Integration of a Standardized Process for Palliative Care Screening of Patients in the Telemetry and Medical-Surgical Units

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Abstract

**Purpose of Project:** This quality improvement project was to increase access to palliative care services among hospitalized patients. The aim was to improve the quality of life among hospitalized patients through early integration of palliative care services.

**Methodology:** This project used a pre- and post-intervention chart review to evaluate completion of a palliative care screening tool among all patients admitted to a 29-bed Telemetry and 36-bed Medical-surgical unit. One week was provided for staff education with distribution of handouts, flyers and reminders pertaining to the project prior to the intervention.

**Results:** A total of 418 patients during the 9-week time frame had a completed palliative care checklist upon admission on both inpatient units. Pre- and Post-intervention the number of patients meeting criteria for a palliative care referral were (n=41) in April and (n=54) in May. The number of palliative care consult order among this group of patients with a score > 3 was (n=18) in April and (n=48) in May. The proportion of palliative care consult orders significantly increased from 7.4% in April to 23.2% in May (p=0.0001) after standardized monitoring and intervention.

**Implications for Practice:** Early integration of palliative care via screening and identifying hospitalized patients in need of palliative care. Despite increase utilization of palliative care, gaps highlight the implications for policy and practice changes to improve education and training of healthcare providers in addressing patient needs. A standardized process to identify patients for palliative care consultation allows for increased access and improved patient outcomes.

**Keywords:** Palliative care, quality of life, in-patient consultation, hospitalized patient, screening tool, screening trigger, advance directives
Integration of a Standardized Process for Palliative Care Screening of Patients in the Telemetry and Medical-Surgical Units

Palliative care (PC) is a healthcare specialty inclusive of a multidisciplinary team approach to improve the quality of life for patients and families. Palliative care can occur at any stage during the chronic disease trajectory (Gemmell et al., 2019). Regardless of disease prognosis, early referral and utilization of palliative care services decrease symptom burden, improves quality of life, and increases communication among patients, families, and healthcare professionals (Gelfman et al., 2017). Early integration of a standardized palliative care screening process plays a vital role in enabling healthcare providers to identify patients at high risk for disease burden and to deliver efficient, high-quality services to meet the demands of those patients. Across all healthcare settings, incorporation of palliative care services is associated with improving patient satisfaction; decreasing cost and resource utilization; and reducing unnecessary hospitalization and emergency room visits (Fail & Meier, 2017).

Americans over the age of 65 are among the fastest growing population in the United States (U.S.) with an estimated 133 million affected by at least one chronic condition (Centers for Disease Control and Prevention [CDC], 2012). The annual mortality rate due to chronic disease is an estimated 1.7 million, with cancer, heart disease, and stroke accounting for majority of deaths (Raghupathi & Raghupathi, 2018). Palliative care is an evidence-based approach in reducing hospital and emergency room admissions; improving quality of life (QOL) and survival; and decreasing cost and ICU admission (Ma et al., 2019).

Integration of a systematic approach utilizing a palliative care screening/trigger tool within the electronic medical record (EMR) was used to identify patients who might benefit from palliative care consultation. The purpose of this quality improvement project was to integrate a
standardized process of palliative care screening among patients admitted to telemetry and medical-surgical units in a community hospital. The focus of this quality improvement project was to ensure all patients with palliative care needs had timely access and support of palliative care services because improving access and preventing delays in patients receiving palliative care services is vital in addressing unmet needs of patients with serious and/or chronic illnesses. The advantages of these outcomes are particularly beneficial in a community hospital, urban setting, which serves a diverse patient population with chronic and terminal illnesses. The elderly stand to benefit from early palliative care interventions.

**Background and Significance**

Integration of PC is crucial to concurrent management of hospitalized patients in addressing refractory symptom management, advanced care planning, decreased symptom burden, and optimization of quality of life (Fink, 2015). Despite efforts to improve access to PC, palliative care referral often takes place during the late phases of disease trajectory. Palliative care uses a holistic, multidisciplinary team approach in addressing the physical, psychological, and emotional needs of patients and families. The central focus of palliative care as a specialty is what matters most to patient, family, and caregivers. Thus, it is deemed appropriate at any stage of a disease process. Health care institutions have the responsibility to provide seamless, high-quality, patient-centered comprehensive care by ensuring access to palliative care services for patients and families facing challenges associated with life-threatening or life-altering medical conditions. From a global perspective, 40 million people annually qualify for palliative care services, of whom only 14% of the population have access to that benefit (World Health Organization [WHO], 2020). Marginalized patient populations including ethnic minorities, senior citizens, and people living in poverty have higher demands and lack sufficient access to
palliative care (WHO, 2020). Social, ethnic, cultural, and economic diversity issues should be considered to ensure the availability of PC to underserved and vulnerable population.

Worldwide, most adults in need of palliative care are burdened with chronic conditions including 38.5% from cardiovascular disease; 34% from cancer, 10.3% from chronic respiratory conditions, 5.7% from AIDS, and 4.6% from diabetes (WHO, 2020). Among patients in need of PC, an estimated 80% of patients with cancer and 67% with chronic cardiovascular and pulmonary disease experience moderate to severe pain and difficulty breathing during the terminal phase of their lives (WHO, 2020).

The increasing number of chronic diseases in the U.S. poses a major economic burden with an estimated $214 billion annual expenditure healthcare and $138 billion in loss of job productivity. Cancer is the second leading cause of death among 1.7 million Americans diagnosed every year. Total expenditure towards cancer care is expected to reach approximately $174 billion by 2020 (CDC, 2013). Another example is the diagnosis of congestive heart failure (CHF) in which the one-year mortality rate after first hospitalization is strikingly high at 40% and the predicted financial burden by 2030 is approximately $77.7 billion (Gelfman et al., 2017). Patients with a diagnosis of cancer, congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), end-stage liver and renal disease, stroke and advanced dementia are associated with frequent emergency room visits, prolonged hospitalization, and higher length of stay (LOS) (Quinn et al., 2020). Among patients with chronic diseases, 33% of individuals suffered from four or more of these conditions and had a mortality rate of 3.1% with extended hospital stays and costs upon discharge (CDC, 2013). Patients have frequent exacerbations requiring hospitalization and the need for an interdisciplinary approach in providing care due to the progressive nature of these chronic conditions. Experts in PC have recommended guidelines
to improve quality of life (QoL) through management of symptoms, advance care planning, and psychosocial support (Cotogni et al., 2018). Although the numbers of inpatient PC services have increased in the U.S. from 15% in 1998 to 67% as of 2014, there is lack of consistency in the use of PC, and most of the patients that meet the need for PC are often missed (McCarroll, 2018). A lack of standardized process to identify hospitalized patients who could benefit from PC has had a major impact on patients’ QoL and presents an opportunity for healthcare systems to improve patient-related outcomes. Furthermore, when PC is offered it is often late in the disease trajectory, and that later timing can affect the quality care patients receive toward end-of-life services (Hui et al., 2017).

**Healthcare System Implications**

Healthcare cost associated with chronic, progressive, life-limiting conditions has substantially increased in the U.S. over the past few decades (CDC, 2013). Early initiation of palliative care consultation (PCC) among hospitalized patients reduces the economic burden and hospital length of stay (Macmillan et al., 2020). Healthcare expenditure towards hospitalized patients at the terminal phase of disease trajectory far exceed primary preventative services. In addition, aggressive measures and interventional procedures toward end-of-life care not only affects cost, but also affects patient QoL (Schoenherr et al., 2019) One study reported significant reduction in cost for patients who received a PCC within three days of hospital admission regardless of diagnosis (May et al., 2018). In addition to cost, patients with chronic, debilitating conditions have frequent exacerbations of their illness and utilize hospital and emergency room for symptom management (Quinn et al., 2020). Palliative care has been associated with decreased hospital readmission and transfer to intensive care unit (Quinn et al., 2020).
Patient Implications

The interdisciplinary, collaborative approach of PC as a specialty has a major impact on the QoL for patients. One of the most common reason for PC referral among hospitalized patients is advanced care planning followed by pain management and hospice evaluation (Schoenherr et al., 2019). Most reported symptoms among patients include pain, anxiety, difficulty breathing, and nausea (Schoenherr et al., 2019). Palliative care among hospitalized patients is also associated with less aggressive life-sustaining treatment, shorter length of hospital stays and lower mortality rate (Singh et al., 2017). Palliative care consultation also increases the number of advanced directives and can assist in establishing code status early on during the hospitalization. Referral to hospice services when appropriate and withdrawing of life sustaining support toward the end-of-life stage is increased with the involvement of PC (Bischoff et al., 2018).

Numerous studies within the literature have defined positive outcomes among hospitalized patients who receive early integration of palliative care. Churchill et al. (2020) conducted a pilot study to increase the number of palliative care consults within a community hospital system as a quality improvement initiative. The percentage of palliative care consults pre- and post-intervention increased by 9.2% within the community hospital system and the number of consults received within 24 hours of referral increased to 25% (Churchill et al., 2020). In a randomized clinical trial among patients with end stage lung and gastrointestinal cancer, early palliative care referral was associated with improvement in quality of life (QoL) and lower rates of depression (Temel et al., 2017). Studies investigating the impact of inpatient palliative care services reported higher patient satisfaction, fewer ICU admission, increased number of advanced directives, and lower healthcare expenditure (Fail & Meier, 2017). Quinn et al. (2020)
report early palliative care integration was associated with 12% decrease in hospital and intensive care admissions and 41% decrease in emergency room visits among patients with end-stage liver and heart failure.

Significant gaps exist in knowledge regarding providing palliative care services to hospitalized patients, including delays during the referral process. Standardization of a palliative care referral process for hospitalized patients is associated with significant cost-saving and quality outcomes while reducing unnecessary procedures, interventions, and imaging (Fail & Meier, 2017). Multiple evidence-based studies reveal the importance of effective symptom management. However, results from a cohort study of 135,197 hospitalized patients followed during a timeline of five years revealed palliative care consultations were requested on average at 4.8 days of hospital admission (Schoenherr et al., 2019). Within this study group, 74.8% of patients needed assistance in advanced care planning, 40.1% for pain management, and 45.6% for other symptom management (Schoenherr et al., 2019). In another retrospective cohort study, patients who received palliative care early in the disease trajectory had lower hospital mortality rate and shorter hospital stays, averaging 4.5 in-patient days in comparison to those receiving late referrals (Fink, 2015).

**Barriers**

Barriers to integrating palliative care principles within a healthcare system are multifactorial and include limited knowledge among health professionals, policy makers, and the public. Cultural, religious beliefs, and misconceptions regarding palliative care as a specialty only for cancer patients during the terminal phase of life are additional barriers (WHO, 2020). Frequently, the organizational culture within healthcare setting includes treating patients with aggressive measures during the terminal phase of their illness, leading to unnecessary procedure,
imaging, and prolonged hospital length of stay (Fail & Meier, 2017). Advanced practice nurses play an important role in advocating for standardizing the core principals of palliative care, making it part of the mainstream course of providing care for patients and families. Advanced practice nurses are often part of a multidisciplinary team and are in a unique position to initiate skilled care coordination for patients with serious illnesses requiring palliative care services.

The complex nature of hospitalized patients further increases the demand for palliative services in addressing advanced care planning and establishing a code status. This quality improvement project was conducted in a community hospital setting with an average daily census of 55 admitted to medical-surgical units. Most patients commonly have a diagnosis of more than one chronic condition including CHF, stroke, dementia, COPD, and cancer. Based on the patient population and demographics, most patients met criteria for a palliative care referral and consultation; however, it was ordered late in the disease trajectory.

Advanced practice nurses and staff nurses on the inpatient units played an essential role in closing the gap and creating a systems-based change and ensuring proper implementation of the PC referral and consultation process. Inpatient PC services provide a broad group of patients suffering from chronic illnesses a comprehensive assessment with targeted best-practice interventions to improve their quality of life and assist with advance care planning. It goes further to include efforts to enhance the quality of life, and even influence the disease trajectory in a positive way (Fail & Meier, 2017).

**Needs Assessment**

Palliative care as a specialty has evolved rapidly over the past 20 years with the formation of the National Consensus Project for Quality Palliative Care (NCP) which provides
clinical practice guidelines to improve quality of care and the delivery of palliative care within the U.S. (Ahluwalia et al., 2018). Based on the recommendations of major national, local, and governmental agencies including Institute of Medicine (IOM), Centers for Medicare and Medicaid Services (CMS) and National Coalition for Hospice and Palliative Care (NCHPC), palliative care is defined as a core component of delivering quality of care to patients and should be integrated across the continuum (NCHPC, 2018). There has been an overall increase in the percentage of hospital-based palliative care programs across the U.S. An estimated 67% of hospitals with 50 or more beds reported having an interdisciplinary palliative care team (Ahluwalia et al., 2018). Early identification of patients with palliative care needs is crucial in providing high-value, quality care to patients. The use of screening tools such as the Edmonton Symptom Assessment Scale (ESAS) to meet the physical, social, cultural, and spiritual needs of patients can assist in evaluating the needs assessment of an organization (Ahluwalia et al., 2018). This quality improvement project included a retrospective chart review of patient population in a community hospital located in an urban setting. The core vision and mission of the organization was to provide patient-centered, effective, efficient, coordinated care with compassion to improve the health and vitality of the community. Understanding the health needs of this diverse community of patients, including the cultural, social, physical, and psychological needs is crucial in optimizing their care. The patient population in the community was diverse in age, comorbidities, and social status and frequently utilized the emergency room for routine visits. In addition, a moderate proportion of patients were admitted from nursing homes and suffered from chronic, life-limiting conditions. The nursing home patient population had frequent hospital readmissions and suffered from lack discussion of advanced care planning, leading to increased nosocomial infections and prolonged hospital stay with poor patient outcomes. The PC screening
checklist previously embedded in the EMR considered all aspects of patient care including, demographics, social, physical, and psychological factors to include patients suffering with serious and/or terminal or chronic, time-limiting conditions.

**Preliminary Assessment**

Based on a two-months’ long preliminary assessment, there were 15 missed instances of palliative care nursing referral and consult orders on patients with a PC screen score greater than three. In addition, physicians were not acknowledging the notifications for a consult order, which led to delays in ordering and a resulting lack of PC consultation requests. This quality improvement project filled gaps in practice by educating staff on the inpatient units to ensure all patients with PC needs had early access to PC services.

**Problem Statement**

The purpose of this quality improvement project was to integrate a standardized process for palliative care screening among hospitalized patients in a community healthcare setting. The focus of this quality improvement project was to increase access to palliative care for hospitalized patients with both cancer and non-cancer diagnoses. Lack of early identification of hospitalized patients with cancer and other chronic conditions in need of palliative care services had negative consequences, including inadequate symptom control, hospital readmissions, and delay in advance care planning (Dalgaard et al., 2014). Although early integration of comprehensive PC services among hospitalized patients improves quality of life, hospitalized patients with a cancer diagnosis are more likely to have earlier referral to palliative care in comparison to patients with non-cancer related diseases. Thus, many hospitalized patients lack access to comprehensive, integrated palliative care. The challenges to early identification of PC
needs included an unpredictable disease trajectory and a lack of PC screening standardization among hospitalized patients with life-limiting illnesses (Dalgaard et al., 2014).

**Clinical Question**

The clinical question guiding this project was, “How does integration of a standardized palliative care screening process among hospitalized patients impact the number of palliative care consults and delays in identifying patients in need of palliative care?”

**Aim and Objectives**

The purpose of this quality improvement project was to implement the use of palliative care screening and consultation as part of standard care among hospitalized patients in need of palliative care services. The aim was to improve the quality of life among hospitalized patients through early integration of palliative care services. The outcome measure was to increase the number of PC referrals and/or consultations to improve access for patients in need of PC services. The objectives for this project were:

- evaluate completion of PC checklist within 24 hours of hospital admission.
- evaluate PC nursing referral orders within 48 hour of hospital admission.
- measure number of PC consultations with documentation of advance directives within 48 hours of hospital admission.

The first step was ensuring that a palliative care trigger checklist in the electronic health record is completed to properly identify patients in need of the care, provide in-service and education to both nursing and medical staff, and identify a palliative care nurse practitioner to understand the importance of completing the palliative care checklist. In addition, there was a need to discuss the project with key members of the administrative staff, including the information technology team, and to standardize a process to improve PC consultation.
The processes of early identification of hospitalized patients in need of advanced care planning discussion, symptom management, and those in need of extra support together leads to better quality of life. Specifically, a systematic approach utilizing a palliative care screening trigger tool within the electronic medical record was used to identify patients who may benefit from palliative care consultation and prevent delays in patients receiving palliative care.

**Literature Review**

**Search Strategy**

The key point of this literature review was to address the complex needs of hospitalized patients burdened with chronic illnesses through early integration of palliative care services to improve quality of life. Palliative care referral often takes place during the late phase of disease trajectory despite being regarded as an evidence-based approach in improving quality of life and concurrent management of hospitalized patients (Churchill et al., 2020). The complex nature of hospitalized patients further increases the demand for palliative care consultation in addressing refractory symptom management, advanced care planning, decreased symptom burden, and optimized quality of life (Fink, 2015). Current trends and practice guidelines for inpatient palliative care in the United States have evolved and are reaching a broader group of patients suffering from serious chronic illnesses. The focus of this project was to increase access to PC among hospitalized patients with both cancer and chronic, debilitating non-cancer diagnoses. Numerous studies have defined the positive outcomes associated with early integration of palliative care among hospitalized patients (Churchill et al., 2020; Ma et al., 2019; Quinn et al., 2020; Schoenherr et al., 2019).

A literature search was conducted using PubMed, CINAHL, Cochrane Library, and Google Scholar using the keywords *palliative care, palliative care consultation, palliative*
trigger tool, hospitalized patients, end of life, effective, terminally ill, hospice, cancer and non-cancer, chronic medical conditions, and early integration combined with the keywords quality of life, advanced care planning, and healthcare outcomes. In addition to these elements of the search, a systematic search of the grey literature included the National Consensus Project for Quality Palliative Care (NCP) which is part of National Coalition for Hospice and Palliative Care (NCHPC), Center to Advance Palliative Care (CAPC), the Hospice and Palliative Nurses Association (HPNA), and the American Academy of Hospice and Palliative Medicine (AAHPM). Date delimitations were set for 2015 to present to accumulate most recent evidence-based practices associated with PC. The literature search revealed 22 sources which were critically appraised using the Johns Hopkins Evidence Appraisal tools for research and non-research and included in the Table of Evidence (see Appendix A).

Inclusion criteria for selection included original research studies and systematic reviews in peer-reviewed journals examining the association between provision of palliative care and healthcare outcomes among hospitalized patients with chronic, debilitating conditions. Inclusion criteria also included hospitalized patients 18 years or older with a diagnosis of cancer, congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), end-stage liver and renal disease (ESLD, ESRD), stroke, and advanced dementia. Ten articles were extracted that met the inclusion criteria of peer-reviewed, original research reports evaluating the importance of PC integration in healthcare facilities. Articles were excluded if they were concerned with a review or a description of PC without any evaluation of an intervention; if studies focused solely on outpatient clinic or home settings; or if studies highlighted a PC needs assessment that did not go toward intervention. Studies without a PC team intervention, or with no usual care comparator, were also excluded.
Synthesis

After applying the exclusion criteria, ten studies remained and of those three reported on a randomized controlled trial (RCT), two were quasi-experimental, four were retrospective cohort observational studies, and one was a meta-analysis. Two of the quasi-experimental studies measured the impact of utilizing a PC screening tool to increase PC referrals for patients in a community hospital (Churchill et al., 2020; Kichler et al., 2018). Two RCT studies measured the QoL impact of early PC integration among patients with advanced cancer and heart failure (Rogers et al., 2017; Vanbutsele et al., 2018). One retrospective observational study reviewed the discharge data of patients with a diagnosis of stroke, and the effect of the PC encounter (PCE) on that patient’s LoS and mortality rate (Singh et al., 2017). Another retrospective cohort study reviewed the utilization of PC trigger tools to identify cancer patients early in the trajectory and review the impact on unplanned admissions and outcomes (Gemmell et al., 2019). Another population-based matched cohort study identified patients with end-stage cancer and non-cancer diagnosis receiving PC and its effect on reducing emergency room visits, hospital readmission, and intensive care unit (ICU) use (Quinn et al., 2020). A single-center, cluster, randomized crossover trial compared the effect of PC consultation on establishing advanced directives, hospice transfer, cost and hospital LOS and readmission among patients in ICU (Ma et al., 2019). One meta-analysis included six retrospective cohort studies and reviewed the relation of PC consultation and hospital cost (May et al., 2018). One retrospective cohort study analyzed data over a span of five years to identify practice trends among inpatient PC services and related outcomes that improve patient care.
Palliative Care Screening

Churchill et al. (2020) conducted a pilot study to improve and increase the number of palliative care consults within a community hospital system as a quality improvement initiative. The goal of this study was to screen all patients admitted to the hospital within 24 hours of admission and provide appropriate PC services and compare the outcomes before and after the use of screening tool. A Plan Do Study Act (PDSA) cycle over a period of 14 months utilized a palliative care screening tool (PCST) and education pathway to identify patients meeting criteria for a palliative care consult. In this study, the percentage of palliative care consults pre- and post-intervention increased by 9.2% within the community hospital system and the number of consults received within 24 hours of referral increased to 25% percent (Churchill et al., 2020).

Kichler et al. (2018) included a similar quality improvement project to address PC needs among COPD patients at high risk for readmission in a community hospital. Palliative care referrals in that study increased over a three-month period along with an increase in the percentage of appropriate patient referral from 10.5% to 38.5%, although no significant reduction in hospital readmission or emergency room utilization was noted (Kichler et al., 2018).

Quinn et al. (2020) reported a 12% decrease in ICU admission and 41% decrease in emergency room visits among patients with end stage liver and heart failure. Among patients suffering from dementia, palliative care use was associated with a higher number of hospital utilizations and did not significantly decrease admission to the ICU (Quinn et al., 2020) Overall, 35.8% of patients in that study died either in the ICU or in the inpatient setting (Quinn et al., 2020).
**Advance Care Planning**

Schoenherr et al. (2019) analyzed data from the Palliative Care Quality Network (PCQN) in which PC teams across the United States healthcare system collaborate to collect standardized data and identify gaps in PC knowledge and promote quality care by reviewing data on patient outcomes. Data from 88 hospitals with a total of 135,197 patients over a span of five years was used to identify practice trends and best practices among hospitals with an established inpatient PC team to improve patient care. Patient demographics in the study noted cancer as the most common reason for PC consultation (approximately 32% of patients); 13.2% with a primary diagnosis of cardiovascular illness; 11.3% with pulmonary illnesses; 9.7% with neurological or stroke instances; and 8.6% with complex chronic conditions (Schoenherr et al., 2019). The most common reasons for PC referral were 73.5% for advanced care planning, 18.4% for pain management, and 16.3% for hospice evaluation, among 38.6% of patients located in medical/surgical units; 23.8% in the telemetry unit; and 23.1% in the ICU. The percentage of reported symptoms were 29.9% with pain, 12.9% anxiety, 12.2% difficulty breathing, and 5.5% with. Regardless of the reason for PC consultation in this retrospective cohort review, 74.8% of the patients had needs directly related to advanced care planning. Goals of care and code status were clarified for approximately 54% of patients during PC consultation (Schoenherr et al., 2019).

A single-center cluster, randomized, crossover trial by Ma et al. (2019) compared patients in two medical ICU receiving PC, both randomized to usual care in comparison to the intervention. A total of 97 patients (48.7%) were assigned to the intervention group and 51.3% were part of the control group receiving standard care. Patients in the intervention group were evaluated by a palliative care provider. The objective of the study assessed how early integration
of PC screening trigger tool affected the outcomes of intensive care patients. Advanced care planning was established among 50.5% of patients receiving PC in comparison to 23.4% among the control group with p<0.0001, in addition to less use of ventilator use. Significantly more patients in the intervention group established code status earlier and comparison to the control group with a p<0.0001. Hospital readmission rate and use of emergency room after discharge from hospital also decreased with p<0.01, However, there was no significant difference in total hospitalization cost, admission to the ICU, or hospital LOS was noted between the groups with p>0.05 (Ma et al., 2019).

**Quality of Life**

Gemmell et al. (2019) reviewed a retrospective, cohort study of 159 patients in an oncology hospital compared to terminally ill patients who were known to PC services (45.9%) to (54.1%) unknown to PC and concluded that application of a trigger tool would have resulted in a larger range of patients (62%-92%) referred to PC prior to admission. In addition, patients known to PC at an index admission received PC services within 24 hours of hospital admission compared to 5.5 days among those unknown to PC demonstrating significance with a p<0.00001 (Gemmell et al., 2019). Singh et al. (2017) used the phrase palliative care encounter (PCE) in comparing the effect of PC among hospitalized patients diagnosed with stroke. PCE and end of life care among black and Hispanic patients with stroke showed lower rates of PC use and more use of aggressive measures (Singh et al., 2017). Overall, PCE was associated with less aggressive life-sustaining treatment and shorter length of stay and mortality rate among hospitalized patients with stroke decreased from 10.9% to 9.8% (Singh et al., 2017).

Rogers et al. (2017) conducted a single-center RCT to measure the effect of PC on QoL of 150 patients with advanced CHF over three years. Results revealed increased QoL, spiritual
well-being, and lower symptoms of depression and anxiety (Rogers et al., 2017). Quality of life measurements included patient’s description of depression, anxiety, and spiritual well-being. Patients were randomized to usual care n=75 with control group with the intervention of interdisciplinary palliative care integration. Patients with advanced heart failure followed by palliative care team reported improvements in symptoms of depression \( p=0.020 \) and anxiety, \( p=0.048 \) in addition to improvement in spiritual well-being, \( p=0.027 \) (Rogers et al., 2017). The results of this study highlighted the statistically significant benefit of integrating palliative care among patients with chronic, advanced illness to improve overall psychosocial well-being.

**Economic Implications of Palliative Care**

May et al. (2018) conducted a meta-analysis of six studies with a total of 113,118 patients to review the economic effect of PC among hospitalized patients with a diagnosis of either cancer, CHF, ESLD, ESLD, COPD, AIDS/ HIV, or neurodegenerative disease. The study reported significant reduction in cost for patients who received a PCC within three days of hospital admission, regardless of diagnosis (May et al., 2018). Patients with four or more comorbidities or a cancer diagnosis had a higher treatment effect in comparison to those without cancer and less than two comorbidities (May et al., 2018). May et al. (2018) also note that the result of this study contrasts with similar studies which do not show a correlation between palliative care and hospital cost or length of stay.

Palliative care is an evolving field in healthcare, and the current literature identifies the urgency and necessity of palliative care in addressing complex medical needs. Among hospitalized patients with cancer and chronic conditions, studies reveal a positive impact of a standardized PC screening process in identifying patients with PC needs, although data on the effect of PC on hospital LoS, readmission and cost are variable. The goal of the DNP project was
to promote change by integrating evidence-based knowledge into practices to improve clinical outcomes. Standardizing a process to ensure early referral and consultation of palliative care services can decrease symptom burden, improve quality of life, and increase discussion of goals of care and advanced directives as evidenced by literature review.

**Theoretical Framework**

Theoretical frameworks have a major influence in guiding clinicians to identify gaps in clinical practice and promote practice change by incorporating evidence-based strategies. The Knowledge-to-Action (KTA) framework was applied to increase the number of palliative care consultation for hospitalized patients with the trajectory to increase the number of advanced directives and decrease hospital length of stay. The KTA framework was developed by I.D. Graham and colleagues at the University of Ottawa and is frequently used in implementation science (White, 2019). The KTA framework generates new knowledge that is analyzed and synthesized into multiple stages where gaps can be identified.

The model is comprised of knowledge creation and action cycle with are related and influence each other. The knowledge and action cycles continuously overlap and influence each other in a non-directional pattern (Nilsen, 2015). Knowledge creation is the generation of new knowledge which is then analyzed, synthesized, and refined to create new knowledge that is applicable for best practice (Spooner et al., 2018). The knowledge creation phase is compared metaphorically to a funnel, where new knowledge moves along the continuum through the funnel and individualized tools are developed to apply the new knowledge into practice. An essential component of the knowledge creation phase is ensuring that knowledge is based on evidence before continuing to the implementation or action phase of KTA. The KTA action cycle provides a guide for the implementation of change in practice and is comprised of seven phases.
The first phase of the action cycle starts with identifying a problem and relevant research pertaining to the problem, including gaps in practice. The second phase involves adapting knowledge to local context; it is a critical step in sustaining use of knowledge. The third phase involves assessing facilitators and barriers to utilization of knowledge, since multiple factors can hinder or enhance effective knowledge translation, such as identifying barriers to implementation of a project, including how individuals perceive and understand the knowledge itself. The fourth phase entails the implementation of selected interventions, policy, or guidelines to promote knowledge translation, usually tailored to address gaps in practice through use of evidence. In the KTA framework, selection of intervention emphasizes the use of theory in selecting and implementing practice change. The fifth phase of the action cycle is to monitor use of knowledge, which is crucial in understanding the effect of knowledge translation strategy on the expected outcomes. Knowledge can be monitored through a variety of observations, including using questionnaires and administrative databases. The sixth phase involves evaluating whether application knowledge has an impact on the desired outcome. In the context of healthcare, desired outcomes can include patient health outcomes. The last phase is to sustain the use of knowledge by adjusting factors based on evidence; this phase requires constant monitoring. Barriers to knowledge can change over time, therefore sustaining knowledge use requires constant review of knowledge phase in conjunction with the action cycle (see Appendix B).

The KTA framework is feasible, flexible, and applicable to clinicians as a guide for the DNP project to make changes in practice and policy. Specifically, for the DNP project which entails increasing the number of palliative care consults for hospitalized patients, the model is a tool toward quality improvement using knowledge translation. The model is concise and provides detailed steps on how to identify barriers and apply evidence-based knowledge to make
changes in clinical practice. Some of the former barriers to implementing an order from the EMR to a palliative care consult notification are gaining support from stakeholders and are successful with education of staff members. The model is straightforward and applicable within a variety of healthcare settings, including hospitals. It also does not require clinicians to utilize all phases of the action. As a strategic guide for this DNP project, components of the action cycle that are applicable include assessing barriers to knowledge, selecting interventions, and evaluating outcomes. Addressing gaps and implementing change in practice to ensure timely referrals for a palliative care consult required a collaborative effort from leadership and staff within the institution. Early incorporation of palliative care services to hospitalized patients was essential in improving patient outcomes and quality of care. The KTA framework was used to bridge the existing gaps in knowledge regarding palliative care and its efficiency in improving patient outcomes.

The KTA framework identify gaps in clinical practice pertaining to lack of access to PC services in the inpatient setting. The knowledge creation cycle involved the literature review on best practices for implementation of palliative care screening. The synthesis of literature review played an important role of a screening tool in identifying patients with PC needs. Tailoring the synthesis of knowledge in identifying the gap in the selection of interventions for implementing the project requires knowledge that can be adapted to a community hospital setting. Assessing barriers including lack of knowledge on PC among the hospital staff was important to target education to facilitate the completion of PC checklist and consultation order. In addition, educating staff pre implementation of the project allows for future awareness and regeneration of new knowledge to sustain and improve integration of palliative care.
Methodology

This DNP project was a quality improvement initiative to ensure standard integration of palliative care among patients who meet the PC screening criteria and to ensure the effective use of palliative care in a community hospital. A quality improvement (QI) methodology is compatible with the aim of this project to improve QoL among hospitalized patients. A quality improvement method facilitates health care providers to identify issues related to patient care and implement interventions that can result in improved patient outcomes (Jones et al., 2019). Nurse practitioners play an important role in bridging gaps in the delivery of healthcare services to patients and could improve quality of care that benefit patients, organizations, and various communities. A quality improvement method can assist in identifying and addressing gaps in healthcare, as well as a guide on how to implement interventions that improve quality of care. In addition, the Institute for Healthcare Improvement (IHI) provides a tool referred to as ‘the plan, do, study, act (PDSA) cycle,’ which can be used by nurse practitioners to improve and standardize processes of care (Jones et al., 2019).

Setting

The setting of this QI project was a 228-bed community hospital in Hudson county, Northern New Jersey, an urban, densely populated region which is also considered one of the most ethnically diverse counties in the U.S. Racial makeup of the county is 64.7% Caucasian, 14.8% black or African American, 42.7% Hispanic/Latino, 16.4% of Asian descent (U.S. Census Bureau, 2019). Hudson County’s total population of 672,391 is considered both the smallest, but also most dense and fastest-growing county in New Jersey (U.S. Census Bureau, 2019). Among residents within the county, 42.8% of the total population were born outside the United States;
59.2% speak a language other than English; 12.9% are without health insurance and are < 65 years old; and 14.3% of people live in poverty (U.S. Census Bureau, 2019).

The key partners instrumental in moving the implementation project forward included the hospital’s chief executive, chief medical officer, and chief nursing officer, as well as the risk management and legal teams. The nurse managers and staff nurses on the two units also played important roles in following protocol and completing PC checklist on admission. In addition to the key partners of the organization, the inpatient nurse practitioners and the palliative care NP played instrumental roles in the implementation of this project and ensuring timely access to PC for patients on the inpatient units with PC needs. The case management director provided access to necessary data including the case mix index and hospital admission and readmission reports. The quality and risk management, information technology, and medical records departments were valuable resources for the implementation of this project.

**Study Population**

The study population included all hospitalized adult patients admitted to the 29-bed telemetry and 36-bed Medical-surgical unit. A quantitative, non-probability convenience sampling of patients within the two in-patient units, having a maximum bed capacity of 65 and average daily census of 55, were included. Based on the average length of stay, patient admission status, and inclusion criteria a total number of 449 patient charts were reviewed retrospectively and prospectively. One of the advantages of convenience sampling is that it is a cost-effective, simple, and efficient way of implementing a project and has more generalizability in comparison to a probability sampling method (Jager et al., 2017). A disadvantage of convenience sampling is its lack of random sampling. It can sometimes be open to selection bias and error (Jager et al., 2017).
The inclusion criteria for identifying patients in need of PC was based on a previously embedded palliative care screening trigger tool in the EMR (see Appendix C). Inclusion criteria for the screening tool focused on the physical, psychological, emotional, and spiritual needs of patients with chronic, debilitating or life-threatening illness and their families and caregivers. The inclusion criteria included patients over the age of 18; second hospitalization in two months; age >85; admission from a subacute rehab center; metastatic or recurrent cancer, COPD with continuous home oxygen or history of mechanical ventilation; advanced heart disease (recurrent CHF, EF < 20%); advanced dementia (<6 intelligible words, delirium, significant weight loss or dysphagia); decubiti ulcer; end-stage liver disease (ESLD) with encephalopathy; those surviving cardiac arrest; with the patient and/or family in need of goals of care and advance care planning discussions; patient or family requesting a PC consult; and hospital admission reason for pain or dehydration related to the conditions listed above (see Appendix C). Exclusion criteria included all pregnant patients, patients admitted for 24-hour observation on the units, and all patients for same-day or elective procedures.

**Subject Recruitment**

Delivery of information about the project was through staff education, educational materials, and flyer reminders on the units. Education and reinforcement of the project required the participation of staff on the in-patient units to implement a new standardized process to meet PC needs for patients. Approximately 30 nursing staff, eight physicians, and four nurse practitioners received information about the project. Information about the QI project was discussed during daily interdisciplinary rounds where handouts of the PC screening tool in the EMR was provided to staff. Educational materials on palliative care and the existing screening tool in the EMR was distributed and presented to staff on the units. Flyers were also posted on
the units as a reminder for staff to complete PC checklist and nursing referral for all admitted
patients on the inpatient units. Direct discussion of the project with the inpatient NP and
palliative nurse practitioner occurred during daily interdisciplinary rounds. The in-patient nurse
practitioners on the units were included to facilitate the standardized process ordering of a PC
consult in the EMR for patients meeting the criteria. The primary reason for utilizing nurses and
nurse practitioners is their expertise in meeting the demands of patients and families with a
holistic approach.

**Consent Procedure**

Data were collected through a chart review. No recruitment of subjects was involved in
this QI project. All patient information was fully encrypted, protected, and maintained as
confidential by following IRB approved protocol.

**Risks and Harms**

This project involved minimal to no risks as the study activity was a retrospective chart
review, and the care is considered standard in accordance with PC clinical practice guidelines.
Data collected were deidentified so there would be limited risk for inadvertent sharing of
personal health information. Only data in accordance with IRB approval was collected from the
EMR for this project. All deidentified data were stored in a secure, password-protected cloud-
based program accessible only to the DNP project team. In addition, there were no direct benefits
to the participants, except for the study’s benefit to other institutions in streamlining a similar
process to improve access to PC. No compensation was provided to hospital staff involved in this
project, or to the project leader or team members.
Study Interventions

Retrospective chart review of all patients admitted to the telemetry and medical-surgical units during the month of April and May, pre- and post-intervention, was conducted. The data collection tool can be found in Appendix D.

Information about the project was presented during interdisciplinary rounds on both in-patient units along with the distribution of education materials on palliative care education. Supplemental handouts of the palliative care screening tool along with reminder flyers were posted in the designated units (See Appendices E & F). Education and reinforcement messages regard the project with the nursing and medical staff lasted for a total of one week. One week following staff education, the new standardized process was initiated for patients on the two units. The project required a total of nine weeks for implementation and data collection, including the allocation of one week for education and eight weeks of retrospective chart review. During the intervention period, retrospective chart review of all patients admitted to the units during the month of April was conducted. After one month of implementation of the new standardized process, another retrospective chart review process was conducted for all patients admitted to the same inpatient units. Patients with a palliative care screening score > 3 triggered a nursing referral for a palliative care consultation. Nurses and nurse practitioners on the unit received education on entering orders for palliative care services on all patients that met criteria. Patient charts were reviewed for consultation by the palliative care nurse practitioner within 48 hours of hospital admission and documentation of advance directives. Completion of palliative care checklist, nursing referral, consult orders, and documentation of charts were reviewed.
Outcomes Measured

The primary outcome measured for this project was the number of patients with a palliative care referral and consultation order within 48 hours of hospitalization. The secondary outcome was the PC consultation with documentation of advance directives in the EMR within 48 hours of inpatient admission. All patients admitted to the in-patient units were measured for a completed, thorough palliative nursing referral checklist upon admission. The percentage of patients with a completed PC checklist, nursing referral, consult order, consult, and documentation of advance directives with code status in the EMR was measured. The causal relationship between PC consultation and documentation of advance directives in the EMR was compared with individuals without a PC consult.

Project Timeline

Planning and development, implementation, and dissemination of findings of this project occurred over a nine-month period (see Appendix G). After final presentation, the goal of the project is to disseminate results to the hospitals within the health care system of the project site and within the professional nursing community.

Resources Needed

Resources needed for this quality improvement project were the approval, support, and guidance from the faculty chair, team members, and the leadership and legal administrative teams. Support from the staff nurses, nurse practitioner, and physicians were essential toward implementing this project. The information technology and medical records department played a major role, and materials for providing in-service to medical and nursing staff required the time and assistance of the administrative staff. Scheduling meeting with the medical and nursing staff
required arranging for meeting availability. Refreshments, paper handouts, and poster presentation boards were used during education sessions and meetings (see Appendix H).

**Evaluation Plan**

This project was evaluated for change in practice after a standardized process of identifying patients with PC needs. The retrospective chart reviews pre- and post-implementation were successful in increasing the number of PC consultation orders and referral and documentation of advance care planning. In addition, the extent of staff knowledge and perception of palliative care after education and reminders was effective in narrowing the gap. The number of completed PC consults and orders within 48 hours of hospital admission significantly increased after the implementation phase. The timeliness of palliative care referrals and consults within 48 hours was evaluated pre- and post-intervention. The number of patients with a completed PC nursing referral with consult orders were compared pre- and post-intervention. The causal relationship between advance directives documentation and PC consultation was compared to individuals without a PC consultation. The number of advanced directives and code status order in the EMR were evaluated pre- and post-intervention. The expected increase in the number of PC consults after implementation was 20% in the inpatient units.

**Data Analysis**

A quantitative descriptive analysis of the data was conducted using Excel and SPSS. Preliminary analysis of data included clearing for code errors, missing values, and outliers. Descriptive analysis of the number of PC screening referrals, time from initial referral to consult, and number of consults and referrals were analyzed. Data were collected, coded, and entered in Excel during the total of 9 weeks pre- and post-implementation. A pivot table in Excel was used
to analyze all variables to compare percent change and absolute change pre- and post-intervention. Data were interpreted and synthesized in charts and graphs.

**Data Maintenance & Security**

Data safety and confidentiality was maintained pre- and post-project implementation. Data were encrypted and stored in cloud storage only accessible to members of the project team. Anti-malware software and operating system updates were installed to prevent risk of data loss. At the conclusion of the project aggregate data will be stored on an encrypted flash drive and stored at the Rutgers School of Nursing. Upon completion of the project, closure of IRB, and final writing of the project, data would be destroyed in accordance with Rutgers School of Nursing guidelines.

**Results**

A total of 449 patients were admitted to the inpatient units with 242 patients in April, and 207 in the month of May. Of the total 449 patients, 418 (93.1%) had a completed palliative care checklist upon admission to both inpatient units. The percentage of patients with a completed checklist on admission was 95% in April and 90.8% in May. Pre- and post-intervention the number of patients that met criteria for a palliative care referral were (n=41, 16.9%) in April and (n=54, 26.9%) in May (see Appendix I). The number of palliative care consult orders among this group of patients with a score > 3 was (n=18) in April and (n=48) in May. The proportion of palliative care consult orders significantly increased from 7.4% in April to 23.2% in May (p=0.0001) after the new standardized process and intervention (see Appendix I). A total of n=48 in May were evaluated by the palliative care nurse practitioner and had documentation of advanced directives in comparison to n=18 in April, with an absolute change of n=30. The number of incomplete nursing referral for a palliative care consult showed no difference between
the two months, 13% in April and 14% in May, revealing poor compliance in sending notifications to providers to place a consult order. The number of patients meeting criteria without a palliative care consult was n=6 in May and n=23 in April, respectively. Timely consultation within 48 hours of hospital admission had no significant difference between the two months, (n=2; n=3) in April and May, respectively. This quality improvement project led to a statistically significant increase in the number of palliative care consultation orders and screening of patients in need of palliative care services. In addition, the number of patients evaluated by a palliative care nurse practitioner increased significantly along with advance directive discussion and code status documentation.

Discussion

Key Findings

Integration of a standardized palliative care screening process in an inpatient unit led to an increase in the number of PC consult orders, referrals, and documentation of advance directives. The key results of the project aligned with the current literature identifying palliative care as a core component of improving patient outcomes. Standardizing the use of a screening tool increased the number of PC consults in the inpatient units, in addition to establishment of advance directives. Like the literature review, code status and advance directives to address goals of care significantly increased post implementation for patients evaluated by the PC nurse practitioner (Ma et al., 2019). Results of this project is like a quality improvement study in a community hospital where implementation of a PC screening tool increased the number of consults and referrals (Churchill et al., 2020). Although the impact of PC on cost, readmission was not evaluated in this project, consistent across all the literature review is that PC has a positive impact on QoL and decrease resource utilization.
Incomplete PC referrals pre- and post-implementation had poor compliance. There were 14.5% incomplete nursing referrals in May and 12.8% in April. However, of the 26.1% of patients with a positive PC screening score post-implementation, 23.2% had a consult order and documentation of advance directives in comparison to only 7.4% pre-intervention with a consult order. Timeliness of consultation within 48 hours of hospital admission was not significantly different pre- and post-implementation. Despite the number of incomplete nursing referrals, patients with a positive PC screen post-implementation had consult orders and advance directives documentation. The significant increase was due to education, reminders, and monitoring from the staff and the NP during project implementation.

An analysis of the strengths, weaknesses, opportunities, and threats (SWOT) of this community hospital setting was completed to assess the organization’s receptiveness to implementation of the project. Strengths within the organization included an existing palliative care screening trigger tool within the EMR for completing once patients are admitted to the inpatient unit. The daily interdisciplinary rounds conducted on the units along with availability of a palliative care nurse practitioner was an important resource. The nurse practitioners (NPs) working in the in-patient units coordinate patient care and were valuable in the process of standardizing and implementing the project. In addition, having access to and anticipated support from leadership staff including the chief nursing officer was key in approval and implementation of the project.

The small setting of a community hospital allowed for easier access to resources including leadership, information technology, and quality improvement. Factors that facilitated successful implementation of the project were having access to a palliative care nurse practitioner and the nursing palliative screening tool embedded in the EMR. In addition, nurse
practitioners for the in-patients coordinated services for majority of the patients and attended daily interdisciplinary meetings. A small-sized community hospital had the advantage of fostering a positive environment with a highly engaged team, which led to fewer communication and process barriers. The leadership team was easily accessible, and the relatively small size of nursing staff made it feasible to provide education and implement change to improve patient outcomes.

Internal weaknesses associated with implementation of this quality improvement project included the lack of a palliative care team, an older EMR system, and the lack of an institutional review board to approve applications for project implementation. The lack of an institutional review board and a protocol for implementation of this quality improvement project in turn led to delays in implementation. Delays in referral and consultation from the PC nurse practitioner sometimes extended beyond the 48-hour time frame during the weekends due to lack of full coverage. The EMR system only allowed for notifications to be sent to the admitting physicians after a PC screen was completed upon admission, which in turn led to major delays for consult orders.

A palliative care trigger checklist was created in the electronic medical record and included in the admission database for nurses to complete the screening checklist. However, the number of patients identified and referred to palliative care was significantly lower than expected based on the screening criteria. The lack of standardization of the palliative care screening process created a gap in providing skilled, effective palliative care to patients. Despite the enormous impact and overwhelming positive evidence-based outcomes of palliative care, these services within our healthcare system were underutilized. Increasing the number of palliative care referrals through a standardized process and full use of a palliative care screening tool in
EMR admission database led to early identification of patients. In addition, embedding palliative care services to patients and families as part of standard clinical practice within the hospital prevents and relieves suffering.

**Facilitators and Barriers**

The support of leadership, nursing staff, and nurse practitioners working on the unit played an essential role in the project. The nurse practitioners were the primary providers for the patients on the inpatient units. The daily follow up and ordering of consults by the NPs facilitated and allowed the project to be streamlined. One of the barriers was the lack of flexibility in changing notifications in the EMR system. The EMR lacks the capability to send automatic referrals on all patients with a positive PC screen to the PC nurse practitioner. Future opportunities and implications for practice change in this setting would be to change protocol to allow staff nurses to place a consult order in the EMR and bypass the extra step of a nursing referral and provider notification.

Barriers within the organization included lack of knowledge and perception of palliative care as “end of life” among staff and the lack of a sufficient palliative care team when compared to large, tertiary institutions. A few members of the medical staff were hesitant to order a palliative care consult and delayed the process until the patient was actively dying. Barriers to implementation, especially during the current pandemic were nursing staff shortage on the units, and given such time constraints, staff might bypass the admission PC assessment. An additional barrier included lack of knowledge among staff in understanding the purpose and goal of palliative care. The use of a standardized palliative care referral system led by NPs in communication with the medical staff prevented delays in providing quality care to patients in need of palliative care services. The inpatient NPs received education to ensure all patients with
a positive PC trigger score greater than three notified the PC nurse practitioner along with an order for consult in the EMR. Nurse practitioners were primarily available during the weekdays; therefore, the time from referral to PC consult extended beyond forty-eight hours during the weekend.

**Opportunities**

The current COVID-19 pandemic created an opportunity to expand the course of palliative care services for hospitalized patients. The devastating effect of COVID-19 including acute respiratory distress experienced by patients brought awareness to staff members to anticipate the possibility of the worst outcomes, highlighting the importance of early palliative care involvement. Opportunities associated with this project included revising the current hospital protocol for PC screening to bypass the notification process and enter a PC consultation order for all patients with a PC screen score greater than three in the EMR. After completion of the PC screening checklists and identifying patients who meet criteria, allowing the primary nurse to enter a PC consult order would prevent delays and lead to early consultation. In addition, there is an opportunity to initiate early PC screening starting in the emergency room and the intensive care unit as an evidence-based approach in early identification of patients in need of PC.

**Limitations**

Limitations of the project include lack of resources, with one nurse practitioner coverage during the weekday leading to delays in referral and consults. Palliative care triggers can also except NP capacity due to lack of a PC team in the setting. Limitations in the EMR included lack of flexibility in making changes in sending notifications in the EMR system. The EMR lacks the capability to send automatic referrals on all patients with a positive PC screen to the PC
nurse practitioner. Obtaining a PC consult order for patients with a positive screen requires multiple steps in the EMR. In addition, notifications sent to the attending physicians have a low rate of consult order, which further impedes timely referral leading to delays in consultation. In addition, due to current COVID pandemic, staff time constraints and lack of resources lead to delays in referral. Nurses are over-burdened with EMR documentation and can lead to bypassing or inaccurate completion of the PC screening tool. Future opportunities and implications for practice change in this setting would be to change protocol to allow staff nurses to place a consult order in the EMR and bypass the extra step of a nursing referral and provider notification.

**Implications**

**Clinical Practice**

This quality improvement project used a rigorous method to identify patients in need of palliative care services to ensure delivery of quality care that aligns with national guidelines for improving patient outcomes. A standardized process to increase access to palliative care in this inpatient setting significantly improved the number of patients evaluated by a PC nurse practitioner. In addition, the objectives and achieved outcomes of this project are applicable to a variety of in-patient units within the hospital, including the emergency room and intensive care units. The number of palliative care consult orders and advance directives significantly increased post implementation, however, the number of incomplete and missing nursing referrals pre- and post-intervention had minimal changes. There were no significant changes in the number of palliative care nursing referral among individuals that met the criteria.
**Healthcare Policy**

The National guidelines for PC are based on current research and evidence, which support the need for early integrating screening of patients for PC need among all settings across the community in improving quality of life (NCHPC, 2018). More recently in New Jersey, the enactment of the Palliative Care Law will allow better access to palliative care services for state residents, since it has a goal of establishing a system screen to identify patients who can benefit from palliative care (American Cancer Society, 2019). Widespread dissemination of information regarding palliative care could further improve much-needed resources for PC. Many healthcare settings lack a palliative care team as well as have a shortage of PC providers. Continued research is needed to build the current evidence of how PC as a service can improve quality of life. Further legislation to address gaps in providing access for patients and training for healthcare providers is essential. In addition, changes in the current organizational policy for ordering palliative care consult should be updated. The currently policy only allows the attending physician to order a PC consult once they receive notification in the EMR. These notifications are not addressed and lead to delays or lack of order for PC among patients with PC needs. Changing the current policy to allowing staff nurses to order PC consult on patient with a positive screen will prevent delays and address the PC needs of patients and families.

Addressing gaps in legislation as well as including palliative care in the academic curriculum for nurses, physicians, and residents is also necessary. The current shortage of palliative care providers can be addressed with nurse-led palliative care programs that use education and support. One recent legislation to address this gap is the passage of the PC and Hospice Education and Training Act (H.R. 647), which would promote palliative care education and research in addition to supporting the development of faculty careers in palliative medicine.
In addition, the bill proposes increasing the number of faculty within the multidisciplinary fields in professional schools of health care, nursing, and medicine. The current shortage of medical providers who prescribe palliative care and related services is particularly acute in rural and suburban areas.

**Quality & Safety**

The palliative care model involves interdisciplinary teams of healthcare workers including nurses, physicians, social workers, chaplains with the primary goal of improving quality of life. In addition to pain and symptom management, PC incorporates a holistic approach to address the social, psychological, cultural, spiritual, and ethical aspects of patient care (Kelley & Bollens-Lund, 2018). Hospitalized patients referred to PC services have less symptom burden and better outcomes and improved quality of life (Kelley & Bollens-Lund, 2018). Timely identification of patients with PC needs can help establish advance directives and offer the potential to reduce hospital readmission rates by early referrals to hospice services along with improving patient and family satisfaction.

The health outcomes of patients with serious, life-limiting conditions pose a major safety issue and can lead to poor outcomes. Providing high-quality coordination of care with PC services can improve communication, patient satisfaction, and deter unnecessary, adverse, or aggressive measures toward the end of life. The goal of PC is to provide supportive services and coordinate patient care through utilization of standard protocol to meet the holistic needs of patients and families.

**Education**

Education regarding principles of palliative care and the importance of integrating it as a standard of practice for this project is key in ensuring positive outcomes. Staff education on the
PC screening checklist in the EMR and criteria for PC consultation would further improve the use of PC services in identifying patients with unmet PC needs, and allow nurses, nurse practitioners, and physicians to utilize PC services as standard of care while increasing their knowledge and awareness on the need for early integration. Training health care providers to conduct a thorough patient assessment to address patient symptoms, prognosis, and availability of community support is crucial toward decreasing disease burden.

**Economics**

Early integration of palliative care services has economic implications and the potential for reducing hospital cost. Health care spending is often the highest toward the end of life, especially among patients with chronic, debilitating conditions. Palliative care intervention can lower cost while improving quality of life (Kelley & Bollens-Lund, 2018). In addition, palliative care substantially reduces avoidable hospital spending and utilization of resources in addition to decreasing hospital readmissions and emergency room visits. In the United States, patients living with serious, chronic illnesses account for 10% of the population, however account for 65% of all health care expenditures (CAPC, 2020). Screening patients for PC needs early in the disease process increases quality of life and consequently decreases cost.

**Plans for Dissemination & Professional Reporting**

Dissemination of the quality improvement project include presentation to the DNP team and stakeholders through PowerPoint and poster presentations as part of the requirements for the DNP practice degree at Rutgers University. The project will also be presented during continuing medical education sessions within the hospital. In addition, the report of findings from the project will be posted in the medical and nursing staff lounges, as well as at two facilities within the healthcare organization. Additionally, a poster presentation of the findings will be presented
during orientation of new staff including nurses, medical students, and residents in the institution. A manuscript for publication will be written and submitted to relevant journals. Dissemination of this project will include potential presentations at national conferences such as NJ PC APN Consortium, Hospice and Palliative Care Nurses Association (HPNA) and Advance Practice Nurses of New Jersey.

**Plans for Sustainability**

Based on the results of this quality improvement project to improve standardization of PC in the in-patient units, additional units to implement the project will be identified, including the emergency room and intensive care units. In addition, changes in the EMR to prevent delays in the order of PC consultation would be implemented. Change in hospital protocol can be pursued to allow all patients with a positive PC screen to have a PC consult order instead of a nursing referral to ensure timely access to PC. Ongoing review of literature will be pursued to ensure evidence-based standard of care in improving PC access and services to patients.

The project should play an important role in continued quality improved measures relating to palliative care. Future quality improvement interventions can measure the impact of palliative care on patient’s quality of life and develop further evidence-based protocol to address the needs of patients within the community hospital setting.

**Summary**

Standard integration of palliative care consultation among hospitalized patients with a nurse-practitioner-driven process could ensure effective use of PC services in a community hospital setting. A quality improvement (QI) methodology to integrate PC with hospitalized patients can improve quality of life and outcomes among hospitalized patients. Palliative care is a subspecialty that utilizes a multidisciplinary approach focused on relieving the physical and
psychosocial burden for patients suffering from serious illness. The goal of palliative care is an improved quality of life for patients and families. It is appropriate at any stage during the continuum of patient care and can be provided along with curative treatment.

Following standard of care guidelines for hospitalized patients increases access to palliative care. Utilizing nurses and nurse practitioners to meet the demands of patients and families should be addressed by closing gaps in legislation and by increasing support for education in palliative care. Palliative care interventions include collaboration between the interdisciplinary teams and thus provide an extra layer of support to patients and families. Palliative care offers an interdisciplinary approach to improving care and preventing crises for patients and high risk and reduces the need for costly, burdensome emergency and acute care services. Following national guidelines in screening patients during emergency room and intensive care unit visits can further provide high quality, value-based care.
References


Centers for Disease Control and Prevention. (2012). *Advance care planning: Ensuring your wishes are known and honored if you are unable to speak for yourself* [PDF]. https://www.cdc.gov/aging/pdf/advanced-care-planning-critical-issue-brief.pdf


### Appendix A

**Table of Evidence**

<table>
<thead>
<tr>
<th>Article#</th>
<th>Author &amp; Date</th>
<th>Evidence Type</th>
<th>Sample, Sample Size &amp; Setting</th>
<th>Study findings that help answer EBP question</th>
<th>Limitations</th>
<th>Evidence Level &amp; Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Churchill et al. (2020)</td>
<td>Quasi-Experimental Pilot Study outcome measured pre/post intervention Plan-Do-Study-Act (PDSA) cycles</td>
<td>3 Community hospitals N=82 Patients admitted to inpatient medical and surgical units age &gt;18 Patient cohort based on diagnosis Feb 2016 - Feb 2017</td>
<td>Goal of study was to warrant use of palliative care screening tool (PCST) to increase the number of consults for all patients who met criteria # of palliative consults (PC) pre/post intervention =42.7/47 Increase by 9.2% PC PC within 24 hr. admission increased by 25% 8.3% increase in PC for pt. with non-cancer diagnosis</td>
<td>Results may not be applicable to variable healthcare settings Sample size details not included Lack of detail on specific medical diagnosis No data on readmission rates, cost, advanced directives Uncertainty on whether improvement in quality of life or patient care improved</td>
<td>Level II; B reasonably consistent results, definitive conclusions</td>
</tr>
<tr>
<td>2</td>
<td>Singh et al. (2017)</td>
<td>Retrospective observational study</td>
<td>N=395,411 age &gt;18 with Dx of stroke</td>
<td>24,641 (6.2%) totals received PCE</td>
<td>Use of a large database which relies on</td>
<td>Level II/B; reasonable consistent result, definitive</td>
</tr>
</tbody>
</table>
Based on discharge data from NIS (national inpatient sample) Pearson X2 test to compare palliative care encounter (PCE) vs. none

| 86% ischemic cva 10# ICH 4% SAH | Average age= 70 | Increase PCE from 5.4% to 6.9% between 2010-2012 | Mortality rate decreased from 10.9% to 9.8% P<0.0001 between 2010-2012 | ICD-9 code for medical dx Coding and billing guidelines vary within healthcare institutions reliability of billing/coding

NIS database Hospital setting use of ICD-9 codes for stroke/palliative care encounter PCE associated with less aggressive life-sustaining treatment and shorter LOS OR for rate of PCE lowest 0.62 in blacks, 0.67 in Hispanics, 0.73 in Asians

Hospital LOS 6.8 days (CI 95%) among PCE use vs. 5.7 days OR large hospitals 1.24 vs. 1.1 in community hospital for PCE use Advance care planning, PCE lower in AA population conclusion, enough sample size
<table>
<thead>
<tr>
<th></th>
<th>Kichler et al. (2018)</th>
<th>Retrospective review Quasi-experimental</th>
<th>Total N=131 (N=36 at baseline N=28, N=31, N=35 in 3 months) Setting: community hospital Sample: patients with a diagnosis of COPD Increase # of PC referral for hospitalized COPD patients -reviewed barriers to PC Appropriate patients with PC referral increased from baseline of 10.5% to 38.5% by 3 months in pilot phase ED readmission rates 7.7% vs. 17.2% among PC referred patients Implementing screening tools among hospitalized patients increases PC consult rates</th>
<th>Specific COPD patients Community hospital setting Cost-effectiveness of study</th>
<th>Level II, B Good quality; reasonable consistent result, definitive conclusion, enough sample size</th>
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<tbody>
<tr>
<td>4</td>
<td>Vanbutsle et al. (2018)</td>
<td>Non-blinded randomized controlled trial</td>
<td>N= 186 Age &gt;18 Advanced cancer dx N=92 randomized to receive early PC n=92 standard care Follow up within 12, early PC integration increased quality of life (Qol) at 12 and 18 weeks Improvement in cognitive and physical function no improvement Results and setting of study not generalizable; Belgium vs. US, different patient demographic Selection/staff member bias</td>
<td></td>
<td>Level I/ A High quality: consistent recommendations, thorough reference to scientific evidence</td>
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<td>Setting: single-center University Hospital oncology department in Belgium; in overall survival</td>
<td>Specific group of patients with advanced cancer diagnosis lacks generalizability towards other population</td>
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<tr>
<td>Gemmell et al. (2019)</td>
<td>Retrospective cohort study</td>
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<tr>
<td>Tertiary oncology hospital N=159</td>
<td>Out of 159 patients, 73 (45.9 %) were known to palliative services prior admissions; Utilization of trigger tools potentially could have identified 62-91% of patients as meeting criteria for a PC referral</td>
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<tr>
<td>Patient demographic includes 81.8% white; 18.2 % other; Generalizability of study to an urban community healthcare setting</td>
<td>Patient demographic includes 81.8% white; 18.2 % other; Generalizability of study to an urban community healthcare setting</td>
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<td>Study based on retrospective review of medical records; non-controlled study; excludes patients admitted to ICU; focus on a specific patient population</td>
<td>Level II Quality B</td>
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<tr>
<td>No.</td>
<td>Study Authors and Year</td>
<td>Study Design</td>
<td>Study Population</td>
<td>Evidence</td>
<td>Hospital Site</td>
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<td>6</td>
<td>Quinn et al. (2020)</td>
<td>Cohort study</td>
<td>N=113,540</td>
<td>Evidence in this study supports use of PC trigger tool to improve early identification of cancer patients. Positive impact of standardized palliative care referral trigger tool on early palliative care consultation.</td>
<td>Single academic medical center</td>
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<td></td>
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<td></td>
<td>Age &gt;18 adults with diagnosis of malignancy/chronic life limiting illness. Use of linked clinical and health administrative database in Ontario, Canada between 2010-2015</td>
<td>PC integration among terminally ill patients with chronic organ failure associated with 12% reduction in ER visit; 12% reduction in hospital admission; 41% decrease in ICU</td>
<td></td>
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<tr>
<td>7</td>
<td>Ma et al. (2019)</td>
<td>Single-center cluster randomized crossover trial</td>
<td>n=199 Two medical ICU units</td>
<td>Early DNR/DNI established in intervention vs. control group</td>
<td>Questionable applicability of study to a community hospital</td>
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<tr>
<td>Barnes Jewish Hospital August 2017-May 2018</td>
<td>48.7% assigned to intervention (received PC consultation within 48 hrs. of MICU admission); 51.3% to standard care</td>
<td>P&lt;.0001 (50.5% vs. 23.4%)</td>
<td>Less ventilator days p&lt;.05 (4 vs. 6 days)</td>
<td>Hospice transfer (18.6% vs. 4.9%) p&lt;.01</td>
<td>ED visits/Readmission post discharge (17.3% vs. 38.9%) p&lt;.01</td>
</tr>
</tbody>
</table>
| 8 | Rogers et al. (2017) | Single center RCT PAL-HF  
1 of the first RCT in measuring advanced HF and palliative care | n= 150  
Advanced HF patients  
Control n=75  
Intervention n=75 (PC intervention)  
June 2012 to 2015  
2 QoL measurement  
Kansas City Cardiomyopathy Questionnaire (KCCQ) and Functional Assessment of Chronic Illness Therapy (FACIT-Pal) at 6 months  
Secondary measured Hospital Anxiety Depression scale (HADS) | At 6 months post randomization, PC intervention HF group: increased QoL, spiritual well-being; lower secondary outcomes including depression/anxiety  
Control group vs. Intervention improvement in KCCQ (p=.030) and FACIT-Pal (p=.035) scored at 6 months  
HADS score improvement in Depression/Anxiety (p=.020; p=.048)  
No difference in hospital readmission or mortality rate between control / intervention group | Results from a single-center trial patients’ part of a HF program may not be applicable to general advanced HF patients; control groups in other setting might not have received similar care | Level I Quality Level B |
|   | May et al. (2018) | **Meta-analysis** PC consultation and hospital cost; direct hospital cost and PC relation | n=133,118 retrospective cohort studies; routine hospital database as data sources | **Level III/ B**
|---|---|---|---|---|
|   |   | Multiple settings: community, tertiary, academic, and VA hospitals | Study estimated the association of PCC within 3 days of admission with direct hospital cost among hospitalized patients with chronic significant reduction in cost for patients receiving PC within 3 days of hospital admission, p, =<.001 for both patients with cancer/noncancer diagnosis | Patients with a cancer diagnosis and patients with 4 or more comorbidities had a higher treatment effect in comparison to patients with a non-cancer diagnosis and less than 2 comorbidities
|   |   |   |   | Delineates the need for expanding palliative care services in acute care settings | PCC within 3 days of hospital as a measure
|   |   |   |   | Further need to evaluate effect on readmission |
| 10  | Schoen et al. (2019) | Retrospective cohort study | n=135,197 | Cancer diagnosis most common reason for PC consultation 32%
13.2% with a primary diagnosis of cardiovascular illness
11.3% with pulmonary
9.7% neurology or stroke cases
other complex chronic conditions 8.6%, increased percentage of patients discharged and connected to outpatient supportive services
Symptom burden management |
|     |                |                          | January 2013-December 2017 88 hospitals in the US; Participation of PC teams in the Palliative Care Quality Network (PCQN) Cancer diagnosis most common reason for PC consultation 32%
13.2% with a primary diagnosis of cardiovascular illness
11.3% with pulmonary
9.7% neurology or stroke cases
other complex chronic conditions 8.6%, increased percentage of patients discharged and connected to outpatient supportive services
Symptom burden management |
|     |                |                          | 59 | Data collected by voluntary providers during clinical care; chance of missing data; Lack detailed results on type of hospital setting as many lack resourced of having a PC team |
|     |                |                          | Level II/B |
| or stroke cases | significantly improved: (pain: P < .001; anxiety: $\chi^2 = 2020.7$, $P < .001$; nausea: $\chi^2 = 1311.8$, $P < .001$; dyspnea: $\chi^2 = 1993.5$, $P < .001$) | referrals to hospice decreased (OR, 0.56; 95% CI, 0.51-0.62; $P < .001$). |
Appendix B

The Knowledge to Action Framework

Appendix C

Trigger to Electronic Medical Record

Nursing Referral for Palliative Care

From the Worklist, document the Palliative Care Checklist.

Once documented, the Palliative Care Checklist will generate a Total Score.

Based on the Total Score, the Nursing Referral for Palliative Care order will be triggered. Choose the action of Order Now and click OK.

You will be sent to the Orders. Please complete the normal ordering process.
Appendix D

Data Collection Tool

<table>
<thead>
<tr>
<th>Total Census</th>
<th>Completed PC Checklist</th>
<th>Incomplete PC Nursing Referral</th>
<th>Met PC Nursing Referral Criteria</th>
<th>Number of PC Consult Order</th>
<th>Number of Advance Directives</th>
<th>Number of PC score &gt; 3</th>
</tr>
</thead>
</table>
Appendix E

Supplemental Handout

PALLIATIVE CARE

“Palliative care is an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.” (WHO, 2020)

Integration of a Standardized Palliative Care Screening Process Effects
Appendix F

Reminder Flyer

REMINDER
PLEASE COMPLETE NURSING REFERRAL FOR PALLIATIVE CARE WITHIN 24 HOURS OF HOSPITAL ADMISSION
## Appendix G

### Project Timeline

<table>
<thead>
<tr>
<th>Project Task</th>
<th>Date Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtained support from project site leadership staff regarding the quality</td>
<td>November 1, 2020</td>
</tr>
<tr>
<td>improvement project aim and objective.</td>
<td></td>
</tr>
<tr>
<td>Obtained approval and support from team member CNO to conduct the project at</td>
<td>November 15, 2020</td>
</tr>
<tr>
<td>current site.</td>
<td></td>
</tr>
<tr>
<td>Submitted a proposal draft to project chair and project team.</td>
<td>December 1, 2020</td>
</tr>
<tr>
<td>Revised the project proposal with chair and team member guidance.</td>
<td>January 16, 2021</td>
</tr>
<tr>
<td>Presented the proposal to DNP team chair and team member.</td>
<td>February 13, 2021</td>
</tr>
<tr>
<td>Submitted approved project proposal and supporting documentation to IRB</td>
<td>March 30, 2021</td>
</tr>
<tr>
<td>Revised proposal as directed by IRB with guidance from faculty chair and</td>
<td>April 15, 2021</td>
</tr>
<tr>
<td>team member.</td>
<td></td>
</tr>
<tr>
<td>Submitted revised project proposal and supporting protocol,</td>
<td>April 20, 2021</td>
</tr>
<tr>
<td>documentation to IRB</td>
<td></td>
</tr>
<tr>
<td>Received IRB notification of approval of project.</td>
<td>April 20, 2021</td>
</tr>
<tr>
<td>Began retrospective chart review for April</td>
<td>April 22, 2021</td>
</tr>
<tr>
<td>Education and distribution of flyers, reminders</td>
<td>April 23-30, 2021</td>
</tr>
<tr>
<td>Began data collection and chart review</td>
<td>May 1, 2021</td>
</tr>
<tr>
<td>Completed data collection post intervention</td>
<td>May 31, 2021</td>
</tr>
<tr>
<td>Analyzed and reviewed data pre and post intervention</td>
<td>June 1-July 7, 2021</td>
</tr>
<tr>
<td>Revised and completed final DNP paper</td>
<td>July 25, 2021</td>
</tr>
<tr>
<td>Submitted final power point, DNP paper and poster to faculty chair</td>
<td>July 25, 2021</td>
</tr>
<tr>
<td>Final project presentation to the team and faculty.</td>
<td>August 15, 2021</td>
</tr>
<tr>
<td>Project presentation and dissemination of results to project site members</td>
<td>August 20, 2021</td>
</tr>
<tr>
<td>Complete manuscript for journal submission.</td>
<td>February 2, 2022</td>
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### Appendix H

**Project Budget**

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<th>Item</th>
<th>Total Cost</th>
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<tr>
<td>Refreshments</td>
<td>$130</td>
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<tr>
<td>Paper Handouts</td>
<td>$12</td>
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<tr>
<td>Poster Presentation Board</td>
<td>$14</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$156</strong></td>
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### Appendix I

#### Proportions of Palliative Care Consultations

<table>
<thead>
<tr>
<th>Month</th>
<th>Total Census</th>
<th>Completed PC Checklist</th>
<th>Incomplete PC Nursing Referral</th>
<th>Met PC Nursing Referral Criteria</th>
<th>Number of PC Consult Order</th>
<th>Number of PC Consults</th>
<th>Number of Advance Directives</th>
<th>PC score &gt; 3</th>
</tr>
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<tbody>
<tr>
<td>May</td>
<td>207</td>
<td>188</td>
<td>30</td>
<td>54</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>54</td>
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<tr>
<td>April</td>
<td>242</td>
<td>230</td>
<td>31</td>
<td>41</td>
<td>18</td>
<td>18</td>
<td>18</td>
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<td>May</td>
<td>100%</td>
<td>90.8%</td>
<td>14.5%</td>
<td>26.1%</td>
<td>23.2%</td>
<td>23.2%</td>
<td>23.2%</td>
<td>26.1%</td>
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<tr>
<td>April</td>
<td>100%</td>
<td>95.0%</td>
<td>12.8%</td>
<td>16.5%</td>
<td>7.4%</td>
<td>7.4%</td>
<td>7.4%</td>
<td>16.9%</td>
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<td>% Change</td>
<td>0%</td>
<td>-4%</td>
<td>2%</td>
<td>9%</td>
<td>16%</td>
<td>16%</td>
<td>16%</td>
<td>9%</td>
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<td>Abs Change</td>
<td>-35</td>
<td>-42</td>
<td>-1</td>
<td>13</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>13</td>
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</table>

#### Palliative Care Consults > 48 hours

- **May:**
  - Incomplete Checklists: 9%
  - Incomplete Referrals: 14%
  - Met PC Nursing Referral Criteria: 26.1%

- **April:**
  - Incomplete Checklists: 5%
  - Incomplete Referrals: 13%
  - Met PC Nursing Referral Criteria: 16.5%

#### PC Consult Orders

- **May:**
  - Total Census: 207
  - PC Consult Orders: 48

- **April:**
  - Total Census: 242
  - PC Consult Orders: 18

- Abs Change: -35
<table>
<thead>
<tr>
<th>Description</th>
<th>May</th>
<th>April</th>
<th>ABS Change</th>
<th>April</th>
<th>May</th>
<th>April</th>
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<tbody>
<tr>
<td>Total Census</td>
<td>207</td>
<td>246</td>
<td>-99</td>
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<td>Completed PC Checklist</td>
<td>198</td>
<td>250</td>
<td>-42</td>
<td>91%</td>
<td>93%</td>
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<td>Incomplete or Missing PC Checklist</td>
<td>19</td>
<td>16</td>
<td>3</td>
<td>9%</td>
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<tr>
<td>Did Not Meet PC Nursing Referral Criteria</td>
<td>134</td>
<td>189</td>
<td>-55</td>
<td>705%</td>
<td>1181%</td>
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<td>Met PC Nursing Referral Criteria</td>
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<td>41</td>
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<td>284%</td>
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<td>10</td>
<td>14</td>
<td>125%</td>
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<td>158%</td>
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<td>Consults Resulting in Advance Directives</td>
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