Registered Nurse,

My name is Justine Kirschner and I'm reaching out about an opportunity for free, continuing education credit for participating in my short research study on palliative care in nursing. I am a Doctor of Nursing Practice student at the University of Arkansas and current palliative care Nurse Practitioner. I am conducting a research study on the influence of a palliative care education intervention in increasing competency of nurses practicing in the ICU. To be eligible to participate you must work with the adult ICU population and spend at least half your day in direct patient care.

Palliative care is intended to optimize the quality of life of patients with serious, life-limiting illness and their families. This study will include an online, on-demand palliative care educational webinar. You will also complete a pre-webinar survey, followed by a post-webinar survey 6 weeks later. The 2 surveys will take approximately 20 minutes of your time and the webinar will take approximately 1 ½ hours. You will be rewarded with 1 ½ hours of continuing education credit through the American Association of Colleges of Nursing.

Your participation will provide valuable information about the future of palliative care education. It is my hope that this education will also provide you with valuable skills to enhance your current nursing practice. Your identity will be protected throughout the research and your participation in voluntary. This study has been approved by the University of Arkansas Institutional Review Board.

Thank you for taking the time to consider participating in my research. To participate or learn more please click on this link that will direct you to my research webpage.

palliativecare.uark.edu

Justine Kirschner, MSN, APRN, NP-C
Doctor of Nursing Practice Student
The University of Arkansas Eleanor Mann School of Nursing
Phone: 540-442-0151
Email: jnkirsch@uark.edu

Appendix H

Research Informational Webpage

Palliative Care in the ICU

Seeking ICU nurses to participate in an educational webinar to enhance their competency in palliative care

Participate NOW ▾ Research Team References Contact Us

Hi, Fellow Nurse!

Please consider this opportunity for **free contact hours** for participating in my research study on palliative care in nursing. Researchers at the University of Arkansas Eleanor Mann School of Nursing are conducting a nationwide quality improvement project with the aim of increasing ICU nurses' palliative care competency through an online continuing education opportunity. To be eligible to participate, you must work with the **adult ICU population and spend at least half your day in direct patient care**.

Palliative care is intended to optimize the quality of life of patients with serious, life-limiting illness and their families. This study will include a series of online, on-demand palliative care educational webinars. You will also complete a pre-webinar survey, followed by a post-webinar survey 4 to 6 weeks later. The research project will take you approximately 180 minutes. You will be rewarded with **3 free contact hours** through the American Nurses Credential Center.

Your participation will provide valuable information about the future of palliative care education. It is my hope that this education will also provide you with valuable skills to enhance your current nursing practice. Your identity will be protected throughout the research and your participation is voluntary. This study has been approved by the University of Arkansas Institutional Review Board. Refusing to participate will not adversely affect any other relationship with the University or the researchers.

Thank you for taking the time to consider participating in my research!

Justine Kirschner, M.S.N., APRN, NP-C

To participate or learn more click below.

PARTICIPANT CONSENT | PARTICIPATE NOW

Contact Information

Principal Investigator
Justine Kirschner, MSN, APRN, NP-C
Eleanor Mann School of Nursing
606 N. Razorback Road
University of Arkansas
Fayetteville, AR 72701
jnkirsch@uark.edu
479-575-3904

UNIVERSITY OF

IRB Information

This study has received Expedited Review from the University of Arkansas **Institutional Review Board**.

IRB exemption has been granted for protocol number 2109359494.

Appendix I

Participant Consent

THE EFFECTIVENESS OF A WEBINAR TO IMPROVE ICU NURSES' COMPETENCY IN PALLIATIVE CARE

PRINCIPAL INVESTIGATOR
Justine Kirschner
University of Arkansas Eleanor Mann School of Nursing
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FACULTY ADVISOR
Michele Kilmer, DNP, APRN, CPNP-PC
University of Arkansas Eleanor Mann School of Nursing
606 N. Razorback Rd.
479-310-5143
michelek@uark.edu

PURPOSE OF PROJECT

You are being asked to take part in a DNP project. Before you decide to participate in this project, it is important that you understand why the project is being done and what it will involve. Please read the following information carefully. Please ask the principal investigator if there is anything that is not clear or if you need more information.

The purpose of this project is to study the influence of a palliative care education intervention in increasing competency of nurses practicing in the ICU.

This project's aim is to increase ICU nurses' palliative care competency through an online continuing education module.

PROJECT PROCEDURES

Each participant will partake in an online palliative care educational webinar that will take approximately 90 minutes. They will complete a pre-webinar competency survey and a post-webinar competency survey in 6 weeks that will each take approximately 20 minutes.

RISKS

There is a risk of emotional distress due the emotional nature of palliative care involving end-of-life. To minimize the emotional risks involved and further support nurses' wellbeing, the webinar will provide resources for nursing resilience and self-care.

BENEFITS

Benefits to participating in this project include contributing to the body of knowledge around palliative care education and adding valuable skills to enhance your current nursing practice. Nurses will also acquire 1.5 hours of continuing education credit through the American Association of Colleges of Nursing.

CONFIDENTIALITY

Your responses to the surveys will be compiled into a summary of data and your identity will be protected throughout the research.

The principal investigator will keep data in a computer that is password protected. Notes, interview transcriptions, and any other identifying participant information will be secured in a locked file cabinet in the personal possession of the principal investigator.

Participant data will be kept confidential to the extent allowed by law and University policy. The researcher is legally obligated to report specific incidents which include, but may not be limited to, incidents of abuse and suicide risk.

CONTACT INFORMATION

If you have questions at any time about this project, or you experience adverse effects as the result of participating in this project, you may contact the principal investigator, whose contact information is provided on the first page. If you have questions regarding your rights as a study participant, or if problems arise which you do not feel you can discuss with the Principal Investigator, please contact the University of Arkansas Institutional Review Board at 1-479-575-2208.

VOLUNTARY PARTICIPATION

Your participation in this project is voluntary. It is your decision whether or not to take part in this project. If you decide to take part in this project, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason. Withdrawing from this project will not affect the relationship you have, if any, with the principal investigator. If you withdraw from the project before data collection is completed, your data will be returned to you or destroyed.

CONSENT

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this project.

Participant's signature _______________________________ Date __________

Investigator's signature ______________________________ Date __________

Appendix J

Demographics Collection Survey

1. Are you an adult ICU nurse?
   - ☐ Yes
   - ☐ No
2. Do you spend more than half of your day in direct patient care?
   - ☐ Yes
   - ☐ No
3. Gender:
   - ☐ Male
   - ☐ Female
   - ☐ Other
4. Race:
   - ☐ White
   - ☐ African American
   - ☐ Asian
   - ☐ American Indian or Alaska Native
   - ☐ Native Hawaiian or other Pacific Islander
   - ☐ Other
5. Do you consider yourself Hispanic or Latino?
   - ☐ Yes
   - ☐ No
6. What is your highest educational degree?
   - ☐ Associates degree
   - ☐ Bachelor's degree
   - ☐ Master's degree
   - ☐ Doctorate degree
   - ☐ Other
7. Do you have any palliative care education?
   - ☐ Yes
   - ☐ No
8. If yes, what kind of education?
   - ☐ Formal in-service or training since working a nurse
   - ☐ Specific palliative care education during nursing school
   - ☐ Informal on the job training
   - ☐ N/A
9. What is your nursing professional certificate?
   - ☐ LPN
   - ☐ RN
   - ☐ APRN
   - ☐ Other
10. How would you describe your ICU setting?
    - ☐ Medical ICU
    - ☐ Trauma ICU
    - ☐ Neurovascular ICU
    - ☐ Other ICU
11. How many years have you worked as a nurse?
    - ☐ 0-2 years
    - ☐ 3-5 years
    - ☐ 6-10 years
    - ☐ 11-15 years
    - ☐ 16+ years
12. How many years have you worked as an ICU nurse?
    - ☐ 0-2 years
    - ☐ 3-5 years
    - ☐ 6-10 years
    - ☐ 11-15 years
    - ☐ 16+ years

Appendix K

Palliative Care Nursing Self-Competence Scale

We would like to know how confident you presently are in addressing the needs of persons with life-limiting conditions and their families. For each of the following items, please rate your confidence in providing a palliative approach by choosing a number from 0 to 5.

Physical Needs: Pain

		0 not at all capable	1	2	3	4	5 highly capable	don't know
1.	Assess pain in persons with life-limiting conditions.	○	○	○	○	○	○	○
2.	Assess pain for persons with life-limiting conditions who are unable to communicate.	○	○	○	○	○	○	○
3.	Effectively use medication to relieve pain in persons with life-limiting conditions.	○	○	○	○	○	○	○
4.	Use non-pharmacological and complementary interventions to relieve pain in persons with life-limiting conditions.	○	○	○	○	○	○	○
5.	Provide early detection of side effects related to pain medication.	○	○	○	○	○	○	○

Physical Needs: Other Symptoms

		0 not at all capable	1	2	3	4	5 highly capable	don't know
6.	Provide effective care to relieve nausea and vomiting in persons with life-limiting conditions.	○	○	○	○	○	○	○
7.	Provide effective care to alleviate constipation in persons with life-limiting conditions.	○	○	○	○	○	○	○
8.	Provide effective care to relieve fatigue in persons with life-limiting conditions.	○	○	○	○	○	○	○
9.	Provide effective care to relieve dyspnea (shortness of breath) in persons with life-limiting conditions.	○	○	○	○	○	○	○
10.	Provide proper mouth care to promote comfort in persons with life-limiting conditions.	○	○	○	○	○	○	○

Psychological Needs

		not at all capable 0	1	2	3	4	highly capable 5	don't know
11.	Provide early detection of delirium in persons with life-limiting conditions.	○	○	○	○	○	○	○
12.	Assess depression in persons with life-limiting conditions and their families.	○	○	○	○	○	○	○
13.	Provide effective care to reduce psychological distress in persons with life-limiting conditions and their families.	○	○	○	○	○	○	○
14.	Assist persons with life-limiting conditions and their families to cope with stressors related to illness.	○	○	○	○	○	○	○
15.	Provide support to persons with life-limiting conditions and their families when they experience grief.	○	○	○	○	○	○	○

Social Needs

		not at all capable 0	1	2	3	4	highly capable 5	don't know
16.	Assess the impact of life-limiting conditions on family dynamics.	○	○	○	○	○	○	○
17.	Assist persons with life-limiting conditions and their families in maintaining cultural traditions despite illness.	○	○	○	○	○	○	○
18.	Assist persons with life-limiting conditions and their families in identifying personal resources in order to cope with problems related to illness.	○	○	○	○	○	○	○
19.	Promote communication between persons with life-limiting conditions and their family members when a conflict occurs.	○	○	○	○	○	○	○
20.	Refer persons with life-limiting conditions and their families to appropriate resources in order to meet their social needs.	○	○	○	○	○	○	○

Spiritual Needs

		not at all capable 0	1	2	3	4	highly capable 5	don't know

21.	Assess the spiritual needs of persons with life-limiting conditions and their families.	○	○	○	○	○	○	○
22.	Recognize signs of spiritual distress in persons with life-limiting conditions and their families.	○	○	○	○	○	○	○
23.	Help persons with life-limiting conditions and their families to explore various sources of hope when they demonstrate signs of hopelessness.	○	○	○	○	○	○	○
24.	Assist persons with life-limiting conditions to explore the meaning of their illness experience.	○	○	○	○	○	○	○
25.	Adapt the nursing care in accordance with the spiritual beliefs of persons with life-limiting conditions and their families.	○	○	○	○	○	○	○

Needs Related to Functional Status

		not at all capable					**highly capable**	**don't know**
		0	**1**	**2**	**3**	**4**	**5**	
26.	Assess the needs associated with activities of daily living in persons with life-limiting conditions.	○	○	○	○	○	○	○
27.	Assess the need for practical support in order to prevent burnout in family members caring for persons with life-limiting conditions.	○	○	○	○	○	○	○
28.	Assist persons with life-limiting conditions to maintain their functional independence for as long as possible.	○	○	○	○	○	○	○
29.	Empower family members to provide care to persons with life-limiting conditions.	○	○	○	○	○	○	○
30.	Implement appropriate interventions to help relieve burden on family members caring for persons with life-limiting conditions.	○	○	○	○	○	○	○

Ethical and Legal Issues

		not at all capable 0	1	2	3	4	highly capable 5	don't know
31.	Identify ethical issues related to the care of persons with life-limiting conditions.	○	○	○	○	○	○	○
32.	Provide information to persons with life-limiting conditions concerning the legal issues associated with illness.	○	○	○	○	○	○	○
33.	Assist persons with life-limiting conditions to make informed decisions regarding end of life care.	○	○	○	○	○	○	○
34.	Advocate for persons with life-limiting conditions and their families with other members of the healthcare team.	○	○	○	○	○	○	○
35.	Advocate for persons with life-limiting conditions when there is a difference in perspective with their family on a care issue.	○	○	○	○	○	○	○

Inter-professional Collaboration and Communication

		not at all capable 0	1	2	3	4	highly capable 5	don't know
36.	Actively participate in discussions regarding the needs of persons with life-limiting conditions during interdisciplinary team meetings.	○	○	○	○	○	○	○
37.	Promote communication between healthcare professionals regarding persons with life-limiting conditions in order to support continuity of care.	○	○	○	○	○	○	○
38.	Promote communication between persons with life-limiting conditions, their families, and health care professionals in order to ensure information sharing.	○	○	○	○	○	○	○
39.	Promote communication between health care professionals when conflicts arise in the care of persons with life-limiting conditions and their families.	○	○	○	○	○	○	○
40.	Promote the collaboration of various healthcare professionals in the care of persons with life-limiting conditions and their families.	○	○	○	○	○	○	○

Personal and Professional Issues Related to Nursing Care

		not at all capable 0	1	2	3	4	highly capable 5	don't know
41.	Recognize how my own personal and professional beliefs may influence the care I provide to persons with life-limiting conditions and their families.	○	○	○	○	○	○	○
42.	Cope with loss and grief related to the care of persons with life-limiting conditions and their families.	○	○	○	○	○	○	○
43.	Identify which stressors affect me when I provide care to persons with life-limiting conditions and their families.	○	○	○	○	○	○	○
44.	Identify my own personal resources to manage stress related to caring for persons with life-limiting conditions and their families.	○	○	○	○	○	○	○
45.	Discuss death and dying with persons with life-limiting conditions and their families.	○	○	○	○	○	○	○

Last Hours of Life

		not at all capable 0	1	2	3	4	highly capable 5	don't know
46.	Provide effective care to relieve pain in persons with life-limiting conditions during the last hours of life.	○	○	○	○	○	○	○
47.	Provide effective care to relieve respiratory distress during the last hours of life.	○	○	○	○	○	○	○
48.	Identify the signs and symptoms of imminent death in persons with life-limiting conditions.	○	○	○	○	○	○	○
49.	Provide an authentic presence during the last hours of life to persons with life-limiting conditions and their families.	○	○	○	○	○	○	○
50.	Encourage expression of cultural and religious traditions for persons with life-limiting conditions and their families during the last hours of life.	○	○	○	○	○	○	○

Appendix L

Permission to Use PCNSC Instrument

Lise Fillion <lise.fillion@fsi.ulaval.ca>

Mon 9/6/2021 1:09 PM

To: Justine Kirschner; Jean-François Desbiens <Jean-Francois.Desbiens@fsi.ulaval.ca>

Dear Justine Kirschner,

You can use the PCNSC. For a copy, I am asking Dr. Desbiens for the last version.

Cordially,
Lise Fillion, Ph.D.

De : Justine Kirschner <jnkirsch@uark.edu>
Date : samedi 4 septembre 2021 à 19:47
À : Lise Fillion <lise.fillion@fsi.ulaval.ca>, Jean-François Desbiens <Jean-Francois.Desbiens@fsi.ulaval.ca>
Objet : Permission to use Palliative Care Nursing Self-Competence Scale

Hi Dr. Fillion and Dr. Desbiens,

My name is Justine Kirschner and I'm reaching out regarding permission to use your Palliative Care Nursing Self-Competence Scale (PCNSC)**.** I am a Doctor of Nursing Practice student at the University of Arkansas and current palliative care Nurse Practitioner. I am conducting a research study on the influence of a palliative care education intervention in increasing competency of nurses practicing in the ICU.

Do I have your permission to use this survey tool?

Additionally, do you have a copy of the survey tool you could provide me in this reply?

Thank you in advance for your consideration.

Justine Kirschner, MSN, APRN, NP-C
Faculty Instructor
Doctor of Nursing Practice Student
The University of Arkansas Eleanor Mann School of Nursing
Phone: 540-442-0151
Email: jnkirsch@uark.edu

Jean-François Desbiens <Jean-Francois.Desbiens@fsi.ulaval.ca>
Tue 9/7/2021 12:08 PM

To: Justine Kirschner

Show all 3 attachments (425 KB) Download all Save all to OneDrive - University of Arkansas

Dear Justine,

Thank you for your interest in the PCSNC scale. You can use it, I appreciate. This scale has two versions. The original version is the one you found in the Journal of Hospice and Palliative Nursing. It uses the concept of “palliative care”. Attached you will find the scale and the theoretical framework I used to develop it. I provided you also a modified English version, using the concept of a “palliative approach” instead of “palliative care”.

I recommend you use the 5-point answer scale, as indicated in the theoretical framework document. You can compute a score for each of the 10 factors or domains using the mean. You can also compute a total score for the 50 items using the mean again. So, your scores will all vary from 0 to 5. A higher score represent a higher sense of self-competence.

Also, please do not disseminate these documents, these are only intended to be used in your personal research.

Best wishes,

Jean-François Desbiens
Professeur agrégé
Faculté des sciences infirmières
Université Laval
Chercheur – CR-CHU de Québec-Université Laval
Axe oncologie

T 418 656-2131, poste 403505
Clavardons sur Microsoft Teams

Appendix M

Webinar Satisfaction Survey

Question 1: Please rate the following:

	Terrible	Poor	Average	Good	Excellent
Presenter's knowledge of the topic:	○	○	○	○	○
Presenter's presentation skills:	○	○	○	○	○
Content of the slides/visual aids:	○	○	○	○	○
Accuracy of webinar content to the description:	○	○	○	○	○
Overall experience:	○	○	○	○	○

Question 2: Please rate the following:

	Extremely unlikely	Somewhat unlikely	Neither likely nor unlikely	Somewhat likely	Extremely likely
How likely are you to refer this webinar to a colleague?	○	○	○	○	○

Question 3: Please add any additional comments or suggestions you have about your experience here:

____

Appendix N

IRB Approval

To:	Justine Kirschner
From:	Justin R Chimka, Chair IRB Expedited Review
Date:	11/01/2021
Action:	**Exemption Granted**
Action Date:	11/01/2021
Protocol #:	2109359494
Study Title:	The Effectiveness of a Webinar to Improve ICU Nurses' Competency in Palliative Care

The above-referenced protocol has been determined to be exempt.

If you wish to make any modifications in the approved protocol that may affect the level of risk to your participants, you must seek approval prior to implementing those changes. All modifications must provide sufficient detail to assess the impact of the change.

If you have any questions or need any assistance from the IRB, please contact the IRB Coordinator at 109 MLKG Building, 5-2208, or irb@uark.edu.

cc: Michele R Kilmer, Investigator

Appendix O

Continuing Education Certificate

College of Education and Health Professions
Eleanor Mann School of Nursing

606 N. Razorback Road
Fayetteville, AR, 72701

Certifies that:

____

has received **3** contact hour(s) for successfully completing

Palliative Care Webinar

Date: March 2, 2022

The Eleanor Mann SON, University of Arkansas-Fayetteville is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

Appendix P

Timeline

Implementation Evolution Timeline		
Project Processes	**Expected Timeline**	**New Timeline and Changes**
Proposal Development	September 2021	• **No changes** • September 2021
Proposal Presentation	September 2021	• **No changes** • September 2021
Obtain IRB Approval	November 2021	• **No changes** • Approval received November 1, 2021
Survey, Webinar, and Website Completion	July – November 2021	• **July 2021 – January 14th 2022** • Delay with webinar completion due to unforeseen illness, scheduling conflicts, and high demand of Global Campus services at the university
Participant Recruitment	November 2021 – January 2022	• **January 2022 – February 2022**

		• Delayed due to webinar completion as noted above
Pre-Survey and Webinar Implementation	December 1, 2021	• **January 25, 2022**
Monitor Webinar Participation	December 2021 – March 2022	• **January 25, 2022 - X**
Post Survey Implementation	January 2022 – March 2022	• **February 2022 – March 2022**
Analyze Data	February 2022 – March 2022	• **March 2022**
DNP Presentation	March 2022	• **Expected April 2022**
Dissemination	March 2022 – May 2022	• **Expected April 2022 – May 2022**