Implementation of a Palliative Care Screening Tool in the Intensive Care Unit

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Abstract

**Purpose:** The ICU lacks a standardized approach to PC consults, so this quality improvement (QI) project evaluated if completion of a palliative care (PC) screening tool on admission to the Intensive Care Unit (ICU) increased PC consults.

**Methodology:** A QI project with a time-interrupted retrospective chart review. Patient medical records from February 2020 (n=92) and February 2021 (n=41) were reviewed and screened using the proposed PC screening tool. A sample of 85 nurses working in the ICU were given education on the proposed PC screening tool. The proposed PC screening tool was then implemented for a one-month period in February 2021. Descriptive statistics were used to evaluate the usefulness of the proposed PC screening tool and nurse compliance with PC screening tool completion. A Chi-square test was performed to determine an association between PC screening tool completion and PC consults placed on eligible patients.

**Results:** No statistically significant association between PC screening tool completion and PC consults placed on eligible patients (p=0.096). However, there was an overall increase in the proportion of PC consults on patients who screened positive after implementation of the proposed PC screening tool (15.4% to 19%). Additionally, > 50% of eligible patients screened positive, indicating patients have unmet PC needs in the ICU. During the intervention, only 35% of eligible patient admissions had a PC screening tool completed, showing poor compliance amongst nurse participants.

**Implications for Practice:** Further research and quality improvement projects should be completed to address the unmet PC needs of patients and to standardize the approach to PC screening and PC consults in the ICU.
Implementation of a Palliative Care Screening Tool in the Intensive Care Unit

Palliative care (PC) is an interdisciplinary approach to care that focuses on quality of life with regard to patient-family-centered decision making, communication, continuity of care, and emotional or spiritual support for patients, families, and clinicians (World Health Organization [WHO], 2018). Over the last two decades, there has been a shift in the role of PC in the intensive care unit (ICU) and the Center to Advance Palliative Care (CAPC) has worked with the National Institute of Health (NIH) to integrate PC into the ICU setting (Wolf, 2016). Although many clinicians in the ICU have incorporated PC domains into their care, there is a lack of standardization to which PC screening is put into practice. This project aimed to evaluate if a PC screening tool on admission to the ICU would help integrate PC services earlier in a patient’s stay in contrast to PC as an end-of-life consult.

Background and Significance

By 2030, the National Palliative Care Research Center (NPCRC, 2013) estimates that 20% of the population in the United States (U.S.) will be over 65 years old. As the population continues to age, the leading causes of death are expected to be chronic and progressive diseases such as heart disease, cancer, Alzheimer’s disease, and respiratory illnesses (Kochanek et al., 2019). Such conditions worsen over time with periods of exacerbation and become life-threatening, requiring hospitalization in the ICU for disease and symptom management. It is estimated that 20% of patients die after receiving ICU services and the ICU continues to be one of the most common hospital settings where death occurs (Seaman et al., 2017). The most recent report from The Institute of Medicine (IOM, 2015), Dying in America: Improving Quality and Honoring Individual Preferences Near the End of Life, states that health care employees have a responsibility to “ensure that end-of-life care is compassionate, affordable, sustainable, and the
best quality possible” (p. 328). Additionally, the IOM (2015) states that through a person-centered, family-oriented approach, the quality of life through end-of-life care should be a national priority. To achieve the goal of a patient-family approach to care, as recommended by the IOM, evidence suggests early integration of PC services in the ICU (McCarroll, 2018).

**What is Palliative Care**

The WHO (2020) defines PC as a means to improve the quality of life of both patients and families, through prevention and relief of problems arising from physical, psychosocial, and spiritual domains. Hawley (2017) further explains that PC encompasses prevention and management of distressing symptoms, goals of care and advance care planning discussions through excellence in communication, as well as extra support and respect for care of patients. With the goal of providing patient-family centered care, PC supports overall patient goals for the future, with a focus on comfort and control of symptoms while seeking a cure or life-prolongation (NPCRC, 2013).

**Palliative Care Versus Hospice**

Despite ongoing research and efforts over the past 40 years, a general misunderstanding between the terms *palliative care* and *hospice* remains (Hawley, 2017). To help clinicians and the general public understand the difference between to the two terms and types of care, the Centers for Medicare & Medicaid Services (CMS, 2015) explains that unlike PC, hospice care is available to terminally ill patients with a life expectancy up to six months. Hospice makes the patient comfortable, avoids use of life-prolonging medications, and prepares both the patient and family for end-of-life when treatment is no longer pursued (CMS, 2015).
Cost Burden of the Intensive Care Unit

The Centers for Disease Control and Prevention (CDC, 2017) estimate that 12.2 million patients are admitted to the hospital and 1.5 million are directly admitted to the ICU annually. Not only are more people being admitted to the ICU, but the cost of ICU utilization also causes an increased burden on healthcare expenditure. The most recent data from the Society of Critical Care Medicine (n.d.) suggests annual critical care costs have increased 92%, with total cost representing 13.2% of hospital costs, 4.1% of health care expenditures and 0.72% of gross domestic product in the past two decades. According to the Healthcare Cost and Utilization Project (HCUP), hospitalizations involving the ICU were 2.5 times more expensive than other stays, with mean charges of about $61,800 versus $25,200 (Barrett et al., 2014). Additionally, ICU utilization accounts for 47.5% of total hospital charges and a stay in the ICU was three times more likely when patients presented with multiple co-morbidities (Barrett et al., 2014). Multiple studies show that when PC services are implemented within 48 hours of admission, there was a cost reduction of 40% and length of stay for patients in the ICU decreased by 1.12 days (Bharadwaj et al., 2016).

Importance of Early Integration of Palliative Care

Hospitalization in the ICU can often be perceived as an unpleasant experience. Mercadante et al. (2018) recommend ICU clinicians anticipate the needs of patients through PC integration. Approximately 27-35% of ICU patients experience distressing symptoms, with one-third suffering from delirium, 57% having traumatic stress, and 70-80% experiencing anxiety and depression (Mercadante et al., 2018). Such findings indicate that early integration of PC would benefit patients to help minimize suffering (Mercadante et al., 2018). A study performed from 2001-2008 found that of the 385,770 admissions to 179 ICUs, 19.6% met criteria to trigger
a PC consultation (Hua et al., 2014). The studies performed by Mercadante et al. (2018) and Hua et al. (2014) show that there is a need for early PC because of the high risk of unmet PC needs among ICU patients.

**Needs Assessment**

**Global Level**

The WHO (2018) recognizes that throughout the world, there are significant barriers to address unmet needs for PC. Among all countries, regardless of income, national health systems and policies lack PC, and training on PC for clinicians is limited (WHO, 2018). Additionally, the general public, health policymakers, and health professionals lack awareness and understanding of PC and the benefits to patients, families, and health systems (WHO, 2018). As a result, the World Health Assembly called upon the WHO and Member States in 2014 to make access to PC services a core component of health systems (WHO, 2018).

**National Level**

The CAPC created national guidelines through the Improving Palliative Care in the ICU (IPAL-ICU) project to increase awareness and access to PC services (Nelson, Curtis et al., 2013). The National Institute on Aging and the Robert Wood Johnson Foundation Critical Care End-of-Life Peer Workgroup sponsored this initiative and clinical practice guidelines (CPGs) were created to develop PC initiatives in ICUs nationwide (Mun et al., 2017). The IPAL-ICU Project determined the importance of identifying patients with unmet PC needs upon admission to both the hospital and the ICU, thus creating CPGs to create screening criteria for PC needs (Mun et al., 2017).
Local and State Level

In the state of New Jersey, Governor Phil Murphy signed bill A312 into law in August 2019, establishing a state advisory council on PC and quality of life and also required health care facilities to provide information on PC services (State of New Jersey, 2019). A press release by the American Cancer Society (2019) further explains that this law requires a PC access initiative to make PC information more readily available in the state.

Organizational Level

Informal observations of practices in the ICU at a hospital in New Jersey over the past three years revealed that PC services were consulted for end of life issues or when medical treatment options were exhausted. When physicians do ask patients or family about their wishes regarding resuscitation plans or intermittently have informal goals of care discussions, the ICU lacks a standardized tool to involve PC from the time of admission.

SWOT Analysis

Strengths

Within the project site, there is already an established PC Services program that includes a team of physicians and nurse practitioners. To align with the goals of the PC program, the hospital organized and implemented a PC Learning Initiative in 2019 for all nurses who provide direct patient care, which educated on how to enhance PC knowledge and care. The ICU already has daily interdisciplinary rounds addressing all aspect of care and includes patients and families, when present. In addition, the hospital is a Magnet® recognized facility that values research and quality improvement projects to guide care that is evidence based.
Weaknesses

Current practice in the ICU is to use PC services as a consult, rather than integrate it into rounds with a PC clinician present. The hospital also lacks a standardized screening tool for PC consults and it up to the physician to initiate a consult at any point during the patient’s hospitalization. In the ICU, many nurses have worked to complete their master’s or doctoral degrees, therefore, many research projects have been conducted recently with the expectation that nurses participate. Additionally, many nurses are involved in unit-based and hospital-based committees that encourage research projects. As a result, there is potential for unwillingness to participate and complete a PC screening tool due to research burnout.

Opportunities

With support from the NIH, the Centers to Advance Palliative Care (CAPC, 2019) created the IPAL-ICU Project in 2010 to increase access and knowledge to PC services available to patients and families in the ICU. Therefore, a national initiative and toolkit exists to help guide and implement standardized PC practices into the ICU. According to CAPC (2019), optimized billing and coding are critical components to a PC program, therefore, PC providers are eligible for reimbursement and payment from Medicare. PC providers are eligible to bill for Part B Professional services and there is no limit to the amount of time a code is billed for, as long as it is aligned with documentation (CAPC, 2019).

Threats

Although a lot of research has been done on integrating PC into the ICU, ignorance and lack of awareness on PC continues to be a barrier in the health system. Hawley (2017) explains that some clinicians fear upsetting patients or often lack an understanding on the benefits of referral or use of PC early in the ICU stay. Additionally, family reaction and openness to accept
PC integration into care can vary greatly from one culture to another, as many associate PC with dying (Hawley, 2017).

**Problem/Purpose Statement**

Currently, the ICU uses PC consultations when withdrawal of care or end-of-life options need to be discussed with patients, families or medical decision makers. Following the guidelines recommended by the CAPC and IPAL-ICU Project, the need for early integration of PC in the ICU is supported on a local, national, and global level. Although some clinicians provide aspects of PC in the care of patients in the ICU, there is a lack of standardization to the process in which a PC consult is obtained. To help integrate PC services earlier in a patient’s stay, a PC screening tool should be implemented and completed upon admission to the ICU.

**Clinical Question**

The clinical question guiding this project is “in the ICU, how does the implementation of a PC screening tool compared to the current use of PC consultation, affect PC consultation during a patient’s stay?”

**Aims and Objectives**

The aim of this project was for a PC clinician to become a member of the ICU interdisciplinary team to provide early integration of PC services during a patient’s stay in the ICU.

The objectives for this project were to:

- Implement a PC-screening tool for every patient within 24 hours of admission to the ICU over a four-week period.
• Educate nursing staff on the difference between PC and hospice utilizing recorded education sessions distributed via staff e-mail over a two-week period.

• Perform a time interrupted retrospective chart review on the ICU admissions meeting screening criteria and the number of PC consults placed on admission over a four-week period.

• Collect completed PC screening tools completed by the nursing staff on a weekly basis from a secure collection bin.

• Evaluate compliance of completion of a PC screening tool upon admission to the ICU over a four-week period.

**Review of Literature**

**Search Strategy and Criteria**

Current literature was reviewed to evaluate evidence supporting the impact of PC screening tools in the ICU. The literature search was completed using the Cumulative Index of Nursing and Allied Health Literature (CINAHL) and PubMed online databases. The initial search on both databases used key words including *palliative care, intensive care unit or ICU, palliative care screening*, and *screening tool* yielding a total of 63 articles. The search was then narrowed down to studies written in English, with adult patients, and full-text articles from 2015 to 2020, yielding a total of 20 articles. The publication time was expanded for palliative care guidelines and practice recommendations from 2013 and also included a podcast. After a comprehensive review, a total of 12 articles and sources helped answer the clinical question and were appraised using the Johns Hopkins Evidence-Based Practice Appraisal Tools. See Appendix A for the table of evidence.
Synthesis of Evidence

**PC Screening in the ICU**

There is a growing need for PC in the ICU and while the timing and benefit to early interventions are unclear, many ICUs have developed screening criteria to help identify patients with unmet PC needs (Enfield, 2019; Lapp, 2015; Nelson, Curtis et al., 2013). Such screening criteria has been developed and implemented based off of standards set forth by The National Consensus Project for Quality PC (NCPQPC, 2013) and the National Coalition for Hospice and PC (Mun et al., 2017). The CPGs and standards recommended have since been supported and operationalized by CAPC through the IPAL-ICU project. Although many studies have adapted different methods to develop screening tools and screening criteria for PC, a systematic review of literature by Mun et al. (2017) found that the guidelines provided by the IPAL-ICU project are an effective tool, as they contain specific recommendations to initiate PC standards in the ICU.

**Choosing PC Screening Criteria.** Guidelines from the IPAL-ICU project explain that there are neither “best” nor “validated” ICU screening criteria, therefore, the first step in creating a screening process is to choose criteria that best fits the needs of patients and families within individual institutions (McCarroll, 2018; Mun et al., 2017; Nelson, Campbell et al., 2013). In order to do so, the selection of published triggers must be done through an organized, inclusive process that includes key stakeholders (Enfield, 2019; Nelson, Curtis et al., 2013). According to the published CPGs on PC, domains to include in the screening process should encompass those that impact clinical care, patient and family outcomes and ICU utilization (NCPQPC, 2013; Nelson, Curtis et al., 2013).

**Recommended PC Screening Tool.** While many screening tools for PC have been used, CAPC’s ICU screening tool, as adapted from the CPGs set forth by the NCPQPC (2013), is
recommended, supported, and effective (Lapp, 2015; McCarroll, 2018). CAPC’s ICU screening tool contains an extensive list of disease, utilization, and social criteria, that when checked yes or no, can be used to trigger PC consults. Using this screening tool, Lapp (2017), McCarroll (2018) and Zalenski et al. (2017) found an increase in PC consultations. McCarroll (2018) and Zalenski et al. (2017) found that of the patients screened for PC needs, the overall percentage of patients who received a PC consult were 30% and 40%, respectively. Although McCarroll (2018) only reported an increase in percentages, Lapp (2015) found that the number of screening criteria met, was statistically significant in predicting the probability that a patient would receive a PC consult \((p < .0001)\). Furthermore, as each additional criterion of the screening tool is met, the risk of mortality increases by a factor of 1.50 and the odds of being referred to PC increased by a factor to 1.74 (Lapp, 2015).

**Change in Code Status**

After early implementation of a PC screening tool, Ma et al. (2019), Mun et al. (2018), and Zalenski et al. (2016) found that patients experienced a change in code status from *full code* to *do not resuscitate (DNR)/ do not intubate (DNI)*. While Ma et al. (2019) and Zalenski et al. (2017) found that the use of PC consults within 48 hours of admission showed a positive increase in transition in code status \((p < .0001)\), Mun et al. (2018) also found a positive increase in transition in code status, in addition to identification of goals of care \((p < 0.05 \text{ and } p < 0.01)\). Not only did more patients transition to a DNR/DNI status, but this change occurred earlier and more frequently over a 30-day period \((p < .001)\) (Ma et al., 2019).

**Length of Stay**

Nelson, Curtis et al. (2013) suggests that examining the use of a PC screening tool should include its impact on ICU utilization and LOS, however, study results vary. In comparing
patients who received PC consults and those who did not, there was no overall difference in LOS (Zalenski et al., 2017). However, in all patients who received a PC consult, those that occurred early (on or before hospital day 4), experienced an average LOS of 1.7-days, in contrast, those that occurred late (after hospital day 7), experienced an average LOS of 6.2-days ($p < .0001$) (Zalenski et al., 2017). Although Braus et al. (2016) also found that patients with PC consults experienced a 26% shorter hospital LOS ($p < 0.0001$), there was no significant difference in ICU LOS.

**Clinician Attitudes and Beliefs**

Although a negative stigma towards PC sometimes exists, it is important that clinicians embrace the trend towards PC in the ICU to help manage patient comfort and family stressors (Enfield, 2019). Intensivists and clinicians within the ICU feel they do a reasonable job with PC, but recognize that there is often a delay and gap in appropriate PC delivery (Enfield, 2019; Wysham et al., 2017). In a survey of 303 clinicians, including physicians, nurses, and advanced practice providers, 75% of participants felt that PC is underutilized and 63% believed that a protocol for PC specialist consultation would be effective ($p < .0001$) (Wysham et al., 2017). It is often difficult to assess the quality of PC in the ICU, but a separate role and standard screening process for PC consults would be beneficial (Enfield, 2019; Wysham et al., 2017). Of all participants, 95% reported that screening for PC consults should be based on a process that involves key stakeholders, to help improve communication between interdisciplinary teams (Enfield, 2019; Wysham et al., 2017).
Theoretical Framework

Background and History

The Plan Do Study Act (PDSA) Cycle was developed by W. Edward Deming as an evolution of Galileo’s philosophy of science in the 1600’s (Moen, 2010). The current PDSA Cycle includes adaptations of the Shewhart Cycle of 1939, the Deming Wheel of 1950, the Japanese Plan Do Check Act (PDCA) of 1951, and the PDSA of 1986 (Moen, 2010). The original cycle was designed to stress the importance of the interaction between design, production, sales, and research. However, the PDCA cycle redefined the steps to include determining the methods necessary to reach goals and the training or education necessary for implementation (Moen, 2010). In 1993, Deming reintroduced the concepts from the Shewhart Cycle and advanced the PDSA cycle, describing it as a flow diagram used to improve a product or process (Moen, 2010). Now supported by the Institute for Healthcare Improvement (IHI, 2020), the PDSA cycle can be used as a four-step scientific method to test a change through action-oriented learning.

Phases of PDSA

The IHI (2017) explains that the plan phase is the start of the PDSA cycle, which includes the development of a plan to test the change. Within this phase, it is important to state the question to be answered, make predictions of an outcome, and identify what data will need to be collected. The do phase is when the test is run on a small scale. In addition to carrying out the test, any problems or unexpected observations are documented. Within this phase, data collection and analysis begin. The study phase is for analysis of the results and comparison to early predictions. This phase is completed as a team and then summarized based on what is learned from the test. The act phase is when a plan for future action or study is created. Based on what is
learned from the test, the change can be adapted, adopted or abandoned. This phase helps prepare and plan for a next PDSA cycle.

**Plan for Implementation of PDSA Cycle**

The *plan* for this project include proposing implementation of a PC screening tool upon admission to the ICU for early integration of PC in a patient’s stay. Part of the planning process included obtaining buy in from the nurse manager and medical director of the ICU. Within this step, a literature review was performed to help identify and develop a PC screening tool as recommended by CAPC. The *do* phase for this project included a small-scale quality improvement study to evaluate the use of a PC screening tool in the ICU. Staff education on PC and the screening process was performed before implementation of the screening tool. The *study* phase included analysis of the results through a time interrupted retrospective chart review. Completed screening tools were collected weekly, and compliance and barriers to completion were evaluated. The *act* phase included disseminating study results to key stakeholders and the ICU staff to determine if implementation of a PC screening tool in the ICU should be adapted, adopted or abandoned. During this phase, nursing leadership and the Medical Director can decide what future research should be done. See Appendix B as to how this project fits into the PDSA Framework, as adapted from Lucas (2018).

**Methodology**

**Design of Project**

This project used a quality improvement design with a time interrupted retrospective chart review. Retrospective chart reviews were performed to obtain data to evaluate if patients screened positive or negative, and if patients received a PC consult. Additionally, nurse participants were educated on the new PC screening tool to be implemented within 24 hours of a
patient’s admission to the ICU. After screening tool implementation, a second retrospective chart review was performed to evaluate the same data as the first retrospective chart review, in addition to compliance with PC screening tool completion.

**Setting**

The setting for this project was in the ICU of a large teaching hospital in Morris County, New Jersey. This hospital has 735 beds, 12 of which are in the ICU. This ICU cares for patients with medical conditions such as sepsis, multisystem organ failure, or respiratory failure.

**Study Population**

This project included a sample of 85 registered nurses in the ICU. Inclusion criteria included all registered nurses working in the ICU who provide direct patient care and work at a full-time, part-time, or per diem status. Exclusion criteria included nurses floating from another unit in the hospital, as well as nursing management and the nurse educators as they are not included in daily staffing.

This project also included a sample of charts of patients in a northern New Jersey hospital that were admitted to the ICU. Inclusion criteria for charts to review included men and women over the age of 18 years old admitted to the ICU under the medical service. Exclusion criteria included charts of patients admitted as cardiac ICU overflow, step down unit overflow, maternity patients, or those being treated for alcohol withdrawal.

**Subject Recruitment**

Information about the new PC screening tool being implemented in the ICU was shared via recruitment flyers placed in all staff nurse mailboxes and educational PowerPoints distributed via work sponsored e-mail in lieu of in-person education sessions due to COVID-19 social distancing requirements. As a current ICU staff member and hospital employee, the DNP student
had access to potential participants through a listserv available to all nurses in the ICU. It was anticipated that snowballing of information would also occur. Recruitment lasted for two weeks. Participants were provided with project information as well as contact information of the DNP student for any questions or concerns. Copies of the recruitment materials can be found in Appendix C.

The list of patient names and information needed to complete the chart reviews were obtained from the patient register stored by the ICU. These documents were accessed with approval from management and only accessed during the open IRB phase.

**Consent Procedure**

This is a quality improvement project that will encompass the entire ICU; therefore, no consent is needed for nurses participation. A waiver of consent was requested for access to the medical records of patients that met the inclusion criteria. No patient identifiers were collected during this project and patient charts accessed were of patients already discharged from the hospital, so feasibility of consent would be near impossible.

**Risks/Harms/Ethics**

There were no anticipated risks for this project. The nurses were informed that participation was voluntary and supplemental, and that participation would not impact the care of the patient or their employment. Nurses were asked to review educational material distributed and were expected to complete a PC screening tool when a patient was admitted to the ICU.

The data collected from each chart included a unique coded number with no patient identifiers. A waiver of HIPAA Authorization was requested from the project site IRB to review medical records. All de-identified data will be collected and stored on a password protected USB drive, which will be kept with the DNP student.
Subject Costs and Compensation

There was no cost or compensation for subjects who participated in this study however, breakfast was made available to outgoing and oncoming staff of both shifts on varying days at the conclusion of the project.

Study Intervention

The project took place in the following order:

- Upon IRB approval from the project site and Rutgers University, educational sessions for all participants began.
  - Due to COVID-19 restrictions, this occurred via an informational and educational PowerPoint distributed via work-sponsored e-mail (see Appendix D).
  - The total time for participants to learn the new screening process was approximately 20 minutes. See Appendix E for the PC screening tool that was distributed and used for this project.
- Concurrently, retrospective chart reviews occurred.
  - All patients admitted during the February 2020 were evaluated using the PC screening tool. A positive screening result indicated that the patient condition validated the need for a PC consult. The patients who would have screened positive were recorded, as well as those who received a PC consult.
- After the nursing staff has two weeks to review the provided educational material, the project implementation began over a one-month period. Although current practice was to use an electronic medical record (EMR) for admission
documentation, the PC screening tool was completed on a paper form found in a folder on the Unit Representative desk.

- Completed screening tools were returned to a lock box in the same location without patient identifiers.
- The DNP student collected completed PC screening tools weekly and kept them in a locked office.
- At the conclusion of the data collection period, a second retrospective chart review and data analysis occurred of same items collected during the first retrospective chart review phase.

**Outcomes Measured**

The DNP student used a data collection table created for the chart review process including the key indicators that were compared pre and post PC screening tool implementation. Data points included the following: (a) if the patient was eligible for PC screening; (b) if the patient screened positive or negative using the PC screening tool; and (d) if the patient screened positive, was a PC consult placed. These data items will be compared before and after PC screening tool implementation.

The DNP student also measured nurse compliance with PC screening tool completion. A separate data collection table was created to include the following: (a) the number of patients admitted within the proposed project timeline, (b) the number of PC screening tools completed, and (c) the number of incomplete PC screening tools. The proposed data collection tables can be found in Appendices F and G.
**Project Timeline**

From beginning to end, the project took place over four academic semesters. Proposal development began in January 2020 and presentation of the proposed DNP project to the team occurred in April 2020. Submission to the project site’s IRB occurred in May 2020, followed by application to Rutgers University’s IRB in July 2020. IRB approval was obtained by the project site and Rutgers University in January 2021. After complete IRB approval, the retrospective chart review of data from February 2020 began with simultaneous advertisement and electronic delivery of educational material to nurse participants. Implementation of the PC screening tool took place in February 2021, for a total of four weeks. The second retrospective chart review occurred in March 2021, evaluating data from patient charts admitted during February 2021. Final data collection and analysis occurred in March 2021 and concluded with final writing in April 2021. Presentation of the final project and dissemination of findings occurred in April 2021. Anticipated graduation will take place in May 2021. See Appendix H for the project timeline.

**Resources Needed/Economic Considerations**

The costs associated with this project were the sole responsibility of the DNP student. Costs included recruitment and educational materials, and the food provided for the nurses. There were research expenses included in the budget for this project. A final budget can be found in Appendix I.

**Evaluation Plan**

**Data Analysis Plan**

All data obtained from the completed PC screening tools and chart reviews were coded and entered Microsoft Excel for data collection and uploaded into SPSS, the data software
system that was used for data analysis. The data points collected pre and post PC screening tool implementation included: (a) the number of patients admitted to the ICU, (b) the number of patients eligible for screening, (c) the number of patients who screened positive or negative, and (d) the number of eligible PC consults made. A between groups comparison was made and the proportion of eligible PC consults was calculated to provide insight to the usefulness of the PC screening tool. A chi-square test was also performed to determine if there is an association between PC screening tool completion and PC consults made on eligible patients.

Additionally, descriptive statistics were used to evaluate compliance with PC screening tool completion. The variables reported include: (a) the number of patients admitted, (b) the number of patients eligible for PC screening, (c) the number of PC screening tools completed and (d) the number of PC screening tools not completed. These results were reported in percentages.

**Data Maintenance/Security**

Data collected during the chart review phase of the project was stored on a password protected USB drive, which was kept in the possession of the DNP student at all times. During and after data collection, screening tools were stored in a locked box, which only the DNP student could access in a locked office at the project site. Only the DNP student and Principal Investigator will have access to de-identified data. Additionally, only aggregate data was reported. Upon completion of the project, closure of the IRB, and final writing, all data will be stored and kept in accordance with record retention requirements of the Office of Records Management. At the conclusion of the project aggregate data will be stored at Rutgers School of Nursing, 11th Floor, Office 1126, 65 Bergen Street, Newark, New Jersey 07107.
Results

Response Rate and Sample Size

Nurse Participants

At the time of the project, a total of 85 RNs were employed in the ICU. All RNs were invited to participate and listen to the educational PowerPoint distributed via work e-mail. In total, 11 RNs listened to the recorded educational PowerPoint for a response rate of 12.9%.

Patient Medical Records

Before implementation of the PC screening tool and during the first retrospective chart review, a total of 94 patient medical records of patients admitted to the medical ICU were reviewed. After the implementation of the PC screening tool and during the second retrospective chart review, a total of 41 patient medical records of patients admitted to the medical ICU were reviewed. Outcomes measured during the time-interrupted retrospective chart reviews are displayed in Table J1.

Findings

All outcomes measured were calculated and reported as percentages. The pre-intervention chart review showed that 85 (90.4%) patient medical records met inclusion criteria and were eligible for PC screening. Of those eligible, 52 (61.9%) patient medical records indicated a “positive” screening result and of those that screened “positive,” 8 (15.4%) had a PC consult placed. The post-intervention chart review showed that 40 (97.5%) patient medical records met inclusion criteria and were eligible for PC screening. Of those eligible, 21 (52.5%) patient medical records indicated a “positive” screening result and of those that screened “positive,” 4 (19%) had a PC consult placed.
Additional data was collected on PC screening tool completion to determine compliance for future use of the PC screening tool. During the intervention, 14 (35%) PC screening tools were completed out of the eligible patient admissions to the medical ICU. Of completed PC screening tools, all were filled out completely with no missing information.

A Chi-square test was performed to determine the association between completing a PC screening tool on admission to the ICU and the number of PC consults on eligible patients. There is no statistical significance and no statistical difference or association between PC screening tool completion and PC consults ($\chi^2(2) = 4.685, p = 0.096$). Statistical outcomes for the chi-square test can be found in Table J2.

**Discussion**

**Results and Key Findings**

Using the recommendations put forth by CAPC, the adapted PC screening tool created and used for this project is appropriate for the specific ICU population. Continued focus groups with key stakeholders should meet to re-evaluate screening criteria, should this PC screening tool be adapted and adopted into practice in this ICU.

Although there was no statistical significance or association between PC screening tool completion and PC consults made, other data shows important key findings. There was an increase in the proportion of PC consults made on patients who screened positive after the education and intervention (15.4% to 19%). Additionally, both the pre-intervention and post-intervention results show that greater than 50% of patients screened positive (61.9% and 52.5%, respectively), indicating there are unmet PC needs in the ICU.

Additionally, this project had poor compliance with nurse participation. The educational intervention had a completion rate of 12.9%, likely due to the format and delivery of the
education on the PC screening tool and project implementation. PC screening tool completion during implementation was also impacted, as only 14 (35%) were completed of the total 40 eligible admissions to the medical ICU.

**Facilitators and Barriers**

A key facilitator that helped the progression and success of this project was that there was buy-in from nurses and management. Nursing management approved and supported this project completely, and frequently checked in and inquired about the progress.

Unfortunately, there were also barriers that likely impacted the project’s success. The project was implemented during the COVID-19 pandemic, which placed restrictions on in-person meetings or education at the project site. Therefore, education had been rolled out electronically via a pre-recorded educational PowerPoint presentation. Luckily, this still allowed to track participation and completion of the educational intervention, despite low completion rates. Nurses at the project site are also burnt out from multiple requirements set forth by nursing education or other research projects occurring at the project site, so it is likely that this also caused participation rates to be lower than expected. The major barrier is that the PC screening tool used for this project was completed on paper rather than integrated into the EMR, so nurse participants forgot to fill it out or did not want to complete unnecessary paperwork. A survey addressing compliance issues would have been beneficial to provide more insight to address this barrier in the future.

**Unintended Consequences**

Anecdotal findings were that nurse awareness of patients meeting PC screening tool criteria was increased. Throughout the implementation phase, many nurse participants shared
how valuable they felt the project was and that they did not realize how many patients met criteria for an early PC consult.

In the future, the approach to education should be altered to include ancillary staff and social work to help improve compliance of PC screening tool completion. Unit secretaries and nursing assistants help prepare the unit and patient information when a new patient is being admitted to the ICU, so including such staff members in the educational roll-out has the potential to improve completion of the PC screening tool. Social work should also be included, as they are part of the interdisciplinary team who frequently communicate patient and family situations to the nursing staff.

**Implications and Recommendations**

**Clinical Practice**

Current practice at the project site is to initiate a PC consult for end-of-life purposes, but based on the findings, patients continue to have unmet PC needs and meet screening criteria upon admission to the ICU. This calls for early implementation of PC consults with an interdisciplinary approach to care. The implementation of a PC screening tool on admission to the ICU will help create a standardized approach to the way PC consults are made. It will allow for a nurse driven screening process for patients upon admission to the ICU. Depending on the result of the PC screening tool, it will then trigger the initiation of a PC discussion during daily rounds with the physician and interdisciplinary team. In order to create a standardized approach to PC screening and consultation, more research is needed to establish a reliable and valid PC screening tool to be adopted by this project site.
Implementing a PC screening tool into the EMR admission workflow would help improve compliance for PC screening completion. Results showed poor compliance with paper screening tools; therefore, clinical practice should focus on future integration into the EMR.

**Healthcare Policy**

For the ICU, there is no clinical policy regarding a PC screening tool process when a patient is admitted, however, in the future, this is something that can be implemented based off of state and national guidelines. In August 2019, Governor Murphy signed bill A312 that established a state advisory council on PC and quality end of life (State of New Jersey, 2019). This same bill also required facilities to provide information on PC services (State of New Jersey, 2019). Therefore, acting in accordance with state legislature, the ICU can work to add information upon admission or through interdisciplinary rounds to patients and families on PC services available to them during the ICU or hospital stay.

**Quality & Safety**

Once practice and clinical policy change is adopted, quality and safety of the care delivered will greatly improve. Interdisciplinary services can be expanded to include further integration of social work into the daily care of patients and families in the ICU, which can also help introduce PC services available during the hospitalization. If more disciplines are included in the care of patients and families in the ICU, and the approach truly becomes interdisciplinary in nature, then there is potential for improving patient and family satisfaction with physician/team communication.

**Education**

For this project, education via recruitment e-mails did not yield a high success rate. If and when a PC screening tool is adopted into practice in the ICU, education should be completed
during the new hire orientation process. This can then be reinforced during the on-unit orientation. Since this project only included education to nurses, more research is needed to determine if providing education to other ancillary staff will help improve compliance in PC screening tool completion.

**Economic**

This project did not evaluate cost associated with the implementation of a PC screening tool. However, the national initiative put forth by CAPC (2019), optimized billing and coding for PC programs. Therefore, reimbursement for PC services through Medicare is possible and should be part of the daily care provided to patients in the ICU. If not using the reimbursement programs available, providers must recognize the cost burden of ICU care, and work to decrease overall healthcare expenditure. The Society of Critical Care Medicine (n.d.) explains that ICU costs have increased 92% and studies show that when PC services are implemented within 48 hours of admission, a cost reduction of 40% was observed and over LOS in the ICU decreased by 1.12 days (Bharadwaj et al., 2016). This project site should consider the cost savings benefit of early implementation of a PC services and integration of a PC screening tool on admission to the ICU.

**Sustainability**

This is the first project to evaluate implementation of a PC screening tool in the ICU at this project site. Prior to implementation, potential benefits or harms were unknown, but after data synthesis and analysis, the majority of patients eligible for screening had a positive screen (>50%), indicating continued unmet PC needs. Anecdotal nurse feedback included that PC measures and needs of patients were not discussed during daily bedside rounds. Currently, physicians and resident physicians use a daily rounding tool, so adding PC screening to this discussion could help address the unmet PC needs of patients.
In order to sustain this project, not only should a PC screening tool become a part of the EMR, but PC screening tool completion and results should become a formal part of daily interdisciplinary bedside rounds, which can be presented by nurses. If successful, this could further translate into incorporating a PC Nurse Practitioner to become part of the ICU interdisciplinary team and participate in daily bedside rounds.

To sustain such changes and add a new position or member of the care team, financing strategies must be addressed and key stakeholders must be involved. Proposed funding for such sustainability could come from grant programs, however, focus groups can be created to address a specific financial plan for future sustainability.

**Professional Reporting and Future Scholarship**

**Dissemination and Professional Reporting**

At the conclusion of this project, the DNP student will present key findings to the Rutgers University School of Nursing through a formal DNP project presentation and DNP Poster Day in April 2021, as part of the requirements for the doctor of nursing practice degree. The DNP student will also disseminate key findings at the project site’s Nursing Research Day and to key stakeholders, including the nurse manager, medical director of the ICU and to the staff nurses who participated in the DNP project. Additionally, the DNP student plans to submit abstracts to the American Association of Colleges of Nursing, *The Journal of Hospice & Palliative Nursing*, the Society of Critical Care Medicine or the American Nurses Credentialing Center to present at a Magnet Conference.

**Future Scholarship**

This project used an adapted PC screening tool as recommended by CAPC since no standardized PC screening tool exists. Future research should focus on creating a reliable and
valid PC screening tool to be used at the site to ensure a standardized approach to PC integration into ICU care. As part of standardizing the approach to PC care in the ICU, a multi-site project should be done to evaluate if patients in all ICUs have unmet PC needs and necessitate integration of a PC screening tool and PC services in the ICU. Results can then be translated into creation of an electronic PC screening tool to be included in the EMR. Future research should also aim to evaluate the cost effectiveness of early integration of PC services through completion of a PC screening tool on admission to the ICU.

**Summary**

This project showed that there was no statistically significant association between PC screening tool completion and consults, however, did show that the proportion of consults increased after the implementation of PC screening tools. Additionally, results showed that >50% of patients screened positive, indicating they continue to have unmet PC needs. Further research and quality improvement projects should be completed to address the unmet PC needs of patients and to standardize the approach to PC screening and PC consults in the ICU.
References


National Palliative Care Research Center. (2013). *Why is palliative care research needed?* http://www.npcrc.org/content/15/About-Palliative-Care.aspx#tabs-2453


https://www.sccm.org/Communications/Critical-Care-Statistics


https://doi.org/10.1097/NJH.0000000000000265


https://www.who.int/cancer/palliative/definition/en/

https://doi.org/10.1097/CCM.0000000000002099

Appendix A

Table of Evidence

Clinical Question: In the ICU, how does the implementation of a PC screening tool compared to the current use of PC consultation, affect PC utilization during a patient’s stay?

Date: March 13, 2020

<table>
<thead>
<tr>
<th>Article #</th>
<th>Author &amp; Date</th>
<th>Evidence Type</th>
<th>Sample, Sample Size, Setting</th>
<th>Study findings that help answer the EBP question</th>
<th>Limitations</th>
<th>Evidence Level &amp; Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ma, J., Chi, S., Buettner, B., Pollard, K., Muir, M., Kolekar, C., Al-Hammadi, N., Chen, L., Kollef, M., &amp; Dans, M. (2019).</td>
<td>Research Single-center cluster randomized crossover trial n = 199; 18+y/o admitted to MICU who screened positive; two MICUs of</td>
<td>Early triggered PC consults are associated with greater transition to DNR/DNI and hospice, and decreased ICU and post ICU healthcare utilization ( (p &lt; .0001) ) Only 7 patients (6.8%) in control group received PC consult at an average of 7 days after admission Mortality, ICU LOS, hospital LOS were unchanged with early triggered PC consult DNR/DNI occurred earlier and more frequently over 30 days with early triggered PC consult ( (p &lt; .0001) )</td>
<td>Performed at single academic institution Enrollment process and limit on the number of patients PC was able to see based on staffing. Screening every admission occurred prior to intervention creating bias DNR/DNI might indicate goals of care discussion, but does not directly measure quality of life or patient/family satisfaction</td>
<td>Level I, Quality A/B</td>
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<tr>
<td></td>
<td>Authors</td>
<td>Study Design</td>
<td>n</td>
<td>Exclusion Criteria</td>
<td>PC Consult Considered</td>
<td>PC Consult Impact</td>
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<td>2</td>
<td>Zalenski, R. J., Jones, S. S., Courage, C., Waselewsy, D. R., Kostaroff, A. S., Kaufman, D., Beemath, A., Brofman, J., Castillo, J. W., et al.</td>
<td>Research</td>
<td>n = 405</td>
<td>7 hospitals, 1923 admitted to ICU, after exclusion criteria, 405 screened +, 161 received PC consults</td>
<td>Early PC consult in the ICU should be considered, as it is associated with reduction in LOS and cost, and more frequent DNR status and hospice referral</td>
<td>Not all patients admitted to ICU were screened, because nurses reported lack of time during admission process</td>
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<td>Retrospective analysis of prospective QI intervention</td>
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<td>Those with PC consult, 74.1% (109) were made DNR, of those without consult, 19.6% (45) were made DNR</td>
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<td>Those with PC consult and discharged had a downward trend in 30-day readmission, but not statistically significant finding</td>
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<td>Median hospital LOS + PC consult on or before day 4 = 1.7 days shorter than those without PC consult</td>
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<td>Median hospital LOS + PC consult after day 7 = 6.2 days longer than those without PC consult</td>
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<tr>
<td>3</td>
<td>Mun, E., Makatsuka, C., Umbarger, L., Ruta, R., McCarty, T., Macadho, C., &amp; Ceria-Ulep, C.</td>
<td>Systematic Review</td>
<td>23 articles graded using Mosby’s level of evidence system</td>
<td>IPAL-ICU project guidelines were an effective tool and provided specific recommendations towards initiating a PC program in an ICU</td>
<td>Successful use of guidelines resulted in integration of PC standards and basic PC principles in daily ICU routine</td>
<td>Limited amount of RCTs on PC topic, so meta-analysis was not possible</td>
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<td>4</td>
<td>Mun, E., Umbarger,</td>
<td>Research</td>
<td>n = 194 pre-intervention</td>
<td>Incorporation of PC into daily ICU workflow allows for PC principles to be</td>
<td>Occurred in 1 unit, in 1 hospital</td>
<td>Level III, Quality A</td>
</tr>
<tr>
<td>L., Ceria-Ulep, C., &amp; Nakatsuka, C. (2018).</td>
<td>Quantitative Pre and Post Intervention Design</td>
<td>n = 198 post-intervention Patients admitted to adult ICU during a 3-month period ICU in Hawaii</td>
<td>identified in a proactive and systematic manner Early identification of goals of care and code status improved; 24% to 70% and 39% to 79% respectively</td>
<td>Mixed ICU patient population Hawaiian population does not accurately represent the entire population Joint Commission was present during time of study, increasing PC awareness Changes in trends were reported as a qualitative study without experimental design or randomization</td>
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<tr>
<td>Wysham, N. G., Hua, M., Hough, C. L., Gundel, S., Docherty, S. L., Jones, D. M., Reagan, O., Goucher, H., Mcfarlin, J., &amp; Cox, E. C. (2017).</td>
<td>Research Mixed methods design with cross-sectional study and survey</td>
<td>n = 303; 150 bedside RNs, 114 Intensivists, 39 Advance Practice Providers</td>
<td>Of the total survey participants, 225 (75%) felt that PC consultation was underutilized ($p &lt; .0001$) 180 participants (63%) believed that a protocol for PC consultation was effective ($p &lt; .0001$) 123 participants (41%) felt that PC consultation should be triggered by EHR triggers and 71 (24%) started that they would prefer PC specialists to be present during rounds ($p &lt; .0001$)</td>
<td>Might not reflect smaller ICUs with fewer resources available Primary care physicians were not included, but it is recognized that their input is important because most “trigger positive” ICU patients who survive, will need</td>
<td>Level III, Quality A</td>
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<td></td>
<td>Study Details</td>
<td>Study Design</td>
<td>Study Setting</td>
<td>Key Findings</td>
<td>Limitations</td>
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<td>6</td>
<td>Braus, N., Campbell, T. C., Kekkeboom, K. L., Ferguson, S., Harvey, C., Krupp, A. E., Lohmeier, T., Repplinger, M. D., Westergaard, R. P., Jacobs, E. A., Roberts, K. F., &amp; Ehlenbach, W. J. (2016)</td>
<td>Research Prospective, before and after intervention study</td>
<td>24 bed, academic Medical ICU n = 100 usual care; 103 intervention</td>
<td>284 (95%) of participants reported that PC consult process should be based on a process other than the order of the attending ICU physician Follow up and support as they are at an increased risk of readmission Proactive utilization of PC was associated with more and earlier ICU family meetings and shorter hospital LOS Likelihood of a family meeting was 63% higher (p = .01) and time to family meeting was 41% shorter (p &lt; .001) No statistically significant difference in LOS in the ICU Hospital LOS was 26% shorter in the intervention group Family satisfaction, and quality of death and dying did not significantly differ between the two based on survey results</td>
<td>Short baseline LOS of patients in this ICU differs from most other studies There is no randomization to the study and the design cannot control for changes in the ICU setting, such as LOS that might affect results Family meetings might have occurred but not all were documented</td>
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<td>7</td>
<td>McCarroll, C. M. (2018)</td>
<td>Research Quantitative, before and after study</td>
<td>n = 30 14 bed medical-surgical ICU</td>
<td>The proportion of PC consults among patients admitted to the ICU increased after a screening tool was implemented 10 admissions in the pre-intervention group; only 1 patient received PC consult (10%) Small sample size Involved process to determine screening tool and administrative changes altered ICU</td>
<td>Level III, Quality B</td>
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341 bed academic medical center; 20 bed medical/surgical ICU; patients 19 years old and older | 10 admissions in the post-intervention group; 3 patients had unmet PC needs requiring PC consult (30%)  

The number of screening criteria met was significant in predicting probability of PC referral ($p < .0001$); the estimated odds that a patient would be referred to PC increased by a factor of 1.74 for each additional criterion met  

PC Utilization:  
1-3 criteria = 3.5 % referred (3/88 patients)  
4-6 criteria = 27% referred (17/62 patients)  
7-10 criteria = 61.5% referred (16/26 patients)  

The number of screening criteria met was significant in predicting death in ICU ($p < .0001$) and if a patient met 9+ criteria, there was a 50%+ chance of dying in the ICU  

The CAPC screening tool can be used to alert providers of patients who are at greater risk of mortality in the ICU | population during the implementation phase  
Physician driven screening tool, not nurse driven, and reported physician stigma against PC interventions  
No standardized screening tool for PC in the ICU exists  
Single academic institution, which prevents and limits generalizability  
Small sample size  
Presence of CAPC criteria was affected by provider documentation | Level III, Quality B |
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<tr>
<th></th>
<th>Name</th>
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<th>Description</th>
<th>Notes</th>
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<td>9</td>
<td>Nelson, J. E, Curtis, R., Mulkerin, C., Campbell, M., Lustbader, D. R., Mosenthal, A. C., Puntillo, K., Ray, D. E., Basset, R., Brasel, K. J., Frontera, J. A., Hays, R. M., Weissman, D. E. (2013)</td>
<td>Non-Research</td>
<td>A consensus report from the IPAL-ICU Advisory Board</td>
<td>PC consultation criteria that have been used and published from institutions should be used as a starting point for creation of institution-specific screening criteria. Using specific criteria to prompt PC consultation and involvement can help reduce ICU resource utilization and increase PC utilization to address patient or family needs. To develop such screening criteria, an organized process involving key stakeholders should be used.</td>
<td>Level IV, Quality A</td>
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<td>10</td>
<td>Enfield, K. B. (2019)</td>
<td>Non-research</td>
<td>Podcast from the SCCM channel iCritical Care providing expert opinion</td>
<td>A podcast interview between Dr. Enfield and Dr. Kolleff, who worked with the recently published a RCT on PC in the ICU. PC is often seen in a negative manner, but we must use experts that can focus on patients and family stressors. The multidisciplinary approach is key, but communication is most important if using PC in the ICU.</td>
<td>Level V, Quality A</td>
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<td></td>
<td>Getting key stakeholders involved in choosing screening triggers is imperative</td>
<td>There are 8 domains that PC screening should encompass: structure and processes of care, physical aspects of care, psychological and psychiatric aspects, social aspects of care, spiritual, religious and existential aspect of care, cultural aspects of care, care at the end of life, and ethical and legal aspects of care. This CPG recommends using all domains that address clinical care, patient and family outcomes, and ICU utilization.</td>
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<td>11</td>
<td>National Consensus Project for Quality PC. (2013)</td>
<td>There are 8 domains that PC screening should encompass: structure and processes of care, physical aspects of care, psychological and psychiatric aspects, social aspects of care, spiritual, religious and existential aspect of care, cultural aspects of care, care at the end of life, and ethical and legal aspects of care. This CPG recommends using all domains that address clinical care, patient and family outcomes, and ICU utilization.</td>
<td>Level IV, Quality A</td>
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<tr>
<td>12</td>
<td>Nelson, J. E., Campbell, M. L., Cortez, T. B., Curtis, J. R., Frontera, J. A., Gabriel, M., Lustbader, D. R., Mosenthal, A. C., Mulkerin, C., Puntillo,</td>
<td>Many ICUs are developing screening criteria to help identify patients with unmet PC needs. A key first step is to form a planning committee because there is no “best” screening criteria, rather the building of a screening tool should be done with key stakeholders. There are neither “best” nor “validated” ICU screening criteria, so selecting criteria should be institution specific.</td>
<td>Unique workflow process that is not standardized or validated</td>
<td>Level V, Quality A</td>
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Appendix B

Theoretical Framework

**Act**
- Disseminate findings to stakeholders and ICU staff
- Decide to adapt, adopt or abandon PC screening tool
- Determine steps for future research

**Plan**
- Propose implementation of PC screening tool
- Obtain buy-in from Nurse Manager and Medical Director
- Perform literature review to develop PC screening tool

**Study**
- Retrospective and prospective chart review
- Collect completed PC screening tools on a weekly basis

**Do**
- Small-scale quality improvement project to evaluate use of PC screening tool
- Staff education on PC screening process

Adapted from Lucas (2018)
Appendix C

Recruitment Materials

IMPLEMENTATION OF A PALLIATIVE CARE SCREENING TOOL

WINTER/SPRING 2021

ALL NURSES ARE NEEDED FOR A RESEARCH STUDY EVALUATING THE USE OF A PALLIATIVE CARE SCREENING TOOL ON ADMISSION TO THE ICU

DUE TO COVID-19 SOCIAL DISTANCING RESTRICTIONS AN EDUCATIONAL POWERPOINT WILL BE SHARED VIA MICROSOFT TEAMS MEETING

Questions or Concerns? Please contact
Samantha Marr BSN, RN, CCRN
Appendix D

Educational PowerPoint Presentation

PALLIATIVE CARE SCREENING IN THE ICU

A DNP Project by
Samantha Marr BSN, RN, CCRN
What is Palliative Care (PC)?

Interdisciplinary approach to care that focuses on quality of life with regard to patient-family-centered decision making, communication, continuity of care, and emotional or spiritual support for patients, families, and clinicians (WHO, 2018)

Prevents and manages distressing symptoms, helps with goals of care discussions through communication excellence, and provides extra support for patients

Allows for control and comfort while seeking a cure or life-prolongation (NPCRC, 2013)

This is not hospice... hospice avoids life-prolonging medications and prepares the patient and family for end of life when treatment is no longer pursued (CMS, 2015)

The Future of PC

- By 2030, National Palliative Care Research Center estimates that 20% of the population will be over 65 years old (NPCRC, 2013)
  - This will lead to death from chronic and progressive disease exacerbation requiring hospitalization and ICU management

- Institute of Medicine states that healthcare employees have a responsibility to ensure end of life care is compassionate, affordable, sustainable and the best quality possible (IOM, 2015)
  - To do so, we must incorporate PC services early in the ICU stay
Why PC Screening in our ICU?

<table>
<thead>
<tr>
<th>Cost Burden</th>
<th>Early Integration Benefit</th>
<th>No Standard Approach to PC Utilization</th>
<th>Local, National, Global Call to Action</th>
</tr>
</thead>
</table>
| • Society of Critical Care Medicine (SCCM) suggests that annual critical care costs have increased 92%  
• Hospitalizations involving the ICU were 2.5 x more expensive and ICU utilization accounts for 47.5% of total hospital charges  
• Integration of PC services in the ICU reduce costs by 40% and LOS increased by 1.12 days | • Patients suffer from delirium (33.3%), traumatic stress (57%), anxiety and depression (70-80%)  
• PC services help minimize suffering and patients trigger for unmet PC needs (Mercadante et al., 2018) | • Currently use PC for end of life/withdrawal of care or when medical treatment options are exhausted | • CAPC and the IPAL-ICU Project to increase PC services in the ICU and help identify patients with unmet PC needs (Mun et al., 2017)  
• 2019 bill signed by Governor Murphy to require health care facilities to provide information on PC services |

What Does the Research Say?

- CAPC’s ICU Screening tool as adapted from clinical practice guidelines from NCPQPC is recommended, supported and effective (Lapp, 2015; McCarroll, 2018)
- Early implementation of a PC screening tool and early PC consults resulted in early code status change from full code to DNR/DNI and goals of care identification (Ma et al., 2019; Zalenski et al., 2017)
- Varying study results on LOS, but patients who received a PC consults on or before hospital day 4, has a 1.7 day shorter LOS (Zalenski et al., 2017)
- A survey of 303 clinicians showed that 75% felt that PC is underutilized and 63% believed a protocol for PC consultation would be effective (Wysham et al., 2017)
Now What?

- Research study examining if the implementation of a PC screening tool on admission affects PC utilization through PC consult in the ICU.
- Created a screening tool using CAPC’s recommended screening criteria.
- Steps for the Nurse:
  1. When a patient is admitted to the ICU, fill out a paper screening tool.
  2. Return the completed form to the locked box on the Unit Representative desk.
- Completed forms will be collected weekly.
- A retrospective chart review will also be performed to evaluate PC needs.
- Disseminate findings to staff and AHS.

Questions or Concerns?

Samantha Marr BSN, RN, CCRN
References

doi: 10.17226/18748
Appendix E

Adapted PC Screening Tool

Date: __________________

Palliative Care Screening Tool

Please check next to any applicable clinical indicators

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<tr>
<th>Screening Criteria</th>
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<th>No</th>
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<td>Advanced COPD</td>
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</tr>
<tr>
<td>Advanced Dementia or Other Severe Cognitive Impairment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced or New Cancer Diagnosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age &gt; 80 with 2+ Life Threatening Co-Morbidities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequent ICU Admissions (&gt; 1 ICU admission during current hospital stay)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-Organ Failure (2+ organ systems)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic Renal Disease (+ or – Consideration to Start Continuous Renal Replacement Therapy)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflicts Over Goals of Care (Code Status or Treatment Decisions)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major Neurological Insult (post CPR, Stroke or Persistent Vegetative State)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PALLIATIVE CARE SCREENING TOOL RESULT

Positive | Negative

(2+ Clinical Indicators = Positive Result)

Please place completed screening tools in locked box

Adapted from the Center to Advance Palliative Care
Appendix F

Data Collection Tool for Chart Reviews

<table>
<thead>
<tr>
<th>Chart Number</th>
<th>Eligible for Screening? (Y or N)</th>
<th>Screening Result (Positive or Negative)</th>
<th>PC Consult Placed? (Y or N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>5</td>
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</tbody>
</table>
Appendix G

Data Collection Tool for PC Screening Tool Compliance

<table>
<thead>
<tr>
<th>Month</th>
<th>Total Admissions</th>
<th>Eligible Patients</th>
<th>Completed Screening Tools</th>
<th>Incomplete Screening Tools</th>
<th>Screening Tools Not Done</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
Appendix H

Project Timeline
### Appendix I

#### Project Budget

<table>
<thead>
<tr>
<th>Expense</th>
<th>Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruitment Flyers</td>
<td>0.15 x 85</td>
<td>$12.75</td>
</tr>
<tr>
<td>Provided Meals</td>
<td>$35 x 2 meals</td>
<td>$75</td>
</tr>
<tr>
<td>Dissemination Poster</td>
<td>$50</td>
<td>$50</td>
</tr>
<tr>
<td><strong>TOTAL BUDGET</strong></td>
<td></td>
<td><strong>$137.75</strong></td>
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</table>
Appendix J

Table J1

*Outcomes Measured During the Time-Interrupted Retrospective Chart Review*

<table>
<thead>
<tr>
<th>Chart Review</th>
<th>Outcomes Measured</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eligible for Screening</td>
</tr>
<tr>
<td>Pre-Intervention</td>
<td>85</td>
</tr>
<tr>
<td>%</td>
<td>90.4</td>
</tr>
<tr>
<td>Post-Intervention</td>
<td>40</td>
</tr>
<tr>
<td>%</td>
<td>97.5</td>
</tr>
</tbody>
</table>

Table J2

*Chi-Square Test of Association Between PC Screening Tool Completion and PC Consults*

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-Square Statistic (X²)</td>
<td>4.685</td>
</tr>
<tr>
<td>Degrees of Freedom (df)</td>
<td>2</td>
</tr>
<tr>
<td>p-value</td>
<td>0.096</td>
</tr>
</tbody>
</table>