

PALLIATIVE CARE UTILIZATION IN THE INTENSIVE CARE UNIT:

A DESCRIPTIVE STUDY

by

Nicole Torres

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As members of the DNP Project Committee, we certify that we have read the DNP project prepared by Nicole Torres entitled "Palliative Care Utilization in the Intensive Care Unit: A Descriptive Study" and recommend that it be accepted as fulfilling the DNP project requirement for the Degree of Doctor of Nursing Practice.



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Final approval and acceptance of this DNP project is contingent upon the candidate's submission of the final copies of the DNP project to the Graduate College.

I hereby certify that I have read this DNP project prepared under my direction and recommend that it be accepted as fulfilling the DNP project requirement.



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DEDICATION

This manuscript is dedicated to my husband, Michael Torres. It is with his love, support, and understanding that I have been able to reach my goals. I can never truly express how grateful I am to have you in my life. You have been my best friend, my companion, and my biggest cheerleader. I love you and thank you for all you have sacrificed so that I could succeed.

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ABSTRACT

Objective: The Patient Self-Determination Act of 1990 (PSDA) protects a patient's right to predetermine the level of life-supporting care they are willing to receive (U.S. Department of Health and Human Services, 1993). In Arizona, the advance directive (AD) complies with the PSDA and is used to guide care in the event of cardiopulmonary failure. The AD may indicate "do not resuscitate" (DNR), which prohibits cardiopulmonary resuscitation in the event of cardiac arrest. In the institution used for this project, a palliative care team assists with identifying goals of care and helps guide interventions consistent with the AD. The purpose of this Doctor of Nursing Practice (DNP) project was to complete a retrospective chart review and identify patients admitted to the medical intensive care unit (ICU) with a DNR as indicated by a copy of the AD in the electronic health record (EHR) and determine if they received a palliative care consultation. This information could support a quality improvement project led by the DNP-prepared AGACNP focused on ensuring a palliative care consultation within 48 hours of admission for patients admitted to the ICU with a DNR.

Methods: A search of the EHR identified patients admitted to the medical ICU over a 12-month period. The EHR of patients admitted with a DNR were reviewed to determine if they received a palliative care consultation during the ICU stay and the patient's final disposition.

Findings: A total of 38 patients had an AD indicating DNR status on admission to the medical ICU. Of those patients, 26 (68.4%) received a palliative care consultation. Twelve patients (31.6%) with a DNR status on admission did not receive a palliative care consultation. Additionally, five patients with a DNR (13.16%) died in the ICU without receiving a palliative care consultation.

Conclusion: Twelve patients with an AD indicating a DNR did not receive a palliative care consultation, and five of those patients died in the ICU. The findings from this project support a quality improvement project to implement palliative care consults to review goals of care for patients with a pre-existing AD indicating a DNR code status.

INTRODUCTION

Medical advances in the last century have contributed to a dramatic increase in life expectancy in the United States. The number of adults aged 65 and older in the United States is projected to reach 98 million by the year 2060, representing nearly 25% of the total population (Colby & Ortman, 2015). In addition to an aging population, the American health care system is responsible for treating more individuals with chronic illness, with nearly half of all adults living with a chronic medical condition (Ward, Schiller, & Goodman, 2014). Approximately six million patients will be admitted to intensive care units (ICU) in the United States this year for a variety of illnesses, with nearly 20% of these patients dying while receiving aggressive care (Angus et al., 2004; SCCM, 2016).

The Patient Self-Determination Act of 1990 (PSDA) was established to emphasize a patient's wishes regarding health care treatment (U.S. Department of Health and Human Services [USDHHS], 1993). This statute was intended to support a patient's participation in determining the level of care they want to receive in the event of cardiopulmonary failure during a critical illness. Each state is required to comply with the PSDA. In Arizona, this is accomplished through the use of an advance directive (AD). The AD provides direction for providers regarding the patient's health care wishes and goals of care. Palliative care providers use the AD to advocate for the patient's wishes based on the PSDA and the goals of care. Palliative care providers also contribute to the critical care team by aiding patients and families in determining interventions that are consistent with previously expressed wishes, leading to increased family and caregiver satisfaction and reduced healthcare costs (Gade et al., 2008).

Background Knowledge

The cost of delivering ICU care is 2.5 times more expensive than a typical inpatient stay, placing an enormous economic demand on health care systems across the country at a time when health care organizations are adjusting to decreased reimbursement rates and restricted funding of health care programs (Barrett, Smith, Elixhauser, Hongman, & Pines, 2014). Of patients admitted to the ICU, nearly 20% meet clinical triggers for palliative care consultation, including metastatic disease, cardiac arrest, and a prolonged hospital stay preceding ICU admission (Hua et al., 2014). Palliative care teams have demonstrated significant contribution in reviewing and guiding the goals of care established by the patient, which has led to limiting futile treatments and decreasing length of stay (Khandelwal & Curtis, 2014). Additional identified benefits of palliative care consultation in the intensive care setting include increased patient and family satisfaction with care, improved communication between providers and families, and enhanced symptom management (Enguidanos, Housen, Penido, Mejia, & Miller, 2014; Gade et al., 2008).

Palliative care providers may be consulted at any time during the hospital stay to aid in identification of goals of care and determination of code status if not already established. The literature has shown that many patients are admitted with a pre-existing “do not resuscitate” (DNR) order (Hart et al., 2015). A DNR established by the patient will avoid futile, aggressive, and sometimes painful interventions, including cardiopulmonary resuscitation (CPR). Despite the established goals of care, the wishes of patients admitted to the ICU with a DNR code status are not always honored and they often receive aggressive therapy, resulting in death for half of patients admitted to the ICU with a DNR (Saha et al., 2016).

Local Problem

The population of older persons in Arizona is higher than the national average with 15.9% of the population aged 65 years and older, accounting for over one million people (U.S. Census Bureau, 2015). This group is projected to increase to 22.1% by the year 2030 (U.S. Census Bureau, 2014). As this population grows and experiences a greater number of chronic illness and disease, the Arizona health care system will struggle to identify means of providing high quality care with diminishing economic resources. Considering the potential impact that this group will have on the health care system, it is imperative that they be informed of the choices for care they wish to receive based on the PSDA. Economic resources may then be used to provide comfort care and avoid providing aggressive, futile care.

Intended Improvement

The purpose of this project was to complete a retrospective chart review and identify patient code status and utilization of palliative care services in the medical ICU over a 12-month period. Obtaining this information ascertained the number of patients who were admitted to the ICU with an advance directive indicating a DNR status and whether they received a palliative care consultation. Additional information obtained included the length of stay prior to palliative care consultation as well as identification of the number of patients who died in the ICU without receiving a palliative care consultation.

Obtaining information regarding provision of palliative care consultation to patients in the ICU aids in understanding appropriate allocation of end of life services. Patients admitted to the ICU with a pre-existing DNR status necessitate a palliative care consultation to ensure that interventions and treatments align with the patient's wishes and the health care team is meeting the patient's care goals. Knowledge regarding timing of the palliative care consultation or lack of

a consultation prior to death in the ICU may direct utilization of resources that support the patient's goals of care and avoid unnecessary suffering.

Understanding the utilization of palliative care services in the ICU in relation to patient code status and mortality facilitates identification of patients who should receive a palliative care consultation on admission. Discussion held during this consultation may play an integral role in the determination of additional care and medical interventions. The adult and geriatric acute care nurse practitioner (AGACNP) with a Doctor of Nursing Practice (DNP) degree is well suited to conduct determination of care discussions with family and other healthcare providers due to their knowledge of theory and extensive clinical training (McRee & Reed, 2015). Information gathered during the course of this study may be used to support an ICU palliative care quality improvement project led by the AGACNP.

Key stakeholders are integral to the improvement of palliative care programs, policy development, and the subsequent implementation of palliative care at the bedside. Stakeholders are essential to the comprehensive development and understanding of the principles that guide delivery of culturally-sensitive and holistic palliative care services that result in a patient-centered approach to care in the ICU. Key stakeholders for this project included organization administration, ICU physicians, AGACNPs, pharmacists, nurses, patients, and their families.

Study Questions

This research project aimed to answer the following questions:

1. What percentage of patients admitted to the ICU with a DNR receive a palliative care consultation?

2. What percentage of patients admitted to the ICU with a DNR did not receive a palliative care consultation during their ICU stay?
3. What percentage of patients with a DNR status die in the ICU without receiving a palliative care consultation?

FRAMEWORK AND SYNTHESIS OF EVIDENCE

Theoretical Framework

The use of nursing theory in the doctor of nursing practice scholarly project provides direction and guidance (Moran, 2014). The theoretical approach to understanding the utilization of palliative care in the ICU may best be accomplished through application of Katharine Kolcaba's comfort theory. Comfort theory places an emphasis on the concept of comfort as a state of being as well as a deliberate outcome of care interventions (Kolcaba, 1995; Kolcaba, 2015). Three states of comfort exist and include relief, ease, and transcendence (Kolcaba, 2015). Care for patients is designed around and directed toward achieving optimal patient comfort within the physical, psychospiritual, sociocultural, and environmental contexts (Kolcaba & Fisher, 1996).

Comfort, as it relates to the physical context, refers to the perceptions experienced by the body (Kolcaba & Fisher, 1996). These perceptions may include pain, heat, cold, and relief, among others. Comfort in the psychospiritual context is derived from self-awareness and the recognition of a connection to a spiritual other (Kolcaba & Fisher, 1996). Psychospiritual comfort may be achieved through appreciation of one's meaning of life. The context of sociocultural comfort refers to the development and maintenance of familial and interpersonal relationships, which may include relationships with friends, care providers, or communities.

Finally, comfort in the environmental context refers to well-being in relation to the environmental conditions and their influence on the self (Kolcaba & Fisher, 1996)

Comfort in the ICU cannot be achieved through pain control alone, rather it is realized through various purposeful interventions and therapies, including respecting the patient's wishes in regard to treatment preferences. Frequently, care received in the ICU is focused on a curative process instead of the provision of comfort. Palliative care providers in the ICU offer comfort in the physical context through extensive knowledge and expertise in pain and symptom management. Additionally, palliative care providers can support ICU patients and their families within the psychospiritual context through promotion of the patient's individuality and support for their spiritual connections to a "higher order or being" (Kolcaba & Fisher, 1996, p. 69).

Social relationships and cultural connections are at the core of an individual's identity (Rapport, 2014). Palliative care provides patients in the ICU comfort in the sociocultural context through support of family and validation and maintenance of cultural norms and structure during the end of life. Within the environmental context of care, palliative care aids in distinguishing the positive and negative impact that conditions in the ICU have on patients and families. With clinical knowledge and advanced training, palliative care providers can assist ICU patients and families in identifying environmental conditions and locations that support a state of relief and comfort while receiving medical treatment that remains congruent with patient wishes.

Understanding the patient's goals of care, often referred to as code status, and the receipt of palliative care services may help identify gaps in the provision of comfort to critically ill patients. Patients who have identified a preference to limit treatment options may receive the most comfort with the support of a palliative care provider due to the curative treatment focus of

most critical care providers. Additionally, unmet comfort needs may be identified by care providers who are not focused on curing illness, but instead direct treatment therapies with the goals of care at the forefront of decision making.

Definition of Terms

A review of palliative care utilization in the ICU must begin with a definition of terms. For the purposes of this project, AD refers to the legal documents that provide direction for medical care, including aggressive treatments as well as comfort care, should an individual become unable to make decisions (American Bar Association, n.d.). Legal forms considered ADs include the medical power of attorney (MPOA) and living will. The MPOA is a document that designates a surrogate decision maker; whereas, the living will explains an individual's wishes regarding medical care should the individual become incapacitated. These forms vary by state but are frequently used by medical providers and families to assist with decision making during critical illness (White & Arnold, 2011).

The living will provides direction on code status, which indicates the desire to receive cardiopulmonary resuscitation (CPR) or other life sustaining measures should the need arise. Code status may include a DNR, "full code," or comfort care only designation. A DNR designation informs the health care team that no medical intervention should be provided in the event of cardiac arrest. Conversely, a full code designation directs providers to deliver CPR and any other medical interventions deemed necessary. Comfort care directs providers to only include interventions that promote patient comfort and limit suffering. Code status is determined at admission by the attending provider after review of any available advance directive forms and consultation with the patient's decision maker if applicable.

Palliative care is a care delivery model that focuses on improving quality of life during terminal or life-limiting illnesses (WHO, 2016). Palliative care differs from the hospice model, which is focused on providing care during the dying process, which is typically the last six months of life (Hui et al., 2013). Inpatient palliative care services usually consist of a team of experts that includes physicians, advance practice nurse practitioners, and registered nurses who direct interventions toward relief of suffering, emotional support of patients and families, and facilitation of communication between patients, families, and care providers (Casarett, Johnson, Smith, & Richardson, 2011). Although palliative care providers are specially trained to assist with identifying goals of care, palliative care consultation in the ICU is often only requested when surrogate decisions makers are experiencing decisional conflict with members of the health care team (Quill & Abernethy, 2013).

The ICU stay is a period of time that begins when the patient receives admission orders for the ICU. This order may be entered in the medical record as a result of an emergency room visit, an inter-facility transfer, or a status upgrade from another hospital unit. The ICU stay concludes at the time of discharge from the ICU. Discharge from the ICU may be at the time of death, downgrade to an intra-facility lower level of care, discharge to a lower level of care facility, or discharge to home.

Synthesis of Evidence

Patients admitted to the ICU are often unable to actively participate in decision making, requiring providers to rely on an AD to guide treatment and goals of care. Individuals admitted to the ICU with a pre-existing DNR or allow natural death order have expressed a desire to limit life-prolonging therapies. However, during the course of an ICU admission, attempts to treat

illness may cause providers to lose focus of the patient's wishes and initiate therapies that are inconsistent with the AD. A consultation to a palliative care expert may facilitate congruency with the patient's wishes during the course of treatment.

A search of the literature was conducted to identify current research on palliative care in the ICU. Databases searched included Embase, Pubmed, and CINAHL. Search terms used included combinations of palliative care, advance directive, hospital admission, intensive care, code status, living will, and do not resuscitate (DNR). The initial search yielded 483 articles. The search was then limited to English language only and publication within the past 10 years. This yielded 372 articles, of which 10 articles are included in the discussion (Table 1).

A review of the literature revealed limited information regarding the AD status of patients on admission to the ICU. In their research, Beesley et al. (2015) noted that only 13.9% of patients admitted to the Shock-Trauma ICU had an AD, including a living will and health care proxy (HCP). However, code status on admission was excluded from the study. Halpern, Pastores, Chou, Chawla, and Thaler (2011) found similar results among oncology patients. In their study, only 15.7% of patients had living wills while 36.7% had a HCP, and 28.4% had a DNR in place at some point during the ICU stay (Halpern et al., 2011). In another study, examining oncology patients admitted to the ICU, Tumangday et al. (2011) found that only 6.43% of patients had a DNR in place on admission to the ICU. Even when patients admitted to the hospital have ADs, these instructions may not be translated to the medical record. Grudzen, Buonocore, Steinberg, Ortiz, and Richardson (2016) found that only 4% of patients with a pre-existing AD had the directive documented in the medical record.

Hartog et al. (2014) examined the utility of AD in guiding care in the ICU. They found that many patients with pre-existing limitations on care received interventions despite the AD, including mechanical ventilation, artificial nutrition, and hemodialysis (Hartog et al., 2014). In a large, multi-center study, Hart et al. (2015) found that 4.8% of patients admitted to the ICU had pre-existing limitations of care in place. However, 24.6% of patients with a DNR in place received CPR during their stay (Hart et al., 2015). Additionally, as care is prolonged and more aggressive therapy is administered, the patient's code status is more likely to remain a full code despite previous wishes (Van Scoy & Sherman, 2013). These results suggest that care providers may not be adhering to the patient's expressed wishes.

Palliative care consultations may assist in limiting many unwanted interventions and facilitate greater adherence to a patient's AD. Cruz, Camaliente, and Caruso (2014) found that medically futile treatment in the ICU coincided with the lack of a palliative care consultation. Although palliative care services are included in patient care through both consultative and integrative models, there is no support for these approaches over a protocolized model (Mosenthal et al., 2012). Even so, the consultative origin of most palliative care programs may be detrimental to early palliative care intervention (Yoo, Nakagawa, & Kim, 2012). Palliative care consultation is often underutilized in patients who may be at greatest risk for morbidity and mortality (Cruz et al., 2014; Greener, Quill, Amir, Szydlowski, & Grambling, 2014; Yoo et al., 2012). The primary team providers frequently fail to recognize the supportive role that palliative care has in assisting families and care providers in directing treatment (Rodriguez, Barnato, & Arnold, 2007). Despite this, caregivers and providers often identify palliative care consultations as a means of adhering to a patient's wishes (Rodriguez et al., 2007).

TABLE 1. *Evidence Appraisal*

Reference	Research Question	Design	Sample (N)	Data Collection (Instruments/tools)	Findings
<p>Beesley, S. J., O'Donnell, N., Butler, J., Kuttler, K., Hirshberg, E., Walkey, A. J.,...Brown, S. M. (2015). Advance directives in ICU-admitted patients: Prevalence and association with mortality. <i>American Journal of Respiratory and Critical Care Medicine</i>, 191, A3776.</p>	<p>Is the presence of an advanced directive associated with inpatient mortality?</p>	<p>Retrospective chart review</p>	<p>(n=2,094), exclusion criteria: under 18-years of age, only the first admission to the STICU was included in the study</p>	<p>A review of the Intermountain electronic health record (EHR), identification of Apache II scores. Univariate analysis and multivariate analysis completed with SAS</p>	<p>Median patient age 56 (IQR 39-71). 291 had an AD at time of admission (13.9%). AD types included living wills (LW) (59%), durable power of attorney (16%), and physician order for life-sustaining treatment (POLST) (25%). Pts. with AD were older (69 vs. 53; $p < .001$). Pts. with higher APACHE II scores more likely to have AD on admission (21.7 vs 18.6; $p < .001$). No association between inpatient mortality and AD. Lower mortality with AD on admission (OR 0.63, $p = .05$).</p>

TABLE 1 – *Continued*

Reference	Research Question	Design	Sample (N)	Data Collection (Instruments/tools)	Findings
<p>Cruz, V. M., Camalionte, L., & Caruso, P. (2015). Factors associated with futile end-of-life intensive care in a cancer hospital. <i>American Journal of Hospice & Palliative Medicine</i>, 32(3), 329-334.</p>	<p>Aim to identify patients receiving medical futile treatments for cancer in the ICU and identify factors associated with decision to continue care vs. withdrawal of care/palliation. Medical futility= Pt. deemed terminally ill with no options for further treatment but transferred to ICU and received at least one advanced life support measure</p>	<p>Retrospective chart review</p>	<p>(n=347) Exclusion criteria: under 18 years old, non-cancer diagnosis, patients who died on arrival to hospital, and patients who died in the ED. Pts. were excluded if they may benefit from continuation of care. Cases were pts. who received care deemed futile. Control received palliative care. Patients who still had available treatment (n=71), controls (n=238)</p>	<p>Data collected from EHR (MV 2000) and placed in Excel spreadsheet. Data presented as means or medians. Chi-square test or Student <i>t</i>-test for univariate analysis. A logistic regression model was used for identification of predisposing factors for medical futility</p>	<p>Patients who received medically futile care (n=51). 13 patients had a trial period in ICU then changed care focus to palliative care. Palliative care team involvement protective factor for receipt of futile care ($p < .001$). Risk factor for futile care included hematologic malignancy ($p = .036$). Additional factors for futility related to provider lack of communication, ill-advised treatment, and treatment contrary to the patient's AD.</p>

TABLE 1 – *Continued*

Reference	Research Question	Design	Sample (N)	Data Collection (Instruments/tools)	Findings
Greener, D., Quill, T., Amir, O., Szydlowski, J., & Gramling, R. E. (2014). Palliative care referral among patients hospitalized with advanced heart failure. <i>Journal of Palliative Medicine</i> , 17(10), 1115-1120.	Identify individual-level factors that are associated with a palliative care referral for patients admitted to the hospital with advanced heart failure. Palliative care referral= at least one visit by PC provider during hospital stay. Independent variables: age, marital status, gender, race, health insurance, admitting service	Retrospective chart review	Patients admitted with heart failure diagnosis (n=2647). Exclusion criteria: 18-years old or heart failure as primary diagnosis	Logistic regression analysis used to identify characteristics of heart failure patients who receive PC referral. Analysis completed using Statistical Analysis System (SAS) version 9.1	6.2% of heart failure patients received a PC referral. PC referral increased with age ($p = .0074$). Pts. with PC referral had longer LOS (19.53 days vs. 9.67; $p < .0001$), higher risk of mortality (3.31 vs. 2.56; $p < .0001$), higher severity of illness score (3.30 vs. 2.85; $p < .0001$), and more ICU days (4.96 vs. 2.01 days; $p = .03$). HF pts. with PC referral more likely to have CKD (52.1% vs. 33.45) and Alzheimer's disease (2.4% vs. 0.69%). PC referral is underutilized.

TABLE 1 – *Continued*

Reference	Research Question	Design	Sample (N)	Data Collection (Instruments/tools)	Findings
<p>Grudzen, C. R., Buonocore, P., Steinberg, J., Ortiz, J. M., & Richardson, L. (2016). Concordance of advance care plans with inpatient directives in the electronic medical record for older patients admitted from the emergency department. <i>Journal of Pain and Symptom Management.</i></p>	<p>Examine the pre-existing AD of older patients admitted to the hospital from the ED and identify translation of medical directive to the EHR. Advance directives include: health care proxy, living will, identification of surrogate decision maker, and code status</p>	<p>Prospective observational</p>	<p>A convenience sample of ED patients over the age of 65 with emergency severity index >1 (n=682). Inclusion criteria: pt. knew their name and were ambulatory before the presenting illness/injury, provide informed consent. Exclusion criteria: ESI=1, AMS, and inability to complete survey</p>	<p>A baseline interview and a survey in English or Spanish. The EHR (EPIC) was reviewed to determine if AD preference was included in medical record</p>	<p>53.8% of pts. who completed the survey stated they had a HCP and 40.2% had a LW. Only 4% of pts. who had a LW had the medical directive documented in the EHR. 4% of pts. with CHP had the information in EHR.</p>

TABLE 1 – *Continued*

Reference	Research Question	Design	Sample (N)	Data Collection (Instruments/tools)	Findings
<p>Halpern, N. A., Pastores, S. M., Chou, J. F., Chawla, S., & Thaler, H. T. (2011). Advance directives in an oncologic intensive care unit: A contemporary analysis of their frequency, type, and impact. <i>Journal of Palliative Medicine</i>, 14(4), 483-489.</p>	<p>The study aim is to identify advance directives and analyze the prevalence, type, and impact of advance directives on the care of cancer patients admitted to the ICU. Living will (LW)-written instructions that limit end of life care. HCP-health care proxy or durable power of attorney for health care. HCP-LW-combined health care proxy and living will document. DNR-do not resuscitate order</p>	<p>Retrospective chart review</p>	<p>(n=1121), 176 pts. had a LW, 534 pts. had a HCP, 411 had no LW or HCP. Inclusion in LW and HCP if documents dated prior to ICU admit Documents dated closest to ICU admission date used. Pts. excluded if no date on documents, if no limitations to care, or if DNR orders prior to ICU admission</p>	<p>Univariate analysis compared demographic data among LW, HCP, and no LW/HCP groups. Fisher;s exact test and Wilcoxon rank sum test used for univariate comparisons of covariate differences between pts. Statistical analysis completed using SAS 9.1</p>	<p>Existence of LW significantly more common with white (92% vs. 8%; $p < .05$), older, surgical pts (52.8% vs. 47.2%; $p < .05$). LW less common in Medicaid pts. (1.1% vs. 52.3%; $p < .05$). No other significant differences between groups were found.</p>

TABLE 1 – *Continued*

Reference	Research Question	Design	Sample (N)	Data Collection (Instruments/tools)	Findings
<p>Hart, J. L., Harhay, M. O., Gabler, N. B., Ratcliffe, S. J., Quill, C. M., & Halpern, S. D. (2015). Variability among US intensive care units in managing the care of patients admitted with preexisting limits on life-sustaining therapies. <i>Journal of the American Medical Association Internal Medicine</i>, 175(6), 1019-1026.</p>	<p>To analyze the patients who are admitted to the ICU with limitations on care and who receive aggressive care in individual ICUs Main outcomes: provision of CPR, addition of new life support measures, addition or reversal of treatment limitations. Treatment limitations include DNR, withholding therapy, or withdrawing therapy as recorded at time of ICU admission</p>	<p>Retrospective cohort</p>	<p>Included 141 ICUs, 105 hospitals, 277,693 patient admissions. Exclusion criteria included ICU admission for organ donation and ineligible for severity of illness assessment by Mortality Prediction Model II; excluded ICUs collecting data for less than 1 year</p>	<p>Descriptive statistics and comparisons completed using 2-tailed t test or x2. Analysis completed using Stata, version 12.1</p>	<p>4.7% of admissions had limits on care (95% CI, 4.7%-4.9%). Median age 78 years, 59.4% with dependent needs at admission. Most common pre-existing condition was respiratory disease (13.8%). 77.4% had DNR on ICU admission. Of pts. with care limitations, 23.3% received CPR. 24.6% of pts. with a DNR received CPR during the ICU stay, 95% CI [23.8, 25.5] and 15.7% died after receiving CPR, 95% CI [14.7, 16.8]. Variation between ICU in treatment of pts. with limitations on care (6.0% to 84.2%). No discernable center-level characteristics identified to explain variability in care provision.</p>

TABLE 1 – *Continued*

Reference	Research Question	Design	Sample (N)	Data Collection (Instruments/tools)	Findings
Hartog, C. S., Peschel, I., Schwarzkopf, D., Curtis, J. R., Westermann, I., Kabisch, B., ... Reinhart, K. (2014). Are written advance directives helpful to guide end-of-life therapy in the intensive care unit? A retrospective matched-cohort study. <i>Journal of Critical Care</i> , 29(1), 128-133.	Purpose- Examine whether written advance directives (AD) are helpful in guiding end of life care in the ICU. Life-sustaining measures include: vasopressors, balloon pump, ECMO, mechanical ventilation, hemodialysis, transfusions, and antibiotics	Retrospective cohort	(n=477), 64 had AD. 32 ADs considered “valid and applicable” by consultants. Matched to 128 pts. who did not have AD	Pt. demographics collected from pt. data management system (COPRA). AD collected from pt. paper record and recorded for use in study. Fisher exact test and Wilcoxon rank sum test used. Propensity score matching used to identify cohort patients without AD	13 of 21 pts. received mechanical ventilation and 7 of 22 received artificial nutrition despite AD. Pts. with Ads had more DNR orders (77% vs. 56%; $p = .007$). Pts with AD less likely to receive CPR (9% vs. 23%, $p = .029$). 31 of 32 reused life-sustaining measures. Adherence to AD appears low. No difference between groups in decision to withhold or withdraw life-sustaining measures, severity scores, ICU LOS, or hospital LOS.

TABLE 1 – *Continued*

Reference	Research Question	Design	Sample (N)	Data Collection (Instruments/tools)	Findings
<p>Rodriguez, K. L., Barnato, A. E., & Arnold, R. M. (2007). Perceptions and utilization of palliative care services in acute care hospitals. <i>Journal of Palliative Medicine, 10</i>(1), 99-110.</p>	<p>To understand perceptions of palliative care and identify perceived barriers to PC utilization early in the care continuum</p>	<p>Qualitative analysis</p>	<p>A purposive sampling of hospitals in Pennsylvania. 20 hospitals contacted, 13 agreed to participate, only 11 site visits completed due to investigator's pregnancy</p>	<p>Two-day site visit included morning ICU rounds, semi-structured interviews with CNO, case management, ED physician, ICU physician, ICU RN manager, ICU bedside RN, social worker, pastoral care director, palliative care director, and ethics committee chair. Hand-written notes collected during rounds. Standardized interview for private interviews. Each interview was audiotaped and lasted 60 minutes. Notes and recordings transcribed later. Two investigators independently coded responses, then discussed results and identified themes</p>	<p>Four major themes emerged, including perceptions of palliative care, current utilization of palliative care, barriers to utilizations of palliative care, and suggestions for increasing palliative care consults. Confusion exists over terms: palliative care, end-of-life care, hospice care, and terminal cancer care. Nurses tended to feel PC should be available to all pts. Physicians felt they could manage symptoms appropriately. Hospital culture is geared toward aggressive therapy.</p>

TABLE 1 – *Continued*

Reference	Research Question	Design	Sample (N)	Data Collection (Instruments/tools)	Findings
<p>Van Scoy, L., & Sherman, M. (2013). Factors affecting code status in a university hospital intensive care unit. <i>Death Studies</i>, 37(8), 768-781.</p>	<p>What relevant factors impact a patient's level of care (code status) at the end of life? Hypothesis: A long, more aggressive ICU course will result in patients dying with a no-code status. Variables included patient demographics, hospital course characteristics, including central lines, invasive procedures, blood transfusions, and surgical procedures. Last category examined advanced directive including living wills and durable power of attorney</p>	<p>Retrospective chart review</p>	<p>(n=100) Inclusion criteria: death in medical, neurological, cardiac, cardiothoracic, or surgical ICU, minimum 72-hour LOS. Exclusion criteria: less than 18 years old at time of death. Two groups: "no-code"/DNR (n=52) and "full code" group (n=48). Patients included until 50 patients were in each group</p>	<p>A review of hospital mortality lists generated by the hospital database and review of the EHR. Chi-square and t-tests used to compare demographic and continuous variables, respectively. Logistic regression used to evaluate effect of aggressiveness of hospital course on code status. Analysis done using SAS</p>	<p>17% of pts. had an AD. Pts. with AD more likely to die with no-code status ($p = .03$). Significantly more patients who died of GI and hepatic causes in no-code group ($p < .01$). Higher number of CVL increased probability of dying with full code ($p = .03$). APACHE II score higher in no-code group ($p < .0001$). No significant difference in relation to age, gender, race.</p>

TABLE 1 – *Continued*

Reference	Research Question	Design	Sample (N)	Data Collection (Instruments/tools)	Findings
<p>Yoo, J. W., Nakagawa, S., & Kim, S. (2012). Integrative palliative care, advance directives, and hospital outcomes of critically ill older adults. <i>American Journal of Hospice & Palliative Medicine</i>, 29(8), 655-662.</p>	<p>Analyze the effect that consultative versus integrative palliative care services have on AD and patient outcomes in critically ill patients. Main outcomes included: hospital costs-all charges submitted to CMS; in-hospital deaths- death at ICU or another care area in the hospital; hospital discharge-included home or inpatient hospice facility. AD= living will or durable power of attorney</p>	<p>A retrospective chart review</p>	<p>(n=1291), exclusion criteria included mild severity of illness (n=71), missing or insufficient data (n=67), hospice enrollee prior to admission. Consultative model (n=673), integrative model (n=618)</p>	<p>A review of administrative claims and clinical data in the EHR for included pts. Multivariate regression analysis used to analyze associations between PC types and outcomes in relation to advance directive status. All analysis performed using SAS version 9.2</p>	<p>Hospital costs for integrative model significantly less than consultative model (\$50,715 vs. \$58,531; $p = .02$). No significant difference between PC care types, AD, and hospital cost. In hospital deaths lower during integrative phase than consultative phase (13% vs. 18%, $p = .003$). No significant difference in hospital death in presence of AD. In absence of AD, hospital costs significantly lower with integrative model (\$8,109; 95% CI [15,362-15,318]). The probability of hospice discharge in phase 2 higher 14%, 95% CI [9-19] than initial phase, 9%, 95% CI [5-14].</p>

Although research regarding palliative care in the ICU is increasing with the recognition of the economic, emotional, and spiritual benefits of this care modality, a gap remains. There is little information regarding the receipt of palliative care services in relation to a patient's AD. Additionally, no information is available regarding the use of palliative care providers in the care planning of patients who have a designated DNR while in the ICU or the final disposition of these patients. The information gained from this research may help identify patient groups who may benefit the most from the addition of a palliative care provider to their care team. Furthermore, a palliative care provider may aid in directing treatment towards goals consistent with the patient's wishes.

METHODS

Design

This DNP project was a retrospective chart review, a descriptive data analysis approach, that was intended to identify the code status of individuals admitted to the medical ICU and subsequent consultation with a palliative care expert. Descriptive research analysis for this project was used to define and record phenomenon as it naturally occurs (Polit & Beck, 2012). A descriptive research study design allowed for identification of palliative care consultation for patients who were designated as a DNR upon admission to the ICU, which may ensure the medical care plan is congruent with previously stated wishes. The knowledge gained from this study may be used as a starting point for a future quality improvement project dedicated to implementing a palliative care consultation protocol for patients admitted to the medical ICU.

Ethical Considerations

Three major ethical principles exist in medical research, including respect for persons, beneficence, and justice (USDHHS, 1979). All three principles must be considered when designing and conducting a research study.

Respect for Persons

Respect for persons consists of two guiding beliefs: individuals are autonomous and should be treated as such, and those individuals without autonomy must be afforded protection (USDHHS, 1979). By design, a retrospective chart review limits the ability of the researcher to obtain informed consent from each subject. Additionally, as this DNP project only required obtaining de-identified data and there is no planned intervention, informed consent was not required (Polit & Beck, 2012). Even so, approval from the healthcare organization and university Institutional Review Boards was obtained to ensure protection of individual research subjects and adherence to the guiding ethical principles of research (Appendix A).

Beneficence

The second basic ethical principle in medical research, beneficence, obligates researchers to minimize harm while maximizing any potential benefits of a study (USDHHS, 1979). The benefits of research may be extended to the study subjects or may be conferred to society as a whole (Bertholf, 2001; USDHHS, 1979). Potential harms from research may include emotional, physical, psychological, or monetary (Polit & Beck, 2012). This project aimed to minimize harm to study subjects by de-identifying information and coding data in a manner known only to the primary research team, including the DNP student, the project committee, and the statistician. While subjects may derive no benefit from the initial project, it is the hope of the DNP student

that information gathered from this project may be used in a future quality improvement project aimed at providing qualifying patients with timely, expert palliative care consultation.

Justice

The third major principle of ethics in medical research is justice, which guides researchers in equally distributing the benefits and risks associated with research (USDHHS, 1979). Subjects must be fairly treated regardless of race, gender, ethnicity, or socioeconomic class (Polit & Beck, 2012). This DNP project aimed to evaluate the care provided to all patients admitted to the medical ICU during the study period, irrespective of individual subject attributes. During the course of investigation, only information required to meet the aims of the study was extracted from the subject charts. Any potential benefits will be provided to all medical ICU patients through future quality improvement initiatives.

Setting

The setting for this project was a 16-bed medical ICU located in a 570-bed, level-one academic health care facility in Phoenix, Arizona. This facility has multiple resources available to the DNP student that assisted in completion of this project through expert advice and instruction on EHR review tactics, including a multidisciplinary clinical research department and several ICU clinical nurse specialists.

Participants

A convenience sample of patients admitted to the medical ICU during the study period was identified through a retrospective review of the hospital's electronic admission records. Criteria for inclusion in this study included: (a) admission to the medical ICU from the emergency room, a medical-surgical floor, a telemetry floor, an outside facility, or as a direct

admission from home, (b) age 18 years or greater, (c) a primary medical diagnosis. Exclusion criteria included: (a) patients younger than 18 years old, (b) admission related to a traumatic injury, (c) ICU admission for organ donation, or (d) any patient who received a palliative care consultation on a previous visit.

Data Collection

The DNP student served as the primary investigator and data collector with direction from the project chair. All data was obtained through a review of the electronic health record (EHR). The primary researcher conducted a search of the EHR database beginning with identification of patients admitted to the medical ICU from January 2015 to December 2015, with an initial estimated sample size of 400. Once these patients were ascertained, a search for patients with a DNR status on date of admission to the ICU was conducted using the parameter “code status” in the EHR search engine. Determination of palliative care consultation for patients admitted to the ICU with a DNR order was completed by review of provider notes and consultation order.

A coding manual was developed to identify key clinical variables, and a corresponding code was assigned to each variable (Appendix B). The manual directed parameters for data extraction, eliminated ambiguity, and limited coding discrepancies (Gregory & Radovinsky, 2012; Worster & Haines, 2004). All data obtained from the chart review was de-identified to protect subject identity and coded to expedite analysis. The coded information was then entered into the data collection form (Appendix C). This form was created by the DNP student with the direction of the project chair as an Excel spreadsheet to simplify organization of information obtained from the EHR, limit error in data entry, and facilitate data analysis (Gregory &

Radovinsky, 2012). Demographic data obtained from the EHR included age and gender. Project-related information obtained included admitting diagnosis, code status, palliative care consultation, length of stay at time of palliative care consultation, and discharge disposition. All de-identified information was handled by the DNP student and the project chair.

Data Analysis

Data analysis was completed using descriptive statistics. This analysis allowed for calculation of percentages, means, and frequencies of study variables (Polit & Beck, 2012). Additionally, chi-square was computed to identify correlation of death in the ICU and a palliative care consultation, as both variables are categorical. A statistician was engaged to assist with evaluation and analysis of the data. Statistical Package for the Social Sciences (SPSS 2013, Version 22.0) was used to analyze relevant data.

RESULTS

A review of the EHR for admissions to the medical ICU from January 2015 to December 2015 resulted in 478 patients who met the inclusion criteria, which included (a) admission to the medical ICU, (b) age 18 years or greater, and (c) a primary medical diagnosis. The search revealed 202 patients with a full code status and 238 patients with no documented code status in the medical record. Thirty-eight patients who met the inclusion criteria had a DNR order as indicated by a copy of the AD in the medical record on the day of admission. Selected demographic characteristics of the project sample are shown in Table 2.

TABLE 2. *Demographic Characteristics*

Demographic	N (%)^a
Gender	
Male	23 (60.5)
Female	15 (39.5)
Age	
<50	3 (7.8)
51-60	8 (21.1)
61-70	10 (26.3)
71-80	6 (15.8)
81-90	7 (18.4)
≥90	4 (10.5)

^aPercentages may not equal 100 due to rounding.

The patients in the sample were admitted for a variety of diagnoses. For clarity, the admitting diagnoses were grouped according to major body systems and/or disease. The most common admitting diagnosis was sepsis (n=17). Figure 1 illustrates the categories and frequencies of admitting diagnoses.

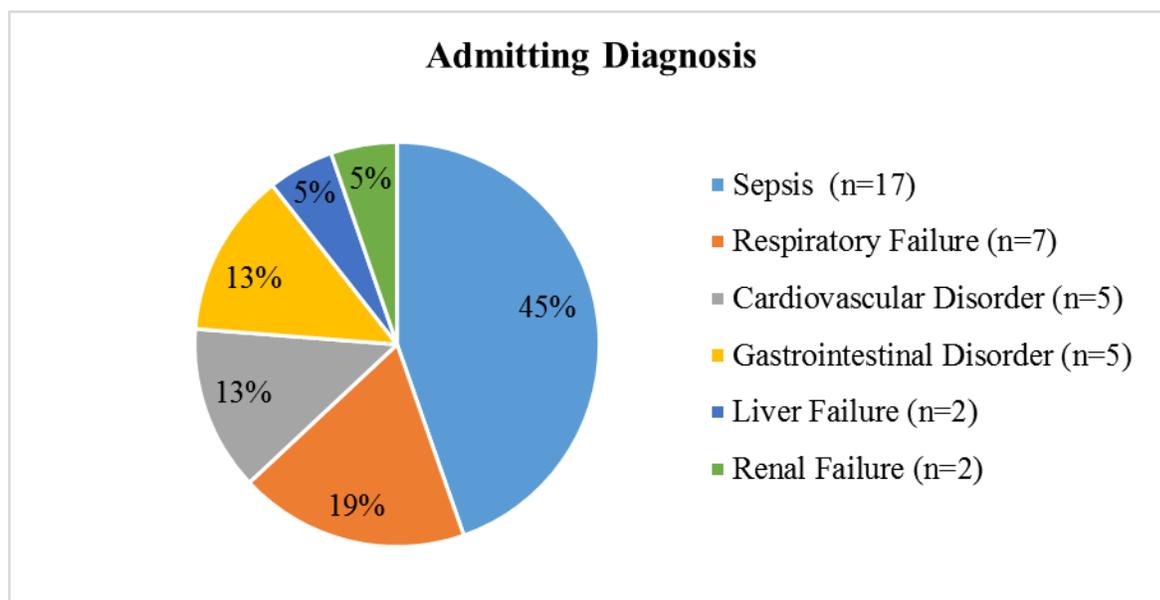


FIGURE 1. Admitting Diagnosis Classification

The EHR search uncovered several final patient dispositions after treatment in the medical ICU. As shown in Table 3, following discharge, a number of patients returned home or were admitted to another care facility to continue treatment or rehabilitation. These facilities included long-term acute care hospitals and skilled nursing facilities. Patients who decided to forgo additional curative treatment were discharged to an inpatient hospice facility. For those patients who died in the ICU, the morgue was determined to be the final disposition.

TABLE 3. *Final Patient Disposition*

Disposition	N (%)
Morgue	17 (44.7)
Hospice Facility	11 (28.9)
Home	5 (13.2)
Skilled Nursing Facility	3 (7.9)
Long Term Acute Care Facility	2 (5.3)

The first study question sought to determine the percentage of patients admitted to the ICU with a DNR who received a palliative care consultation. Twenty-six patients (68.4%) received a palliative care consultation. The second study question focused on identifying the percentage of patients admitted to the ICU with a DNR who did not receive a palliative care consultation. Twelve (31.6%) patients with a documented DNR in the AD received no palliative care consultation. The final study question aimed to determine what percentage of patients with a DNR die in the ICU without a palliative care consultation. Of the patients who had a documented DNR in the AD on admission, five (13.16%) died in the ICU without receiving a palliative care consultation during the ICU stay. For those patients who received a palliative care consultation, the average time from admission to consultation was 3.62 days ($SD = 3.43$).

A cross-tabulation of group membership in the two groups of interest (deceased/not deceased and palliative care consultation yes/no) was conducted in order to determine if there is

a relationship between death and having received a palliative care consultation or not. A chi-square test of independence indicated that there was no significant association between these two variables, $\chi^2(1) = .067$, $p = .796$. The pattern of membership in the four cells was as follows: no palliative care consultation and deceased (5), palliative care consultation and deceased (12), no palliative care consultation and not deceased (7), and palliative care consultation and not deceased (14). The patterns of receiving a palliative consultation and not receiving a consultation were similar for patients who were deceased as well as not deceased. There is not a significant association between deceased and a palliative care consultation.

DISCUSSION

Despite a growing interest in end of life care, there is limited research available regarding palliative care utilization in the ICU as it relates to a patient's advanced directives. This lack of knowledge combined with an aging population suffering from an increasing number of chronic health conditions supports the importance of this DNP project. In as much as we are aware, this is the first study to examine palliative care consultation in the intensive care unit in relation to DNR status and final patient disposition.

This DNP project revealed that many patients admitted to the medical ICU with a pre-existing DNR documented in the EHR received a palliative care consultation during the ICU stay. However, nearly one-third (31.6%) of patients with limitations on care did not receive any palliative care consultation during the course the time spent in the ICU. As previously stated, palliative care consultation can help ensure that a patient's wishes are being followed, particularly when limitations to care are in place (Cruz, Camaliente, & Caruso, 2014). Furthermore, patients and families consistently identify palliative care consultation as a means to

ensure that interventions align with a patient's wishes (Nelson et al., 2010; Robinson, Gott, & Ingleton, 2014; Rodriguez et al., 2007).

The finding of five patients who died in the ICU with an established AD indicating a DNR status and did not receive a palliative care consultation during the ICU stay is clinically significant. A palliative care consultation would have provided an opportunity to review goals of care, which would include interventions with the goal of comfort rather than potentially futile, invasive, and possibly painful interventions. The lack of a consultation to a palliative care expert as part of a multimodal approach to treatment for these patients represents a failure in care provision to this vulnerable population.

The ICU provides invasive life-sustaining interventions. Patients whose pre-existing AD indicate DNR frequently receive care in the ICU that escalates beyond limitations placed by patients prior to admission (Hart et al., 2015). For these patients, a palliative care consultation may have been able to provide direction for members of the health care team as well as any surrogate decision maker and facilitate communication between the family and care providers. Additionally, a palliative care consultation may have been able to help patients avoid dying in the ICU while receiving aggressive care that is contrary to their AD and focus interventions on comfort and alleviation of discomfort and pain.

Limitations

This project had several limitations, including the small study sample due to the large number of patients who had no documented code status. The number of patients who met inclusion criteria (n=478) was greatly reduced due to missing documentation in the EHR. Approximately half (50.2%) of patients meeting inclusion criteria were excluded from

participation in the study due to a lack of any medical AD, which indicates full code or DNR status. This missing documentation is consistent with previous studies and may be due in part to an organizational failure to translate these documents to the patient record (Bradley et al., 2006; de Heer et al., 2017; Temel et al., 2010). Replication of this project could be expanded to include a longer study period, which may increase the sample size. Another limitation is the lack of generalizability. Results from this project are not be applicable to all ICU patients due to the focus on the population of patients in the medical ICU.

Conclusion

This DNP project examined palliative care utilization in the medical ICU as it relates to code status on admission and final patient disposition in an attempt to identify gaps in care to patients who could most benefit from a palliative care expert. Many patients admitted to the medical ICU would benefit from a palliative care consultation. However, the results of this project support a consultation with a palliative care provider such as an AGACNP team for all patients admitted to the medical ICU with an AD clearly indicating a DNR. The palliative care AGACNP can offer these patients expert symptom management, facilitate patient-provider communication, and ensure interventions are consistent with the patient's wishes.

Results from this project suggest that there is a gap in care provided to patients admitted to the ICU with a DNR. Five patients who were admitted to the ICU with a DNR died in the ICU without receiving a palliative care consultation to confirm that interventions aligned with the patient's wishes. The information gained in this DNP project will be used to inform a quality improvement project led by the DNP-prepared AGACNP. The quality improvement project will focus on providing a palliative care consultation within 48 hours for any patient admitted to the

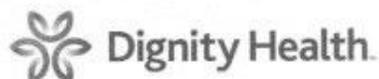
medical ICU with an AD indicating DNR.

OTHER INFORMATION

Projected Budget

The budget for this DNP project was low and consists primarily of travel-related expenses for the primary investigator and consultation fee for a statistician (Appendix D). The primary investigator used a private vehicle for travel to the study facility. Total expense for fuel was \$100. Expense for a statistician consultant fee was \$300. Hardware for data storage and the data analysis package was already owned by the primary investigator and required no additional study expenditure.

APPENDIX A:
IRB SITE APPROVAL LETTERS



Federal Wide Assurance (FWA) #00001499
 Dignity Health IORG0001540
 Maricopa A IRB00002010
 Maricopa B IRB00004934

DATE: May 15, 2017

IRB: St. Joseph's Hospital and Medical Center
 Institutional Review Board Panel A
 350 West Thomas Road
 Phoenix, AZ 85013

TO: Nicole Marie Torres, BSN

RE: Copy of Palliative Care Utilization in the Intensive Care Unit: A Descriptive Study,
 EXP Palliative Care Utilization

IRB #: PHXA-17-0089-71-21

IRB Submission: Submission Response for Initial Review Submission Form, Ref #: 016285

IRB Review Type: Expedite

IRB Decision: Approved

Approval Date: 05/13/2017

Approval Expiration Date: 05/12/2018

Risk Assigned: Minimal Risk

Review Cycle: 12 Month Review Cycle

Expedited Review Criteria: 5

The Institutional Review Board (IRB) reviewed and approved your new expedited protocol submission including the documents listed in Appendix 1.

A request for waiver of consent and authorization has been reviewed and approved.

You are reminded, if email is to be used for transfer of data it must be secured/encrypted, and all identified personal/portable devices utilized e.g. smart phones, laptops, flash drives, etc., are to be encrypted.

As principal investigator for the above referenced study, you are responsible for the following:

- Adherence to applicable Federal regulations, Dignity Health policy and the policies of this Institutional Review Board.
- Supervision and responsibility for all investigators and research team members engaged in research covered by this IRB; ensure all licensed study personnel act within their scope of practice and, if applicable, their medical staff credentials at St. Joseph's Hospital and Medical Center; and non-licensed personnel act within their job description and hospital policies and guidelines.
- Responsible for using the current IRB approved consent form (if applicable).
- Record keeping of all activities including documentation of informed consent when applicable.
- Promptly reporting all internal adverse events according to Dignity Health and IRB guidelines.

Dignity Health is organized and operates according to its Federal Wide Assurance with the Department of Health and Human Services (DHHS) Office of Human Research Protections (OHRP). Dignity Health IRBs operate in compliance with the Code of Federal Regulations (CFR) including 45 CFR 46, 21 CFR 56 and 21 CFR 11 and ICH-GCP guidelines.
 (Revised 07/20/2016)

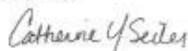
Title: EXP Palliative Care Utilization
Reference # 016285
Page 2 of 3

- Promptly reporting external adverse events according to Dignity Health and IRB guidelines.
- Promptly reporting any deviations from the protocol or consent process (including 'emergency' enrollment).
- Promptly reporting any new unanticipated risks or new information that may impact the protocol, study subjects or others.
- Promptly reporting all study management correspondence with regulatory agencies and sponsors including administrative actions.
- Promptly reporting DSMB reports when received and/or available.
- Submission of a periodic progress/renewal report no less than annually to the IRB. The IRB requires review of this protocol every **12 Month Review Cycle**. Progress Reports must be received 30 days and approved prior to the expiration date to allow continuing enrollment and/or data collection.
- Reporting of any changes to this study including; protocol, consent, application, investigators, and study staff prior to implementation. (Changes necessary to eliminate immediate hazards to subjects may be implemented prior to IRB approval.)
- Submission of a study closure report within 30 days of the study's completion.

The IRB and Dignity Health maintains the authority to terminate or suspend approval of research that is not being conducted in accordance with the requirements stated above and/or research that has been associated with unexpected serious harm to subjects.

If you have any questions or need further assistance please contact the IRB office at: 602-406-3195 or by email to Kim.Hedden@DignityHealth.org

Sincerely,



Catherine Y. Seiler, PhD
[This has been electronically signed]



Research
Office for Research & Discovery

Human Subjects
Protection Program

1618 E. Helen St.
P.O.Box 245137
Tucson, AZ 85724-5137
Tel: (520) 626-6721
<http://rgw.arizona.edu/compliance/home>

Date: July 24, 2017
Principal Investigator: Nicole Marie Torres
Protocol Number: 1707655360
Protocol Title: Palliative Care Utilization in the Intensive Care Unit: A Descriptive Study
Level of Review: Administrative Review
Determination: Approved
IRB of Record: St. Josephs Hospital and Medical Center Dignity Health

Documents Reviewed Concurrently:

Data Collection Tools: *Master List Word Version.docx*
Data Collection Tools: *Palliative Care Data Collection Tool Word Version.docx*
HSPP Forms/Correspondence: *Nicole_Torres_F204.doc*
HSPP Forms/Correspondence: *Signature page.pdf*
HSPP Forms/Correspondence: *TorresF107.doc*
Other Approvals and Authorizations: *St.JosephsIRBApplicationandApproval.pdf*
Other Approvals and Authorizations: *St.JosephsIRB Approval.pdf*
Protocol: *Palliative_Care_Protocol.docx*

Institution Designated the IRB of Record: When an institution is the designated IRB of record, the UA IRB will not review the project. The University of Arizona agrees that it will rely on the review, approval, and continuing oversight by the institution IRB of those protocols approved by the institution pursuant to the terms of the Institutional Review Board Authorization Agreement (if applicable) and as outlined in the HSPP files.

- The University of Arizona maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #00004218).
- All documents referenced in this submission have been reviewed and are filed with the HSPP.
- The Principal Investigator should notify the IRB immediately:
 - Any proposed changes that affect the LOCAL protocol.
 - Reports any LOCAL unanticipated problems involving risks to participants or others.
 - Continuing Review by the IRB of record has been completed.
 - When the study is complete at the LOCAL site.
- Please refer to the Guidance Ceded IRB Review for more information on local PI responsibilities. All research procedures should be conducted according to the approved protocol and the policies and guidance of the IRB of record.

This project has been reviewed and approved by an IRB Chair or designee.

APPENDIX B:
CODING MANUAL

Coding Manual

Code	Definition
CA	Cancer
CV	Cardiovascular disorder
DNR	Do not resuscitate
F	Female
FC	Full code
GI	Gastrointestinal disorder
HM	Home
HOS	Hospice facility
LIV	Hepatic disorder
LTACH	Long term acute care hospital
M	Male
MOR	Morgue
NEU	Neurological disorder
NPC	No palliative care consult
REN	Renal disorder
RES	Respiratory disorder
SEP	Sepsis
SNF	Skilled nursing facility

APPENDIX C:
DATA COLLECTION TOOL

Data Collection Tool

Patient	Age	Gender	Diagnosis	Code Status	PC Consult	Day of Consult	Disposition
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APPENDIX D:
PROJECTED BUDGET

Projected Budget

Expense Item	Projected Amount
Travel	\$100.00
Consultant Fee (Statistician)	\$300.00
Total	\$400.00

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