

DEVELOPING A PALLIATIVE CARE SCREENING PROCESS IN THE INTENSIVE
CARE UNIT

by

Sarah C. Barker

A doctoral scholarly project submitted to the faculty of
The University of North Carolina at Charlotte
in partial fulfillment of the requirements
for the degree of Doctor of Nursing Practice

Charlotte

2018

Approved by:

Dr. Charlene Whitaker-Brown

Dr. Susan Lynch

Dr. Rosemary Hopcroft

Dr. Charles Frankhouser

©2018
Sarah C. Barker
ALL RIGHTS RESERVED

ABSTRACT

SARAH C. BARKER. Developing a palliative care screening process in the intensive care unit. (Under the direction of DR. CHARLENE WHITAKER-BROWN)

Early access to palliative care provides many patient centered benefits and healthcare cost savings. Among the number of chronically ill patients who die in intensive care, only a minority receive palliative care services. Experts recommend universal palliative care screening in hospitals to promote early recognition and intervention. The feasibility of implementing a palliative care screening tool was examined on an 8 bed intensive care unit at a rural hospital located in Central Piedmont North Carolina. Referral rate data was also collected. Nurses implemented screening during a 4-week period using a standardized tool. Screening results were communicated to attending physicians. Anecdotal comments were also collected from the staff regarding the process. Forty total patients were admitted and 62.5% were considered for screening by the staff. Eight patients were screened using the tool, and of those only 4 scores were communicated to attending physicians. Nursing staff had positive comments about the tool and recommended adding it to the admission assessment process. Referral rate did not change. There were limited conclusions that could be made about feasibility based on the small sample size. More data is needed, however future projects may focus on comparing multiple tools, evaluating nurse-identified barriers, or examining physician communication processes.

TABLE OF CONTENTS

CHAPTER I	1
Nature of the Project	1
Introduction	1
Problem	1
Significance	1
Clinical Question	4
Project Objectives	4
Scope of Project	5
CHAPTER II	7
Literature Review	7
Palliative Care	7
Quality of Care	9
Cost Effectiveness	10
Barriers	12
Clinical Recommendations	13
Feasibility	15
Theoretical Framework	16
CHAPTER III	18
Project Design/Methodology	18
Setting	18
Subjects	18
Tools	19
Intervention and data collection	20
Timeline	21
Confidentiality Precautions	21
Project Analysis	22
CHAPTER IV	23
Project Findings	23
Descriptive Results	23
Qualitative Results	23
Additional Findings	24
Analysis	25
Discussion of Results/Limitations	26

Staff impressions/utilization	26
Identified barriers to implementation	26
Interpretation of screening data	27
Lessons learned	28
Feasibility	29
CHAPTER V	30
Implications	30
Summary	30
Recommendations/Sustaining the Change	32
References	34
APPENDIX A: SCREENING TOOL	42
APPENDIX B: DATA SHEET	44
APPENDIX C: SCREENING DATA	45
APPENDIX D: STAFF COMMENTS	46
APPENDIX E: DESCRIPTIVE TABLE	47
APPENDIX F: STATISTICAL TABLES	48

Developing a Palliative Care Screening Process in the Intensive Care Unit

Chapter I

Nature of the Project

Introduction. Intensive care is a fast-paced healthcare environment, characterized by chronic and life-threatening illness. While goals of care in the intensive care unit (ICU) often involve a curative approach, efforts are sometimes futile (Lapp & Iverson, 2015). The mortality rate during or after admission to intensive care is estimated to be as high as 20% (Jenko et al., 2015). Chronic disease management often requires patients and families to spend months to years dealing with difficult care decisions and heavy symptom burden before end of life. Having the option of specialty consultation with a palliative care provider is particularly valuable in the ICU, as it adds a holistic care management approach, as well as multiple patient-targeted benefits for critically ill patients (Jones & Bernstein, 2017).

Problem. In most hospitals in the United States, palliative care referral requires a request from the attending physician. As a result, patient access to palliative care is variable due to physician awareness, training, and practice patterns. Recent proposals have called for universal patient screening in hospitals and other care settings to promote early recognition and intervention (Center to Advance Palliative Care, 2017; Meier, 2011). Clinical screening criteria, sometimes called “triggers” were developed by experts in both palliative care and critical care to help standardize access to palliative care for hospitalized patients (Karlen et al., 2015). This scholarly project examines the feasibility of implementing screening using clinical criteria or a “trigger” tool in an 8 bed ICU.

Significance. Early access to palliative care is shown to offer beneficial outcomes related to quality patient care and health care costs. Research suggests that these benefits

include greater patient satisfaction, improved symptom management, a better chance of dying in the place the patient chooses, and enhanced communication with their doctors (Meier, 2011). There is data that suggests early initiation of palliative care prolongs life when compared with usual care (Gade, et al., 2008; Meier, 2011). Also, when palliative care is examined from a financial standpoint, the benefits are not limited to patient care. There are financial incentives in the form of cost avoidance for hospitals as well (Jones & Bernstein, 2017; Smith & Cassel, 2009). For example, Meier & Beresford (2009) suggested that depending on the patient mix, hospitals can save between \$1,700 and \$4,900 per admission. Other cost avoidance examples include reduced length of stay (LOS) and cost savings of approximately \$2000 per day when a patient is transferred from intensive care to a palliative care unit (Smith & Cassel, 2009).

Despite the known value of palliative care in the United States, utilization is often inconsistent; therefore, palliative care providers are not utilized to the fullest potential in the treatment of chronically ill adults (Gomes, Calanzani, Curilae, McCrone, & Higginson, 2014; Meier, 2011). Not surprisingly, among the number of chronically ill patients who die in the ICU, only a minority receive palliative care. At a South Texas Veterans Hospital in 2010, only five percent of patients who died in the ICU during a four-month period received a palliative care consultation (Villarreal, et al., 2011). Palliative care professionals are increasing efforts to expand their role in acute care hospitals to help direct more focus on quality of life for patients while they are receiving curative treatments. Palliative care providers previously only treated patients at end of life, but are now providing symptom management, assisting with decision making, and

facilitating communication between patients, families, and physicians during the initial phases of chronic disease (Weissman & Meier, 2011).

Unfortunately, palliative and hospice care referrals in hospitals are initiated far too late during the course of illness for patients to receive optimal benefit (Gade, et al., 2008). Clinician practice patterns currently do not reflect how palliative care is considered equally as important as diagnosis and treatment in the management of chronic illness (American Academy of Hospice and Palliative Medicine, 2016; National Council for Palliative Care, 2016). As a result, patients and families often report feeling pressure to continue unwanted life-sustaining treatments, particularly in the hospital setting.

Some of the primary barriers to quality palliative care include variability in access due to geography or other characteristics, lack of knowledge and research, and inadequate workforce (Meier, 2011). In the hospital setting, other barriers may include physician attitudes about palliative care, insufficient knowledge by the medical staff, unwillingness to end treatment, or denial of the fatal nature of the disease by patients or families (Miyashita & Hirai, 2008; Prizerm et al., 2017). One recommended strategy to address lack of knowledge and physician attitudes is to institute a standardized process for all patients admitted to acute care facilities with long standing chronic disease. Expert organizations including the Center to Advance Palliative Care (CAPC) and the National Comprehensive Cancer Network (NCCN) recommend screening all patients for palliative care needs and referring them to specialist palliative care (SPC) if criteria is met (Glare, 2014; Glare, et al, 2013; Weissman & Meier, 2011). Lapp & Iverson (2015) focused their research on the evidence-based CAPC criteria. Recognizing there was no standard screening instrument for the ICU in existence, they created and implemented a tool

adapted for the ICU based on the collection of CAPC screening criteria. Results of the study suggested that the number of CAPC screening criteria met positively correlated with a patient's mortality risk in the ICU. No other outcomes were measured in this study. The researchers recommended utilizing a CAPC based screening tool as a feasible intervention to improve palliative care and alert providers of patients who are at risk for mortality in the ICU. In review of the literature, there are various healthcare settings, both inpatient and outpatient across the United States where standardized palliative care screening has been implemented based on the CAPC recommendations and screening criteria (Center to Advance Palliative Care, 2017; George, et al., 2016; Karlen, Wolf, Hitchcock, & Kehl, 2015; Meier D.E., 2011).

Clinical question. Among patients aged 18 years and over with a diagnosis of heart failure, chronic kidney disease, stroke, dementia, or chronic obstructive pulmonary disease who are admitted to the Intensive Care Unit during a four week period, is it feasible to implement a standard palliative care screening process, and will this impact hospital palliative care referral as compared to a four week period with no screening process in place?

Project Objectives. The primary objective of this quality improvement project was to evaluate the feasibility of a systematic palliative care referral process for newly admitted patients to an Intensive Care Unit (ICU). The principal investigator implemented an evidence based screening instrument to be used by nurses to conduct screening for palliative care needs during the admission assessment. The screening instrument assisted nurses in identifying patients with palliative care needs by using clinical criteria or "triggers" that were included within the tool. Once identified by

nursing, screening results were shared with the patient's attending provider. The effectiveness of the screening process was evaluated by analyzing several measures. These included the number of patients who met criteria, the number of patients approached for screening, the number of patients screened, rate of physician notification of scores, and finally the number of palliative care referrals ordered. Another major objective was increasing knowledge among nurses and providers about the clinical criteria for palliative care referral through consistent use of the screening tool and frequent communication among nurses and providers.

Scope of Project. This project was implemented in an 8 bed ICU at a small, rural hospital. The hospital, located in the central piedmont region of North Carolina, is a 130 bed for-profit hospital whose mission is to provide quality healthcare to surrounding counties. The administrative staff at the hospital values providing care that is high quality, cost effective, and evidence based. At the time of project implementation, there was no palliative care screening process in place in any department of the hospital to identify patients who may benefit from palliative care services. Patients were previously assessed for discharge needs by nurses, discharge planners, and the attending providers on an ongoing basis throughout admission. Palliative care referrals were ordered based on the medical judgement of the attending physicians. Once a referral was made, a palliative care consultant either visited patients while they were still hospitalized or after discharge. All palliative care referrals required an order signed by the attending provider.

Palliative care referral did take place at a steady rate from the hospital prior to implementation of the project. A retrospective look at the 2015 quarterly scorecards provided by the local hospice and palliative care organization showed there were only 2

palliative care referrals from the hospital in the third quarter. However, referrals steadily increased without any systematic screening process in place. In the month of May alone there were 7 referrals in 2017.

Chapter II

Literature Review

With a growing body of evidence indicating that the use of palliative care is beneficial for both patient outcomes and cost effectiveness, attempts have been made to implement palliative care screening at hospitals and a variety of other care settings to increase utilization. This review examines these approaches and focuses on palliative care in the ICU, implementation of clinical recommendations, and feasibility.

A literature review was conducted using the Cochran Database of Systematic Reviews, PubMed, and CINAHL using key words palliative care screening tool/instrument, palliative care referral/consultation in the ICU, palliative care cost effectiveness, CAPC criteria, palliative care triggers and feasibility, and palliative care quality of care. This review introduces the medical specialty of palliative care and how it affects quality of care and cost effectiveness. It further examines barriers to patient access to care, clinical recommendations, and finally the feasibility of implementing screening hospitals.

Palliative care. The World Health Organization (WHO) defines palliative care as an approach that improves quality of life through the prevention and relief of suffering for patients and families facing life-threatening illness (World Health Organization, 2017). Other professional organizations such as the CAPC, the American Academy of Hospice and Palliative Medicine, the National Hospice and Palliative Care Organization, and the American Medical Association have common themes within their description of palliative care. Major points commonly described are the relief of pain and other symptoms, optimizing quality of life, an interdisciplinary team care approach, and the

importance of prevention and early access to care (American Academy of Hospice and Palliative Medicine, 2017; American Medical Association, 2017; Center to Advance Palliative Care, 2017; National Hospice and Palliative Care Organization, 2017; World Health Organization, 2017).

A majority of adults will develop at least one chronic disease they will live with for a number of years. Consequently, many patients and their families will eventually be burdened with heavy care responsibilities (Morrison & Meier, 2011). In addition, the rise of aging populations has led to global increases in healthcare costs (Daverson, et al., 2015). In response, palliative care programs have experienced rapid growth to address the needs of people living with serious, complex illness (Morrison & Meier, 2011). Palliative care providers, sometimes working as part of a team which may include a nurse, social worker, chaplain, or therapist treat patients with progressive, life threatening diseases such as cancer, heart disease, kidney failure, dementia, chronic obstructive pulmonary disease (COPD), Amyotrophic Lateral Sclerosis (ALS), Parkinson's, and others (Center to Advance Palliative Care, 2017; Karlen, et al., 2015; Jenko, et al., 2015; Meier, 2011).

Patients and families in ICUs face many difficult care decisions. The emotional cost of mechanical ventilation and other intensive care therapies is high. Families of patients with irreversible illness are confronted with the painful decision to withdraw or withhold life-sustaining treatment (Jenko et al., 2015). This constitutes a dilemma for the healthcare provider, the hospital, and everyone involved. Rady (2004) suggested that there is a trend in the ICU for patients with incurable advanced disease to be admitted for life-sustaining treatment without substantial evidence of benefit. He further suggested

that inappropriate use of the ICU for expensive, unproven care at the end of life instead of palliative care is a shared responsibility of both the medical profession and the community.

The SUPPORT trial, a large prospective study of 9,000 end-of-life care patients receiving care at five hospitals in the 1990's, further illustrates the importance of early palliative consultation and is an important reference in the field of palliative care. The study results showed that in the last 3 days of life, half of the patients experienced moderate to severe pain more than 50% of the time. Further, 38% of those who died spent more than 10 days in the ICU, in a coma, or on a ventilator. In further investigation, more medical care also lead to lower satisfaction with care (SUPPORT, 1995). The results drew international attention because they highlighted a gap between the medical care patients want at end of life and what they receive, thus painting a sobering picture of how end of life looks for patients with serious illness in the absence of palliative care (Gunten, 2012).

Quality of care. The benefits of proactive use of palliative care are certainly evident. In an in-depth literature review on the impact of palliative care on the US healthcare system, Meier (2011) found that palliative services are known to improve symptom burden, such as pain and other distressing symptoms in the chronically ill. Symptom improvement is accomplished through use of an interdisciplinary team that provides several interventions, including assessment and treatment of symptoms, matching treatments to patient and family goals, identifying community resources, and mobilizing practical aid for patients and caregivers (Meier, 2011; Jenko, et al., 2015). In a study done in a large academic hospital in California, Ciemins et al. (2007) found that

pain, dyspnea, and secretions were reduced by large percentages, 86%, 64%, and 87% respectively with the addition of palliative care as part of the treatment plan.

There are other benefits of palliative care in addition to relief of symptom burden. Patients and families are not only significantly more satisfied with care, but are also more likely to receive care or die in the setting they choose. For some, this means outside of critical care settings. For example, McNamara et al. (2013) found that patients who had early access to palliative care were less likely to visit an emergency department in the final 90 days before death. In another example, Gade et al, (2008) found that when patients who were already receiving palliative services at home required readmission to the hospital, they were less likely to require intensive care.

Another way palliative care improves quality of care is by facilitating better communication among patients, families, and their providers (Meier, 2011; Oechsle et al., 2013; Rawlings et al., 2011; Smith & Cassel, 2009; Villarreal, et al., 2011). Gade et al (2008)'s large randomized control trial revealed that patients reported more satisfaction with their total care experience, noting better communication with providers. Oechsle et al. (2012) found that physicians tend to underestimate a patient's symptoms while family caregivers overestimate symptoms.

Cost effectiveness. Patients with chronic illnesses often at some point require admission to intensive care. Whether a patient is close to end of life or not, the costs associated with being critically ill can be great. In fact, while people with multiple chronic conditions and functional impairment make up about 10 percent of all patients in the United States, they constitute more than half of the nation's healthcare costs (The Lewin Group, 2010). In a recently published meta-analysis of 6 studies, hospital costs

were significantly lower for patients who received a palliative care consultation during hospitalization compared to patients who did not receive palliative care (May, Normand, & Cassel, 2018).

An admission to the ICU also sometimes requires mechanical ventilation, with steep costs associated such as monitoring devices and organ support. Expenditures associated with mechanical ventilation may represent as much as 12% of a hospital's costs. Patients who qualify for palliative care are some of the sickest and costliest in the US (Meier, 2011; Meier & Beresford, 2009; Morrison, et al., 2011). Ciemins et al. (2007) looked at daily costs and length of stay after implementation of a palliative care consult. Results revealed a reduced mean length of stay by 30%, as well as a daily total average cost savings of 14.5% compared to usual care. There are several other studies that show cost saving of a few thousand dollars, between \$1700 and \$4900 per visit (Meier & Beresford, 2009; Morrison, et al., 2011). However, in a large systematic review examining the cost-effectiveness of home palliative care services, researchers concluded that more studies are needed to determine the cost savings with palliative care, particularly with non-malignant conditions, as more conclusive data exists on patients with cancer (Gomes et al., 2014). A recently published meta-analysis seems to illustrate this point. May, Normand, & Cassel (2018) found a greater association with cost reduction in patients with primary diagnosis of cancer and with more comorbidities than those with noncancer diagnosis and fewer comorbidities.

Palliative care is generally not profitable on its own, therefore the cost benefits come in the form of limiting hospital length of stay (LOS), preventing readmissions, and cost avoidance. Cost avoidance measures may include less likelihood of needing

intensive care when admitted, and unhelpful ordering of tests and procedures (Meier, 2011; Smith & Cassel, 2009). Ciemins et al. (2007) also looked at average LOS and found it to be reduced by 50%. Thirty-day readmissions are also cost avoidance factors. In a small 57 patient study in an ICU, a palliative consultation intervention significantly reduced 30 day readmission rates. Although the study population was perhaps too small, it did also show a significant decrease in ICU LOS without increasing mortality (Walker, 2014). A slightly larger study of 170 patients found that consultation reduced 30-day readmission for patients with acute myocardial infarction, congestive heart failure, and pneumonia at an academic medical center in the Bronx (Chuang, 2014).

Accountable Care Organizations (ACOs) are starting to proliferate in healthcare to improve both quality and cost effectiveness. Palliative care has become an integral part of the success of ACOs due to the high concentration of healthcare spending among the seriously ill and the improved value offered by implementing palliative care (Kelly & Meier, 2015).

Barriers. While early identification of palliative care need and initiation of services is key to ensuring patients receive the most benefit, there are barriers to getting patients access to care. Barriers identified in the literature include personal and cultural beliefs about healthcare, knowledge deficits, physician attitudes and practice patterns, and lack of a structured system (Edmiston, Heintz, & Rizzo, 2012; McNamara, et al., 2013; Meier, 2011; Perrin & Kazanowski).

In the hospital setting, utilization of palliative services is often influenced by inter-personal and inter-professional factors (Trout, Kirsh, & Peppin, 2012). Perrin & Kazanowski (2015) provide some reasons why providers may be hesitant to consult

palliative care. They suggest the primary misconception among providers is that palliative care is only for patients near death. Providers may also think palliative care is not what critical care is about and feel management of symptoms undermines the goal of life saving. Perrin & Kazanowski (2015) suggest some providers might think palliative means “giving up” on trying to cure a patient. Others may feel that they can provide adequate palliative care and lack knowledge about the services palliative care can provide. Cultural barriers and discomfort with discussing palliative topics with patients and families are factors as well. A study on palliative care referral practices with Parkinson’s patients gives support to these points. Results indicated that physicians were less likely to refer if they fear lack of autonomy in their patient’s care, have a lack of knowledge about programs, or believe they can provide adequate palliative measures (Prizer, et al., 2017).

Inadequate training of healthcare providers in palliative care assessment is also a barrier. Prizer et al (2017) examined the reasons why providers do refer to palliative care, and findings suggested medical providers were less than adequately aware of all the services palliative care can offer. Study results indicated that palliative consultation was more likely to be for physical symptoms only, rather than psychosocial, emotional, or spiritual needs.

Clinical recommendations. Overcoming barriers to palliative care access is a challenge. Evidence suggests that education alone is simply not enough to change healthcare practice patterns (Center to Advance Palliative Care, 2017; Karlen, et al., 2015; Weissman & Meier, 2011). Instead, it is recommended that hospitals should consider a systems-based, structured approach, as this is more likely to ensure

consistency in clinical practice. This commonly includes regular ongoing assessment and using both reliable and valid assessment tools (Rawlings et al., 2011).

In response to the need to improve practice patterns with referral, the CAPC developed a consensus panel based on national standards, research findings, and expert opinion. The panel formulated criteria to assist healthcare providers in screening patients for palliative care needs (Anderson et al., 2013; Center to Advance Palliative Care, 2017). Several key concepts were established to assist clinicians with assessment. There were two recommendations that specifically addressed access to palliative care in the hospital setting. The first recommendation stated that hospitals should establish a timely, systematic approach to ensure that all patients who have palliative care needs are identified. The second recommendation stated that screening should be completed upon admission and then daily throughout hospitalization by health professionals directly involved in patient care (Weissman & Meier, 2008).

Clinical screening criteria, sometimes called “triggers” were developed by experts in both palliative care and critical care to help standardize access to palliative care for hospitalized patients (Center to Advance Palliative Care, 2017; Karlen et al., 2011). Triggers can be effective in increasing palliative care utilization, particularly in the ICU setting. Anderson et al. (2013) examined the interrater reliability of a palliative care assessment tool based on the CAPC recommendations. The study found the tool to have good reliability to trigger a palliative assessment and consistently identified patients who indeed had risk for having unmet palliative care needs. There are multiple studies in the literature detailing projects where trigger tools were introduced into an intensive care setting to increase palliative care utilization and standardize assessment and referral

practices. All of the studies reviewed examined referral rate, to evaluate the “trigger” tool created for the project (Andersen et al., 2013; Distefano & Hicks, 2011; Jenko et al., 2015; Jones & Bernstein, 2017; Roth, 2014; Trout, Kirsh, & Peppin, 2012; Villarreal et al., 2011). Jones and Bernstein (2017) recommended triggers be customized to the ICU where they are implemented, taking into consideration the medical culture of the institution.

Feasibility. The CAPC convened a consensus panel to develop recommendations for hospitals seeking to integrate palliative care into their services. One recommendation for a successful program is patient identification. The consensus panel recommends creating a working relationship with the departments of medical/surgical, emergency department, and the ICU to develop palliative care screening criteria. To be successful, it requires strong leadership, a supportive administration, and cooperation of key staff members (Anderson, et al., 2013; Distefano & Hicks, 2011; George et al., 2015; Weissman & Meier, 2008).

Distefano & Hicks (2011) noted several observations after implementing a universal palliative care screening process at an 800-bed hospital. These included realizing that it takes time to change practice patterns, physician acceptance will be variable, and acceptance must be built. In addition, each care setting will have different levels of need for palliative care. Distefano & Hicks (2011) recommended incorporating screening into existing procedures, making it mandatory, training staff, and close follow up.

Trout, Kirsh, & Pippin (2012) recognized that while palliative services have proven effective and are becoming more prevalent in hospitals, few attempts have been

made to create a systematic identification process to trigger palliative care consultation. Their goal was to create a screening process to help determine when and how a palliative care consult should be made, and to guide provider judgment using a simple one-page tool in an acute care setting. Evaluation of the tool included tracking the number of palliative care referrals made during the study time period and comparing it to the same time period one year prior. The results showed an increase in referrals during the screening time period. The researchers did note, however, that most patients screened (86.5%) did not meet a threshold of 12, indicating that this threshold may be too high. In consideration of the researchers' recommendations, the tool will be modified to include a lower threshold to trigger a note to the attending physician. While Trout, Kirsh, & Peppin (2012) evaluated the rate of palliative consultation associated with use of the screening tool, the feasibility of implementing screening was not an objective of the study.

Theoretical Framework

Changing practice patterns of clinicians requires implementing a systems-based approach (Rawlings et al., 2011). Lewin's Change Theory provides the best theoretical framework to support this project. The change theory includes 3 stages: unfreezing, change, and refreezing. Unfreezing encourages clinicians to let go of old patterns that are not effective. Initiating a standardized screening process for palliative care needs may prompt earlier discussions regarding the benefits of palliative care in the ICU. The change stage involves moving toward a new level of thought and behavior. As mentioned earlier, barriers to early referral to palliative care identified in the literature include personal and cultural beliefs about healthcare, knowledge deficits, physician attitudes and practice patterns, and lack of a structured system (Meier, 2011). A change in the process

of identifying patients who may benefit from palliative care may help to resolve some of these barriers, as suggested by the CAPC and other clinical experts in the field.

The implementation of a screening process should facilitate evidence-based care through the objective identification of patients with palliative care needs. The last stage, refreezing, describes establishing change as a new habit (McGovern & Rodgers, 1986).

Clinicians and nurses should become more comfortable identifying palliative needs, completing the screening tool, and consulting with a palliative care team for their chronically ill patients.

Chapter III

Project Design/Methodology

Setting. This quality improvement project involves the implementation of a palliative care screening tool on an eight bed Intensive Care Unit (ICU) by nurses during the admission process. The principal investigator evaluated the feasibility of implementing standardized palliative care screening by collecting data on the number of patients who met criteria for palliative care, how many patients were approached for screening, how many tools were completed, screening results (scores) and how many screening results were communicated to attending physicians. Anecdotal comments were obtained from the nurses who implemented screening. In addition, data on the rate of palliative care referral from the ICU over the four-week implementation period compared to the same month the previous year (control) when no screening process was in place was also collected.

Subjects. Nurses first reviewed all newly admitted patient charts for a diagnosis of heart failure, stroke, dementia, chronic kidney disease, or chronic obstructive pulmonary disease during the admission process. If the patient had one or more of the diagnoses, nurses then determined if the patient met other inclusion criteria, which included age of 18 years old or over and English speaking. Exclusion criteria included the inability to speak or understand English, currently under care of the principal investigator, or was already receiving palliative or hospice services. Screening was implemented for all patients who met the requirements of inclusion and exclusion criteria admitted to or transferred to the ICU over a four week period. The target number of subjects was 25, however screening concluded at the end of four weeks regardless of

the number of subjects screened. Nurses and discharge planners involved in the implementation process were given verbal instructions at the monthly staff meeting prior to the project.

Tools. An instrument created by Trout, Kirsh, & Peppin (2012) was chosen to be used in this project based on the hospital's similar resources and patient population. In addition, it provided an objective scoring instrument which was easily administered to newly-admitted hospitalized patients and interpreted by non-palliative care team healthcare providers.

The one-page instrument was developed using expert opinion and was implemented as a quality improvement project in a long-term acute care hospital in Kentucky. The study population included acutely ill patients with multiple comorbidities, as well as a small nurse to patient ratio. Included in the tool was a list of basic and comorbid conditions, Eastern Cooperative Oncology Group (ECOG) status to evaluate functional level, and a subjective portion, which evaluates symptom burden; specifically pain, depression, cognitive impairment, fatigue, dyspnea, and nausea. Trout, Kirsh, & Peppin's (2012) tool was used to screen all patients on admission by nurses and trained research assistants over a 10 week period. The instrument included a scoring system and if a threshold of 12 was triggered, a note was sent to the attending physician for consideration of a palliative care consult.

In the original study, the screening instrument increased palliative care referrals, although not significantly. The authors found that the threshold for triggering consults with the tool may have been too high (Trout, Kirsh, & Peppin, 2012). Therefore, for this project, the tool was adapted to decrease the threshold.

The screening tool collected data on diagnoses, level of function, and the subject's perception of symptoms including pain, depression, cognitive impairment, fatigue, dyspnea, and nausea. Scores of 12 or higher suggested a palliative care consult will be helpful. Scores of 10-11 suggest palliative care consultation may be helpful, and scores of 9 or below indicate consultation is unlikely to be helpful to the subject.

Intervention and data collection. Intensive Care nurses obtained written consent from the patient or from the patient's designated representative. For subjects who were unable to answer screening questions due to illness or cognitive impairment, a person authorized to sign for the patient based on the hospital's policy were given the option to answer the questions included in the screening questionnaire on the subject's behalf. A copy of the signed consent was provided to the patient. There were screening packets in a folder at the nurse's desk, which included two copies of the consent form and a screening tool. The admitting nurse attached a patient identification sticker (obtained from the medical chart) to the front of the packet and then completed the screening tool for all patients admitted or transferred into the ICU and who met project criteria during the implementation period (see screening tool in Appendix A). If the patient declined to participate, or the nurse was unable to complete screening, the nurse indicated this on a comments sheet, including the reason why screening could not be obtained.

Completed tools were given to the discharge planners by the ICU unit manager every morning at the interdisciplinary team meeting to be reviewed by the attending physicians. A data collection sheet, which included the number of patients who met criteria for palliative care, how many patients were approached for screening, how many tools were completed, how many screening results were communicated to attending

physicians over a four week period, and a comments section were completed by the discharge planners every Friday after the last interdisciplinary team meeting (see data collection sheet in Appendix B). All completed tools and data collection sheets were filed in a designated locked box in the discharge planning office. Both the discharge planners and ICU nurses were provided with a form to document notes or comments. The principal investigator visited the clinical site no less than twice a week to monitor the project's process.

Timeline. Implementation of the screening process took place over a four-week period. Referral rate results were collected retrospectively and compared to the same month one year prior to implementation of screening.

Confidentiality precautions. Paper copies of completed tools and a master list was kept in a locked file box located in the locked discharge planner office at the hospital. The day shift ICU charge nurse gave completed tools to the case manager supervisor at the daily morning interdisciplinary meeting. During the meeting, screening scores were communicated to the attending physicians. The nurses, attending physician, principal investigator, and committee members had access to the individual tools completed on patients while in the ICU for the purposes of conducting the study. All patient identification data was removed and patient names were replaced with numerical identifiers for statistical analysis. This data was stored on a password protected computer.

Project Analysis

The rate of referrals ordered by the attending physician was tracked via chart review after discharge by the project coordinator. Feasibility data, consisting of the number of patients who met criteria for palliative care, how many patients were

approached for screening, how many tools were completed, how many screening results were communicated to attending physicians, and nurse comments were documented on a data collection sheet completed by the discharge planners each week. The principle investigator monitored progress of tool completion by visiting the unit twice a week or more during implementation. The fiscal impact on the organization was minimal. Paper copies of the consent forms were provided by the principal investigator.

Chapter IV

Project Findings

Descriptive results: During the 4-week data collection period, there were 40 total patients admitted or transferred to the ICU. In total, twenty five of the forty patients (62.5%) were given consideration by the ICU nurses for participation in the project by review of inclusion and exclusion criteria. A total of 17 patients met inclusion criteria, and 14 of those were approached by the nursing staff for participation in the project. However, only 8 patients were screened, and of these only 4 patients scores were communicated to the attending physician. Screening tool scores ranged from 7 to nineteen. There were 5 patients with a score of 12 or higher, meaning a referral to palliative care would have been helpful according to the screening tool. There was one patient with a score of 10 to 11, which meant a referral may have been helpful. Two patients had scores of 9 or below, meaning a referral would likely not have been helpful (see Table C1 in Appendix C for Screening Tool Data). Only one patient was referred to palliative care during the 4-week screening period. The patient was one of the 8 patients who was screened and had a score of 12 or higher. The patient incidentally was admitted straight to hospice services. There was only one patient referred from the ICU during the same 4-week period one year prior, confirming there was no change in the rate of referral.

Qualitative results: Nurses and discharge planners offered several complimentary comments regarding the tool and the implementation process (see Appendix D for anecdotal comments). For example, the unit manager noted that staff members were “talking about palliative care more” during the implementation period.

One discharge planner commented that having the ICU nurses perform the screening was beneficial, stating the reasoning as a need for staff nurses to have more education about palliative care. Nurses in general noted the screening tool was easy to use and was a good way to screen patients for palliative care needs. Two nurses recommended the tool be added to the hospital admission assessment forms.

Additional findings: One intensive care nurse had a high rate of refusal when approaching patients for screening. A total of 5 out of the 6 patients who were approached for screening but refused to participate were approached by the same nurse. None of the 8 patients screened were approached for screening during the admission assessment as recommended. All screenings were completed only after a reminder from the principal investigator.

Although there were positive comments about the tool, the process was often not always followed per the design of the project. For example, there were no screenings obtained during initial admission assessments, and no screenings were obtained during night shift. There was one nurse who refused teaching about how to complete screening. Discharge planners did not utilize the data collection sheet, instead opting to create their own data list.

Nurses commented on barriers to screening patients for the project, noting the process of obtaining consent as an obstacle. For example, one patient was unable to sign consent; therefore nurses waited 2 days for family to visit before consent could be obtained. Nurses also identified mentioning the word “palliative care” as well as high patient acuity were deterrents for recruiting willing participants. Another nurse

commented that although many of the patients likely need palliative care, it was a difficult topic to approach during admission to the ICU because patients are so acutely ill.

Screening tool results were not taken to the morning interdisciplinary team meetings at all during the 4-week screening period. Attending physicians were notified of screening results by discharge planners for only 50% of the patients. Notifications to the attending physicians were done by phone call instead of during morning meetings. It was suggested that it may be helpful to screen patients a second time closer to discharge. One discharge planner suggested the hospital's nurse admission form should be modified to include questions about current hospice or palliative care services.

Analysis: Screening tool data was analyzed using descriptive statistics. The screening tool awarded 2 points each for each diagnosis listed on the tool. The most prevalent diagnoses were the following: diabetes, heart failure, COPD, and renal disease. The least common diagnoses were stroke, pressure ulcers, liver disease, and obstructive sleep apnea (see Appendix C in Table C2, Screening Tool Data). ECOG scores and subjective reports of symptom burden were also included in the scoring. The mean ECOG score was 2.125. Fatigue and dyspnea had the highest means and cognitive impairment had the lowest (see Appendix E for Descriptive Statistics Table).

The project included a small, non-random sample, however statistical analysis was performed to determine if any results regarding ECOG scores or symptoms would be beneficial in guiding next steps at the hospital. Skewness and kurtosis statistics were used to see if the outcomes were normally distributed (see Appendix E, Descriptive Statistics Table). All of them were normally distributed with the exception of pain and nausea (see Appendix F, Tables F1 and F4). For the normally distributed outcomes, independent

samples t-tests were performed to compare the physician notification groups (0 = no and 1 = yes) on the outcomes. Levene's test was used to check for another statistical assumption, homogeneity of variance. The assumption was met for each analysis, so the p-values were interpreted. These appear in the "Sig. (2-tailed)" column of the table in Appendix F, Table F2. Statistical significance for fatigue and dyspnea was close to being achieved, with $p = 0.07$ for both, but they were not significant (see the Between-Subjects Comparison in Appendix F, Table E5). A non-parametric test, the Mann-Whitney U test was used for the two variables which were not normally distributed. Pain was not significant, $p = 0.50$, nor was nausea, $p = 0.85$ (see Statistical Analysis Tables in Appendix F, Tables F3 and F4).

Discussion of Results/Limitations

Staff impressions/utilization: Nurse comments were positive in describing the ease of use of the tool, as well as the likelihood it would be effective in identifying patients who would benefit from a palliative care referral. More than half of the patients admitted were considered for the project. Although there were seventeen patients who met criteria for the project and potentially could have been approached for screening, only 8 patients were screened. Several barriers were identified by the principal investigator as well as the nursing staff, the most frequently identified being the process of obtaining consent.

Identified barriers to implementation: Nurses themselves identified some barriers, including the difficulty in obtaining consent, as well as patient acuity, and patient biases about discussing palliative care. In addition, none of the screenings were obtained during admission and the patients who were screened, screening was only

performed after reminders were given to the nurse from the principal investigator. There were no screenings performed on night shift, and one nurse refused teaching. Performing screenings and attending teaching sessions were not made mandatory for the project and screening tools were not included in the regular admission packet, as the packet is printed out when needed. These are all potential barriers to participation of the nursing staff. Personal bias could also be considered, as one nurse had a high rate of refusal for consent from patients who were approached. Missed opportunities for screening due to patient acuity when first admitted and waiting for family to arrive to either give consent for screening or assist with communicating symptom burden was also noted to be a barrier. It is possible there are other challenges to daily workflow that should be considered, particularly during night shift.

Interpretation of screening data: While there were only 8 patients who were screened by the nursing staff, screening tool data did provide some insight into the feasibility of implementing the tool. ECOG scores had a mean of 2.125. Patients with a score of 2 are ambulatory and capable of all self-care according to the tool. The patients screened were fairly functional despite over 75% of the sample having high scores on the tool, indicating they would benefit from a palliative care referral. This was also unexpected considering one of the patients met criteria for hospice. Level of cognitive impairment had the lowest mean, however it was expected the nursing staff may have difficulty asking questions and getting honest answers about how patients perceived their own level of cognitive impairment. Nurses were given specific teaching and a script of potential ways to question patients about how their chronic medical problems affected their cognitive impairment.

Of the eight patients screened, 6 had scores high enough to trigger a referral to palliative care. However, only 4 scores in total were communicated to attending physicians. Investigators considered if there was a difference in the screening results of the patients whose scores were communicated to the attending physicians versus the patients whose scores were not communicated. Although the sample was not random and very small, statistical analysis was used to create between-subjects comparisons of the ECOG scores, total scores, and symptoms for each group comparison. There were no significant differences in the ECOG scores, symptoms, or total score of patients whose screening results were communicated to their attending physicians by the nursing staff although fatigue and dyspnea were close ($p>0.07$ for both). Future implementation plans may include directing focus on the symptoms of fatigue and dyspnea.

Lessons learned: There were a few observations made by the principal investigator that may have affected the project results. There was one patient who had a diagnosis of liver disease who was admitted to hospice. Liver disease was not included in the inclusion criteria, although liver disease was the patient's admitting diagnosis for hospice. The patient met inclusion criteria for the project only due to comorbidities. If this patient did not have comorbidities that allowed for inclusion criteria to be met, the patient would have potentially not been screened. During the screening period, there were 3 patients who were transferred to tertiary care units. Two of the patients were urgent transfers shortly after admission and one of them met criteria for the project. Urgently transferred patients were less likely to be considered for the project by nurses due to their high acuity and short length of stay. The principal investigator also noted that 4 months prior to the project implementation, the hospital added an additional fourteen inpatient

psychiatric beds, resulting in a total of forty-two acute psychiatric beds for the hospital. Psychiatric patients who also had acute medical problems were always admitted to the ICU per hospital policy to ensure one on one monitoring, even though they may not have required critical care. Psychiatric patients who were admitted to the ICU are often younger and less likely to have serious chronic medical problems. The potential increase of psychiatric patients admitted to the ICU after the project was planned may have also affected the total number of patients who met criteria for palliative care screening.

Feasibility: Although it is encouraging that over half of the newly admitted were reviewed for screening and staff offered positive comments about the process, no specific conclusion can be made about the feasibility of implementing palliative care screening at the hospital. Despite significant barriers present within the design of this project, including having to obtain consent, short timeline, and no expectation that screening was mandatory, the staff was still able to consider 62.5% of admissions for screening and approached 14 of the 17 total patients who met inclusion criteria. Several pitfalls with implementing a systematic palliative care screening at the hospital were identified in addition to lessons learned. The hospital's next steps should focus on nurse identified barriers, evaluating multiple tools, and barriers to physician communication. Future projects may be helpful, such as a qualitative study involving nurses to examine tools and identify barriers, a comparison of multiple tools based on ease of use, or a project that examines physician communication barriers.

Chapter V

Implications

Various healthcare settings, including intensive care and others across the United States have implemented standardized palliative care screening processes based on CAPC recommendations and screening criteria. This project examined the feasibility of implementing a standardized palliative care screening process at a rural hospital in an 8 bed ICU. The sample size was small, however an examination of the process by collecting both descriptive and qualitative data provided some clinical knowledge that may be used to guide future palliative care screening projects in a similar setting. The hospital administrators and nursing staff, as well as local palliative care organizations can utilize the data collected during this project for future palliative care projects and decision making. Ideally, the hospital may consider expanding the project to other departments, however continuing the project with a longer timeline and larger sample size is recommended before the next steps of furthering the project to other departments and local healthcare entities is considered.

Summary

The Center to Advance Palliative care has called for universal patient screening in hospitals and other healthcare settings in order to promote early recognition and intervention, as well as overcome barriers to referring patients for palliative care services (Center to Advance Palliative Care, 2017; Meier, 2011). It is recommended to implement screening processes by clinical screening criteria or “triggers” developed by experts in palliative and critical care (Karlen, Wolf, Hitchcock, & Kehl, 2015). This scholarly project examined the feasibility of implementing screening using clinical criteria or a

“trigger” tool in an eight bed ICU. Intensive care nurses were asked to screen all patients admitted to the ICU for inclusion criteria based on a list of diagnoses during a 4-week period. Nurses were asked to obtain data on comorbidities, functional level, and patient’s perception about their symptom burden and scored using a standardized screening tool. Higher scores indicated that a palliative care referral would likely be helpful for the patient’s plan of care. Nurse discharge planners were asked to communicate the screening tool results to the attending physicians. Palliative care referral rate was examined and compared to the referral rate from the same 4-week period one year prior. Anecdotal comments were also collected from the staff regarding the process.

There were 40 total patients admitted to the ICU during the project and only 62.5% were considered for screening by the nursing staff. Fourteen were approached for screening and 8 were screened using the tool. Of the 8 patients who were screened, only 4 had their screening results communicated to the attending physicians. Nursing staff generally had positive comments about the tool and recommended adding it to their normal assessment process, however they indicated significant barriers included having to obtain consent for screening and patient acuity. Other clinically significant findings associated with the process was lack of screenings taking place on night shift, and lack of results being discussed at interdisciplinary meetings. Referral rate did not change, as only one referral was made to palliative care during the project and one referral was made during the same time interval the year prior.

The screening tool data indicated that of the 8 patients who were screened, 6 of them had high enough scores to trigger a referral to palliative care. Although the sample was not random and small, investigators sought to find out if any clinical significant data

could be obtained from the 8 screenings to help guide focus on future projects. ECOG scores, total scores, and symptoms were compared between groups of patients whose scores were communicated to attending physicians compared to patients whose scores were not communicated to attending physicians. Neither ECOG scores, nor symptoms significantly determined whether physicians were notified of screening tool results, however higher scores of pain and fatigue were close ($p < 0.07$ for both). Future projects at the hospital may benefit from further examination of the symptoms of pain and fatigue. There were limited conclusions that could be made about feasibility based on the small sample size. Next steps for the project at the hospital should include implementing screening on a larger scale. It may be beneficial for future projects to include testing multiple tools, as well as examining nurse identified barriers and physician communication processes.

Recommendations/Sustaining the Change

While there was a small sample size for this project with only forty total patients admitted or transferred to the ICU during the 4-week implementation period and only 8 patients screened, nursing staff offered positive feedback on the tool and process. It is difficult to make adequate conclusions with such a small sample size, therefore it is recommended future projects collect data over a fiscal quarter at minimum. A larger sample size may also give better insight into whether ECOG scores, diagnoses, or degree symptom burden effects communication amongst the interdisciplinary team or the utilization of palliative care services.

Education of nursing staff about palliative care, screening criteria, and techniques for how to have palliative care conversations with patients should be part of the hospital's

education curriculum. Ongoing screening should in the future prompt an increase in knowledge and comfort level of nursing staff, discharge planners, and attending physicians in discussing palliative care needs with patients.

Due to the small sample size and many limitations highlighted during implementation, it is clear that any data regarding feasibility and lessons learned from this project are limited. As discussed in the review of literature, evidence to support the benefit of palliative care screening in hospitals is growing and is recommended by clinical experts. Overcoming barriers to large scale implementation by communicating the benefits of cost savings and quality of care improvements should over time change the culture of healthcare to reduce costly and futile life-prolonging treatment through the utilization of palliative care. Stakeholders for this project should be encouraged to continue this project on a larger scale before any conclusions about the efficacy of palliative care screening in the ICU at the hospital can be drawn.

Lewin's Change Theory provides the theoretical framework to support this project. The theory includes 3 stages: unfreezing, change, and refreezing. As of the conclusion of this project, feasibly implementing a systematic palliative care screening process in the ICU is still in the unfreezing stage, with much potential to transition to the change stage with full support from stakeholders and implementation of recommendations. Unfreezing encourages clinicians to let go of old patterns that are not effective. Initiating a standardized screening process for palliative care needs will hopefully, at the very least, prompt earlier discussions regarding the benefits of palliative care in the ICU.

References

- American Academy of Hospice and Palliative Medicine*. (2017). Retrieved from AAHPM and the Specialty of Hospice and Palliative Medicine:
<http://aahpm.org/about/about>
- American Medical Association*. (2017, June 30). Retrieved from Hospice and Palliative Care: <https://www.ama-assn.org/sites/default/files/media-browser/public/about-ama/councils/Council%20Reports/council-on-medical-service/issue-brief-hospice-palliative-care.pdf>
- Anderson, A., Tracy, M., Nailon, R., Gaster, S. A., & Mooberry. (2013, December). Examination of the interrater reliability of a palliative care assessment tool in patients at hospital admission. *Journal of Hospice and Palliative Nursing*, *15*(8), 491-498. doi:10.1097/NJH.0000000000000016
- Center to Advance Palliative Care*. (2017). Retrieved from About Palliative Care: <https://www.capc.org/about/palliative-care/>
- Chuang, E. (2014, February). Effect of inpatient palliative care consultation on CMS-based 30-day readmission rates: a retrospective cohort study. *Journal of Pain and Symptom Management*, *47*(2), 439-440.
- Ciemins, E. L., Blum, L., Nunley, M., Lasher, A., & Newman, J. (2007, November 6). The economic and clinical impact of an inpatient palliative care consultation service: a multifaceted approach. *Journal of Palliative Medicine*, *10*, 1347-1355. doi:10.1089/jpm.2007.0065
- Daveson, B. A., Smith, M., Yi, D., McCrone, P., Grande, G., Todd, C., . . . Evans, C. J. (2015). The effectiveness and cost-effectiveness of inpatient specialist palliative

care in acute hospitals for adults with advanced illness and their caregivers.

Cochrane Database of Systematic Reviews, 3 .

Distefano, E., & Hicks, M. (2011, January). No patient left behind: universal screening for palliative needs. *Journal of Pain and Symptom Management*, 41(1), 268.

doi:10.116/jpainsymman.2010.10.174

Gade, G., Venohr, I., Conner, D., McGrady, K., Beane, J., Richardson, R. H., . . . Penna, R. D. (2008). Impact of an inpatient palliative care team: a randomized control trial. *Journal of Palliative Medicine*, 11(2), 180-187. doi:10.1089/jpm.2007.0055

Glare, P. A. (2014, November 12). Validation of a simple screening tool for identifying unmet palliative care needs in patients with cancer. *Journal of Oncology Practice*.

doi:10.1200/JOP.2014.001487

Glare, P. A., Plakovic, K., Schloms, A., Egan, B., Epstein, A. S., Kelsen, D., & Saltz, L. (2013, September). Study using the NCCN guidelines for palliative care to screen patients for palliative care needs and referral to palliative care specialists.

Journal of the National Comprehensive Cancer Network, 11(9), 1087-1096.

Gomes, B., Calanzani, N., Curilae, V., McCrone, P., & Higginson, I. J. (2014).

Effectiveness and cost-effectiveness of home palliative care services for adults with advanced illness and their caregivers. *Cochrane Review Database of*

Systematic Reviews, 4. Retrieved October 3, 2015

Investigators, S. P. (1995). A controlled trial to improve care for seriously ill hospitalized patients: the study to understand prognoses and preferences for outcomes and risks of treatments (SUPPORT). *Journal of the American Medical Association*, 274(20), 1591-1598.

- Jenko, M., Adams, J. A., Johnson, C. M., Thompson, J. A., & Bailey, D. E. (2015, November/December). Facilitating palliative care referrals in the intensive care unit: a pilot project. *Dimensions of Critical Care Nursing*, 34(6), 329-339. doi:10.1097/DCC/0000000000000143
- Jones, B. W., & Bernstein, C. (2017, March/April). Palliative care triggers in the intensive care unit: a pilot success story. *Dimensions of Critical Care Nursing*, 36(2), 106-109. doi:10.1097/DCC.0000000000000230
- Karlen, A., Wolf, M., Hitchcock, M., & Kehl, K. (2015, February). Identifying common screening criteria or "triggers" for palliative care consultation: a systematic review. *Schedule with Abstracts*, 49(2), 352-353.
- Kelley, A. S., & Meier, D. E. (2015, April 21). The role of palliative care in accountable care organizations. *Evidence-Based Oncology*. Retrieved from <http://www.ajmc.com/journals/evidence-based-oncology/2015/april-2015/the-role-of-palliative-care-in-accountable-care-organizations-?p=2>
- Lapp, E. A., & Iverson, L. (2015, December). Examination of a palliative care screening tool in intensive care unit patients. *Journal of Hospice & Palliative Nursing*, 17(6), 566-574. doi:10.1097/NJH.0000000000000202
- May, P., Normand, C., & Cassel, B. (2018, April 30). Economics of palliative care for hospitalized adults with serious illness. *JAMA Internal Medicine*. doi:10.1001/jamainternalmed.2018.0750
- McGovern, W. N., & Rodgers, J. A. (1986, May). Change Theory. *The American Journal of Nursing*, 86(5), 566-567. doi:10.2307/3425655

- McNamara, B. A., Rosenwax, L. K., Murray, K., & Currow, D. C. (2013, November 7). Early admission to community-based palliative care reduces use of emergency departments in the ninety days before death. *Journal of Palliative Medicine*, 774-779. doi:10.1089/jpm.2012.0403
- Meier, D. E. (2011, September). Increased access to palliative care and hospice services: opportunities to improve value in health care. *The Milbank Quarterly*, 89(3), 343-380. doi:10.1111/j.1468-0009.2011.00632.x
- Meier, D. E., & Beresford, L. (2009). Palliative care cost research can help other palliative care programs make their case. *Journal of Palliative Medicine*, 12(1), 15-17. doi:10.1089/jpm.2009.9692
- Meier, D., & Beresford, L. (2009, November 1). Palliative care cost research can help other palliative care programs make their case. *Journal of Palliative Medicine*, 12, 15-20. doi:10.1089/jpm.2009.9692
- Miyashita, M., & Hirai, K. M. (2008). Barriers to referral to inpatient palliative care units on Japan: a qualitative survey with content analysis. *Supportive Care in Cancer*, 16(3), 217-222. doi:10.1007/s00520-007-0215-1
- Morrison, R. S., Dietrich, J., Ladwig, S., Quill, T., Sacco, J., Tangeman, J., & Meier, D. E. (2011, March). Palliative care consultation teams cut hospital costs for Medicaid beneficiaries. *Health Affairs*, 30(3), 454-463. doi:10.1377/hlthaff.2010.0929
- Morrison, R. S., Penrod, J. D., Cassel, B., Caust-Ellenbogen, M., Litke, A., Spragens, L., & Meier, D. E. (2008). Cost savings associated with US hospital palliative care

consultation programs. *JAMA Internal Medicine*, 168(16), 1783-1790.

doi:10.1001/archinte.168.16.1783

Morrison, S. R., & Meier, D. E. (2011, October). The national palliative care research center and the center to advance palliative care: a partnership to improve care for persons with serious illness and their families. *Journal of Pediatric Hematology and Oncology*, 33(2), S126-S131. Retrieved from www.jpoho-online.com

National Council for Palliative Care. (2016). Retrieved from

<http://www.ncpc.org.uk/palliative-care-explained>

National Hospice and Palliative Care Organization. (2017). Retrieved from An

Explanation of Palliative Care: <https://www.nhpco.org/palliative-care-4>

Oechsle, K., Goerth, K., Bokemeyer, C., & Mehnert, A. (2013). Symptom burden in palliative care patients: perspectives of patients, their family caregivers, and their attending physicians. *Support Care Cancer*, 21, 1955-1962. doi:10.1007/s00520-013-1747-1

Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services, and The Lewin Group. (2010). *Individuals living in the community with chronic conditions and functional limitations: a closer look*.

Retrieved June 17, 2011, from

<http://aspe.hhs.gov/daltcp/reports/2010/closerlook.pdf>

Perrin, K. O., & Kazanowski, M. (2015, October). Overcoming barriers to palliative care consultation. *Critical Care Nurse*, 35(5), 44-51.

Prizer, L. P., Gay, J. L., Perkins, M. M., Emerson, K. G., Glass, A. P., & Miyasaki, J. M. (2017). Using social exchange theory to understand non-terminal palliative care

referral practices for parkinson's disease patients. *Palliative Medicine*, 1-7.

doi:10.1177/0269216317701383

Rady, M. Y. (2004). Use of intensive care at the end of life in the united states. *Critical Care Medicine*, 32(7), 1630.

Rawlings, D., Hendry, K., Mylne, S., Banfield, M., & Yates, P. (2011, March). Using palliative care assessment tools to influence and enhance clinical practice. *Home Healthcare Nurse*, 29(3), 139-145. doi:10.1097/NHH.0b013e31820ba808

Smith, T. J., & Cassel, B. (2009, July). Cost and non-clinical outcomes of palliative care. *Journal of Pain and Symptom Management*, 38(1), 32-44.

doi:10.1016/j.jpainsymman.2009.05.001

Trout, A., Kirsh, K. L., & Peppin, J. F. (2012). Development and implementation of a palliative care consultation tool. *Palliative and Supportive Care*, 10, 171-175.

doi:10.1017/S1478951511000848

Villarreal, D., Restrepo, M. I., Healy, J., Howard, B., Tidwell, J., Ross, J., . . . Espinoza, S. E. (2011, November). A model for increasing palliative care in the intensive care unit: enhancing interprofessional consultation rates and communication. *Journal of Pain and Symptom Management*, 42(5), 676-679.

doi:10.1016/j.jpainsymman.2011.07.004

von Gunten, C. F. (2012, April). Evolution and effectiveness of palliative care. *The American Journal of Geriatric Psychiatry*, 20(4), 291-297.

Walker, K. (2014, February). The impact of palliative care consultation in the intensive care unit on 30 day hospital readmission rates. *Journal of Pain and Symptom Management*, 47(2), 507-508.

Weissman, D. E., & Meier, D. E. (2008). Operational features for hospital palliative care programs: concensus recommendations. *Journal of Palliative Medicine, 11*(9), 1189-1194. doi:10.1089/jpm.2008.0149

Weissman, D. E., & Meier, D. E. (2011, November 1). Identifying patients in need of a palliative care assessment in the hospital setting. *Journal of Palliative Medicine, 14*, 17-23. doi:10.1089/jpm.2010.0347

World Health Organization. (2017, June 16). Retrieved from WHO Definition of Palliative Care: <http://www.who.int/cancer/palliative/definition/en/>

Appendix A Screening Tool



HAVE YOU CONSIDERED A PALLIATIVE CARE CONSULTATION?

Attention Attending Physician:

Your participation is greatly appreciated in a Quality Improvement Project to assist Davis Regional Medical Center's effort to develop a standard Palliative Care Screening and Referral Process.

The principle investigator for this project is Sarah Barker, FNP-C, a Doctor of Nursing Practice Student at the University of North Carolina at Charlotte.

Your patient was selected to participate and was screened for palliative care needs using an evidence based screening tool. The results are included below.

**** If your patient received a score of 12 or higher on the screening tool, this means they would most likely benefit from a palliative care referral. Scores of 10-11 may also indicate a palliative care referral would be helpful. An ICU nurse or discharge planner will follow up with you for orders if appropriate.**

Thank you for your time. If you have any questions, please contact Sarah Barker FNP-C (704-450-7845, scochra2@uncc.edu)

Completed by Nurse:

Total Score: (circle one)

12 or above: Palliative care consultation helpful

10-11: Palliative care consultation may be helpful

0-9: Palliative care consultation is unlikely helpful

Screened

Not screened (provide reason)

Nurse signature

Completed by Discharge Planner:

MD Notified

Referral Ordered

Discharge Planner Signature

Patient identification sticker

1. Basic Disease Process (check all that apply, score 2 points for each)

- Cancer (metastatic/recurrent)
- Advanced COPD
- Stroke (with decreased function at least 50%)
- End stage renal disease
- Advanced heart failure
- Other: _____

2. Concomitant Disease Processes (check all that apply)

- Liver disease
- Diabetes
- Moderate renal disease
- Moderate COPD
- Moderate heart failure
- Pressure Ulcers
- Fractures
- Other: _____

3. Rate the ECOG status.

Grade	ECOG
0	Fully active, able to carry on all pre-disease performance without restriction
1	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light house work, office work
2	Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours
3	Capable of only limited self-care, confined to bed or chair more than 50% of waking hours
4	Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair

4. Rate the level of severity for the following symptoms by circling the most appropriate number.

Symptom:	None	Mild	Moderate	Severe
Pain	0	1	2	3
Depression	0	1	2	3
Cognitive Impairment	0	1	2	3
Fatigue	0	1	2	3
Dyspnea	0	1	2	3
Nausea	0	1	2	3

This instrument was published in the following study:

Trout, A., Kirsh, K. L., & Peppin, J. F. (2012). Development and implementation of a palliative care consultation tool. *Palliative and Supportive Care, 10*, 171-175. doi:10.1017/S1478951511000848

Appendix B
Data Collection Sheet

Data Collection Sheet

Completed by Discharge Planners Weekly on Friday

Date: _____

# of admissions or transfers	
# patients who met inclusion criteria	
# patients approached for screening	
# patients screened	
# patients with score 12 or higher	
# patients with score 10-11	
# patients with score 9 or below	

Inclusion criteria: 18yo and older, English speaking, with a diagnosis of heart failure, chronic kidney disease, dementia, stroke, or COPD

Exclusion Criteria: inability to speak or understand English, currently under the care of project coordinator, Sarah Barker, or already receiving palliative or hospice services

Patient name	Score	Attending provider notified of score by nurse and signature is present? yes/no	Discharge Date	Referral ordered? yes/no
1.				
2.				
3.				
4.				
5.				

Notes/Comments:

Appendix C
Screening Tool Data

Table C1
Screening Tool
Data

	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Subject 6	Subject 7	Subject 8
ECOG	4	3	3	1	3	3	0	0
Pain	0	2	0	2	2	2	2	0
Depression	0	1	2	2	0	1	1	1
Cognitive Impairment	1	1	0	2	0	1	0	0
Fatigue	1	2	3	3	2	2	2	0
Dyspnea	2	1	3	3	0	2	0	1
Nausea	0	3	0	0	0	1	0	0
Physician notified	yes	yes	yes	yes	no	no	no	no
Score	14	17	10	19	15	18	7	8

Table C2
Screening Subject Diagnoses

Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Subject 6	Subject 7	Subject 8
Stroke	Liver	COPD	COPD	Heart	Heart	Renal	COPD
Diabetes	disease		Diabetes	failure	Failure	disease	Heart
Pressure	Heart		Renal	Diabetes	Diabetes	Diabetes	failure
ulcers	failure		disease	Renal	OSA		Diabetes
				disease			
				COPD			

Appendix D
Anecdotal Comments

General Comments	Barriers Identified by Staff	Staff Recommendations
Unit manager noticed staff “talking about palliative care more”	ICU nurse: “once I mention the word palliative care, families refused to participate”	ICU nurse: “it might be helpful to screen patients again before discharge”
ICU nurse: “this will likely keep patients from returning to the hospital”	“Obtaining consent is a barrier”	ICU nurse: “Good tool” needs different implementation method, suggested adding to admission form
ICU nurse said tool is “easy to use”	ICU nurse: “most of these patients need palliative care, it is a difficult topic to bring up when they are first admitted because they are so sick”	ICU nurse: “this should be part of the admission assessment”
Discharge planner: “good tool”		Discharge planner “it would be helpful if we had a score from admission so we can approach patients closer to discharge about referral”
Discharge planner: “it’s good that the nurses are asking the questions too, the nurses need more education about palliative care”		Discharge planner director: “the nursing admission form inquires about home health services; this project makes me think we need to add hospice and palliative care specifically”

Appendix E
Descriptive Statistics Table

Table E
Descriptive
Statistics

	Mean	Std. Deviation	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ECOG	2.1250	1.55265	-.577	.752	-1.532	1.481
Pain	1.2500	1.03510	-.644	.752	-2.240	1.481
Depression	1.0000	.75593	.000	.752	-.700	1.481
Cog Impair	.6250	.74402	.824	.752	-.152	1.481
Fatigue	1.5000	1.19523	.000	.752	-1.456	1.481
Dyspnea	1.5000	1.19523	.000	.752	-1.456	1.481
Nausea	.5000	1.06904	2.339	.752	5.469	1.481
Score	13.5000	4.62910	-.346	.752	-1.667	1.481

Note. Valid N = 8

Appendix F
Statistical Analysis Tables

Table F1
Group Statistics

	Physician Notified	Mean	Std. Deviation
ECOG	No	1.50	1.73
	Yes	2.75	1.26
Depression	No	.75	.50
	Yes	1.25	.96
Cognitive Impairment	No	.25	.50
	Yes	1.00	.82
Fatigue	No	.75	.96
	Yes	2.25	.96
Dyspnea	No	.75	.96
	Yes	2.25	.96
Score	No	12.00	5.35
	Yes	15.00	3.92

Note. Valid N = 4

Table F2
Independent Samples Test

	Leven's Test for Equality of Variances	t-test for Equality of Means
	Sig.	Sig. (2-tailed)
ECOG	.147	.287
Depression	.168	.390
Cognitive Impairment	.705	.168
Fatigue	1.000	.069
Dyspnea	1.000	.069
Score	.228	.401

Table F3
Test Statistics

	Pain	Nausea
Mann-Whitney U	6.000	7.500
Wilcoxon W	16.000	17.500
Z	-.683	-.189
Asymp. Sig (2 tailed)	.495	.850
Exact Sig. [2*(1-tailed Sig.)]	.686	.886

Note. Grouping Variable: Physician Notification. Not corrected for ties.

Table F4
Descriptives

	Physician Notification	Statistic	
Pain	No	Median	2.0000
		Interquartile	1.50
		Range	1.0000
	Yes	Median	2.00
		Interquartile	.0000
		Range	.75
Nausea	No	Median	.0000
		Interquartile	2.25
		Range	
	Yes	Median	
		Interquartile	
		Range	

Table F5
Between-Subjects Comparisons

Outcome	Physician Not Notified	Physician Notified	p-value
Pain	2.00 (1.50)**	1.00 (2.00)**	0.50
Nausea	0.00 (0.75)**	0.00 (2.25)**	0.85
ECOG	1.50 (1.73)*	2.75 (1.26)*	0.29
Depression	0.75 (0.50)*	1.25 (0.96)*	0.39
Cognitive Impairment	0.25 (0.50)*	1.00 (0.82)*	0.17
Total Score	12.00 (5.35)*	15.00 (3.92)*	0.40
Fatigue	0.75 (0.96)*	2.25 (0.96)*	0.07
Dyspnea	0.75 (0.96)*	2.25 (0.96)*	0.07

Note: * Mean (Standard deviation), ** Median (Interquartile range)