# EARLY INTEGRATION OF PALLIATIVE CARE IN PATIENTS WITH TERMINAL CANCER PROGNOSIS

by

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# DEDICATION

I would like to dedicate this project and paper to grandparents. Losing three grandparents during the course of completing this project and paper feels like an impossible heartbreak to overcome. It is with honor that I dedicate this work in recognition to improving the dying process, to not only each of them but to all grandparents. May we never forget how special the moments with them will be.

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# ABSTRACT

Cancer ranks as the second leading cause of death in the United States, with a significant portion of patients facing terminal diagnoses and symptom burdens. Despite advancement in cancer treatments, early integration of palliative care remains a challenge, often resulting in delayed referrals and unmet patient needs.

This quality improvement initiative focuses on screening all new oncology patients using a distress thermometer tool to identify those suitable for early palliative care involvement. A standardized process is implemented to offer referrals to palliative care services for patients with terminal diagnoses and positive screening results

Over a six-week data collection period, 88 new oncology consult appointments were made, with 25% identified as appropriate for palliative care referral. The distress screening tool was completed by an average of 93.3% of patients. Of those appropriate for palliative care, 72.9% were offered a referral, and 43.9% were referred to palliative care. Notably, 100% of referred patients received an initial consult with palliative care within the project timeframe, exceeding the set goals.

Early integration of palliative care for terminal cancer patients is crucial for improving quality of life and reducing symptom burden. Standardized screening tools and referral process can facilitate early involvement, although barriers such as patient refusal and provider hesitancy still exist. Effective multidisciplinary communication and patient education are key components in ensuring successful early palliative care integration. Continued efforts in screening, referral, and education are recommended to address these barriers and enhance the quality of care for patients facing terminal cancer diagnoses.

# CHAPTER ONE

# REVIEW OF THE LITERATURE

## Introduction

In 2020, there were 1.6 million new cancer diagnoses in the United States with a reported 600,000 cancer related deaths (Centers for Disease Control and Prevention, 2023). When advanced cancer or cancer with a terminal prognosis is diagnosed, the health care team primarily focuses on staging of the disease and developing a treatment plan with the best possible outcome, such as a cure. Unfortunately, little to no focus is placed on the emotional, spiritual, and physical symptoms the patient may be experiencing (Greer et al., 2013). Palliative care is defined by the National Cancer Institute (2020) as an approach to address the whole person, not just a disease by focusing on prevention of symptoms and side effects while targeting psychological, social, and spiritual problems. Palliative care has been shown to increase quality of life, while decreasing symptom burden (National Cancer Institute, 2021).

### Background

Cancer is the second leading cause of death in the United States (National Cancer Institute, 2005) and more than 18 million Americans are living with a history of cancer (Miller et al., 2022). The most common types of cancer for men in the United States are prostate, melanoma of the skin, and colorectal and the most common cancers for women are breast, uterine, and thyroid. Approximately 4 million women are living in the United States with a history of breast cancer, with 150,000 living with metastatic disease (Miller et al., 2022). The median age of breast cancer diagnosis is 63 years and the 5-year survival rate of breast cancer has increased from 75% in the 1970s to 90% from 2011 to 2017; with a near 100% survival rate for those diagnosed as stage 1 (Miller et al., 2022). Approximately 1.4 million people within the United States have been diagnosed with colorectal cancer, three-quarters of survivors are 65 years or older, and the median age of colorectal cancer diagnosis is 65 years for men and 68 years for women (Miller et al., 2022). The 5-year survival rate for colorectal cancer has improved from 50% in the 1970s to 65% from 2011 to 2017 (Miller et al., 2022).

As advancements are made in the treatment of cancers, more then 60% of those diagnosed with cancer will live longer than 5 years post diagnosis (National Cancer Institute, 2005). Cancer treatments include surgery, radiation, chemotherapy, hormone and biological therapies, and these methods may be used as single agents or in combination. These treatments involve shrinking of tumors so that they can be surgically removed or prevent further growth and spread of tumors. This is done by using high-energy rays aimed at the tumor area, medications given systemically that target rapidly dividing cells (cancerous and noncancerous), stopping the production of hormones, and enhancing the body's own immune system to help fight off cancer cells. Patients with advanced cancer may also look to join clinical trials aimed at finding better treatment modalities. Unfortunately, the chance of a clinical trials helping a patient are low and may come with intensified side effects (National Cancer Institute, 2020).

Cancer survival rates can be looked at in several different ways, allowing for differentiate in those who are still undergoing treatment or those who have received cancer remission. Disease-free survival rates are people who no longer have any evidence of cancer, whereas progression-free survival rates are people who have no signs of recurrence or the cancer has remained stable without continued growth. Although survival rates are often looked at as 5-year rates, cancer can recur after 5 years (Mayo Clinic, 2022).

Treatment of cancer can involve damage to healthy cells and tissues as well as the cancer cells, often leading to side effects, and the benefits versus risks of these treatments must be considered (National Cancer Institute, 2005). Side effects of cancer treatment include pain after surgery, radiation burns, hair loss, fatigue, low blood counts, infection, gastrointestinal distress, along with others (National Cancer Institute, 2005). As advancements are made in the treatment of cancers, more people are surviving or living longer with a cancer diagnosis. These individuals face long-term effects of cancer and cancer treatments including physical, functional, cognitive, and psychosocial effects that must be considered in their ongoing care (Miller et al., 2022). Among breast cancer survivors, lymphedema, sexual and fertility concerns, and chronic fatigue are common, and hormonal treatment among these patients can cause menopause symptoms and surgery can lead to poor self-image. Survivors of colorectal cancer often have long term effects of neuropathy, bladder and sexual dysfunction, as well as negative body-image related to colectomy surgery (Miler et al., 2022). As more people are surviving and living with cancer, increased care must be placed on managing the ongoing symptoms of cancer and cancer related treatments.

The central problem to be researched is the lack of palliative care involvement in patients suffering from terminal prognosis cancer. A diagnosis of terminal cancer looks different for each individual. For example, some patients can live a long life with therapy options while others may not respond to therapies. Regardless, both circumstances are accompanied by physical and psychological hardships (National Cancer Institute, 2020). Palliative care is a relatively new specialty practice, as it was first recognized in 2007. Palliative care targets an array of patient concerns including; physical (pain, fatigue, nausea), emotional (depression, anxiety, fear), spiritual (beliefs, values), caregiver need (work, household duties, family), and practical needs (advanced directives, care coordination). Palliative care consists of a multidisciplinary team including providers, nurses, social workers, chaplains, and others (Greer et al., 2013). An important area to highlight is the difference between palliative and hospice care. Palliative care can be integrated at any time during cancer treatment, even when curative treatment is occurring, while hospice care begins when curative treatment is no longer a goal (National Cancer Institute, 2021).

## Evidence-Based Solution

Early integration can be defined as utilization of palliative care early within the course of a disease, or before patients are suffering from high symptom burden. Early integration has been an ongoing concern within palliative care, with primary providers hesitant to refer until high symptom burden and low functional status occurs (Gaertner et al., 2011). Tools such as, the Distress Thermometer (DT), are utilized to identify patients that could benefit from palliative care integration. The DT is an 11-point analog scale which measures distress from zero (no distress) to ten (extreme distress) over the previous one week (Thekkumpurath et al., 2009). Distress among patients with advanced medical conditions in viewed along a continuum (Kelly et al., 2006). The DT is recommended by the National Comprehensive Cancer Network (NCCN) as an assessment among cancer patients. Sensitivity of the DT tool ranges from 0.77 to 0.80 with specificity from 0.59 to 0.70 (Lander et al., 2019). A limitation of the DT is that it is a self-reported tool, therefore patients must be able to report their psychological state. Although research has been conducted on utilization of the DT tool as a provider driven tool, this has shown to have possible bias based on providers past experiences (Lander et al., 2019).

## Methods

The aim of the literature search was to identify studies in which palliative care was implemented within the oncology population, with the main focus being early implementation of palliative care. The search aimed to identify the definition of early integration as well as provide evidence in the clinical outcomes when palliative care is implemented. The search focused on terminal cancer diagnosis in general, without focus on a specific cancer type.

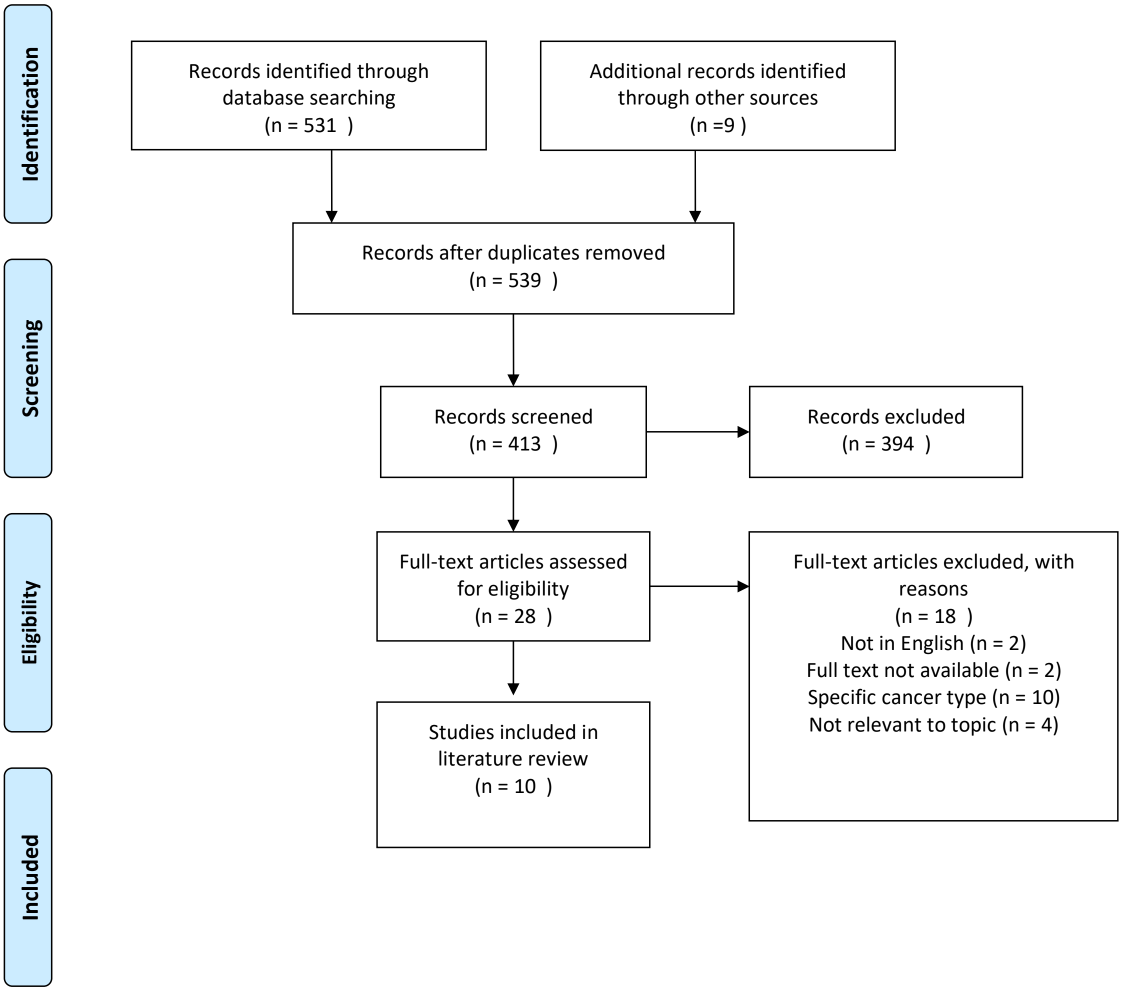
### Search Strategy

A systematic search was conducted in collaboration with a Montana State University librarian for peer-reviewed literature. The initial search was conducted in June of 2023 and was then updated in September of 2023. The database used was Web of Science, which is a combined database and searches Science Citation Index, Social Science Citation Index, Arts and Humanities Citation Index, Conference Proceeding Citation Index, Book Citation Index, Current Chemical Reactions, Index Chemicus, BIOSIS Citation Index, Data Citation Index, Derwent Innovations Index, Medline, SciELO Citation Index, and Zoological Record. This database came recommended by the Montana State University librarian to allow for the best broad article search. The search included articles published within the last five years (2018-2023), written in English, and keywords to include; “palliative care”; “oncology”; “early integration.”

## Inclusion and Exclusion Criteria

Studies included met the above criteria of being published within the last five years, written in English, as well as inclusion of the term “terminal.” Exclusion terms utilized within the search included; “hospice”; “children OR pediatric.” The detailed search resulted in 28 full length articles, the abstracts were then screened for relevance and the search was narrowed to 18 full length articles; after review of these full length articles, ten were identified to be included within the literature review. Full text articles were excluded for several relevance reasons, the main being the article focused on a specific cancer diagnosis versus the general advanced cancer population. Two articles were included from prior to the five year range (2006 and 2011) due to their relevance to the topic and value added to the body of evidence.

Figure 1. PRISMA Diagram showing studies identified, screening, eligible, and included within the synthesis of literature



*From:* Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *P*referred *R*eporting *I*tems for *S*ystematic Reviews and *M*eta-*A*nalyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

**For more information, visit www.prisma-statement.org.**

# Results

## Quantitative Findings

Included in the literature utilized for the synthesis of evidence, the majority of study findings were retrospective analysis, with five studies being level of evidence of IV. One randomized-control trial was included with a higher level of evidence at level II. The remaining studies include two surveys looking to validate the DT screening tool, one focus group interview on quantitative findings, and a prospective cross-sectional study; level II to VII.

## Synthesis of Literature

Palliative care is regarded as a multidisciplinary team, involving not only providers but also nurses, social workers, dietitians, chaplains, and more (Chosich et al., 2019; Gaerther et al., 2011). Palliative care differs from hospice care in that it can be practiced alongside curative intent treatments (Foster et al., 2019; Ziegler et al., 2017). Palliative cares intent is to prompt physical, psychosocial, and spiritual care among both patients and family members facing advanced disease processes (Chosich et al., 2019). Integration of palliative care can be challenging as it requires referral from a primary provider, such as an oncologist (Gaerther et al., 2011).

Integration of palliative care results in increased quality of life for both the patient and family members (Barth et al., 2020; Chosich et al., 2019; Foster et al., 2019; Gemmell et al., 2019; Harnischfeger et al., 2022; Sato et al., 2022; Ziegler et al., 2017), along with better symptom management, (Chosich et al., 2019; Gemmell et al., 2019; Harnischfeger et al. 2022) improved psychosocial health, (Chosich et al., 2019; Gaerther et al., 2011; Harnischfeger et al., 2022) and better understanding of diagnosis allowing for empowered patients to make better informed care decisions (Foster et al., 2019; Gemmell et al., 2019; Harnischfeger et al., 2022; Ziegler et al., 2017). Palliative care aims to not only manage the symptoms of disease, but also focuses on managing the treatment side effects from lifesaving or life prolonging treatments (Foster et al., 2019; Ziegler et al., 2017).

Early integration of palliative care has been shown to not only improve quality of life but also allow patients to live longer, more fulfilling lives with terminal cancers (Barth et al., 2020; Foster et al., 2019; Gearther et al., 2011; Gemmell et al., 2019; Harnischfeger et al., 2022; Sato et al., 2022; Ziegler et al., 2017). Early integration focuses on patient centeredness and a proactive approach to identify those patients who will benefit (Chosich et al., 2019). There is hesitancy in early involvement of palliative care, and referrals are often placed only when symptoms are unable to be managed or in late stage of diagnosis (Barth et al., 2020; Chosich et al., 2019; Gaerther et al, 2011; Ziegler et al., 2017). The goal of palliative care however is to anticipate and prevent or reduce suffering associated with the advanced disease processes (Foster et al., 2019). High-quality end-of-life care is a goal of treatment of terminal cancer, by integrating palliative care early on in diagnosis, patients more readily transition towards hospice and better fulfill end-of-life preferences (Barth et al., 2020; Foster et al., 2019; Gemmell et al., 2019; Harnischfeger et al., 2022; Foster et al., 2019; Sato et al., 2022; Ziegler et al., 2017). Studies have also shown a decrease in healthcare costs towards end-of-life with the involvement of early palliative care, showing less aggressive treatments and acute hospital stays late in the terminal cancer stages (Barth et al., 2020; Chosich et al., 2019; Gemmell et al., 2019; Harnischfeger et al., 2022; Foster et al., 2019; Ziegler et al., 2017).

Identifying when early integration of palliative care should occur in the treatment process has proven to be challenging. For example, Gemmell et al. (2019) note a lack of research to show how best to integrate palliative care early, while further research highlights the need for an identification tool to flag those who may benefit from palliative care involvement (Gaerther et al., 2011; Gemmell et al., 2019; Sato et al., 2022). In addition, research shows that early integration may be challenging to quantify as many terminal cancer patients are already experiencing high symptom burden at time of diagnosis; patient performance status can help quantify when in the disease process palliative care is implemented (Gaerther et al., 2011). Recommendations have been made to create clinical pathways that flag certain diagnoses and disease trajectory to populate a referral to palliative care (Gaerther et al., 2011; Gemmell et al., 2019). The longer interval (greater than four weeks) between palliative care integration to cancer patients and time of death is associated with better patient outcomes including; dying at home, increased use of opioids, reduction of chemotherapy treatments, and decreased emergency department admissions (Ziegler et al., 2017). Barriers to implementing early palliative care include the lack of standardization, limited research specific to early palliative care within the population of terminal cancer patients, as well as identifying when and how to best screen for palliative care needs (Gaerther et al., 2011; Gemmell et al., 2019).

Delays in palliative care referral can also be associated with a negative or misunderstanding of palliative care services and the belief that discontinuation of anti-cancer treatments must occur (Barth et al., 2020; Chosich et al., 2019; Harnischfeger et al., 2022; Sato et al., 2022). In addition, research shows insufficient communication between providers and patients and their family members as a barrier to early palliative care referral; (Chosich et al., 2019; Gaerther et al., 2011; Harnischfeger et al., 2022; Sato et al., 2022) topics that should be discussed early in terminal prognosis cancer diagnosis include advanced care planning (Sato et al., 2022), patient values, fears, and the end of life process (Harnischfeger et al., 2022). Increased communication training is needed among oncologists regarding discussions of palliative care and end of life (Harnishfeger et al., 2022; Sato et al., 2022). Regarding providers hesitancy to refer to palliative care, providers may not recognize patients distress based on their past experiences, past biases may impact the evaluation of patients distress level (Lander et al., 2019; Ransom et al., 2006). With increased communication of palliative care services offered, more requests for palliative care regarding interventions can occur (Gaerther et al., 2011). The need for improved patient and family education, improved provider communication regarding palliative care services, and non-bias screening methods are essential in increasing early integration of palliative care (Chosich et al., 2020; Gaerther et al., 2011; Harnishfeger et al., 2022).

## Summary

Research findings highlight the importance of early integration of palliative care among patients and family members suffering from terminal cancers. The main barriers to early integration include lack of a standardized screening tool as well as lack of education and communication among both providers and family members regarding palliative care services.

### Practice and Policy Implications

Early palliative care integration can improve quality of life for those with terminal prognosis cancer, as well as improve end-of-life care, decrease emergency department visits, and decrease overall hospital costs. Practice changes must include a standardized screening tool and referral process to palliative care for patients diagnosed with terminal cancer; this process must occur early on in the patients diagnosis. In addition, greater education must occur both for providers and patients and family members regarding what palliative care is and the services they provide, highlighting the benefits of palliative care prior to end-of-life care and differentiating palliative care from hospice.

# CHAPTER TWO

# INTRODUCTION AND PROBLEM

## Introduction

Cancer is the second leading cause of death within the United States (National Cancer Institute, 2005) with more than 18 million Americans living with a history of cancer (Miller et al., 2022). People living with terminal cancer suffer from many disease and treatment-related symptoms including uncontrolled pain, gastrointestinal effects, emotional distress, among many others. Palliative care has been shown to help these patients with increased quality of life, better symptom management, improved psychosocial health, and a better understanding of the disease process (Chosich et al., 2019). Early integration of palliative care is an essential component of maximizing its benefit among persons with advanced cancer or those with a terminal prognosis. Screening at new patient visits can help identify those who would benefit from palliative care services. An oncology clinic located in Montana has recognized the benefit of palliative care among the oncology patient population. However, the service is being utilized mostly during end-of-life processes, almost as a steppingstone into hospice. The lack of standardized screening at the time of diagnosis as well as a lack of understanding by providers and patients has led to late referrals to palliative care and a missed opportunity to increase quality of life throughout the patients advanced cancer stages.

## Problem Statement

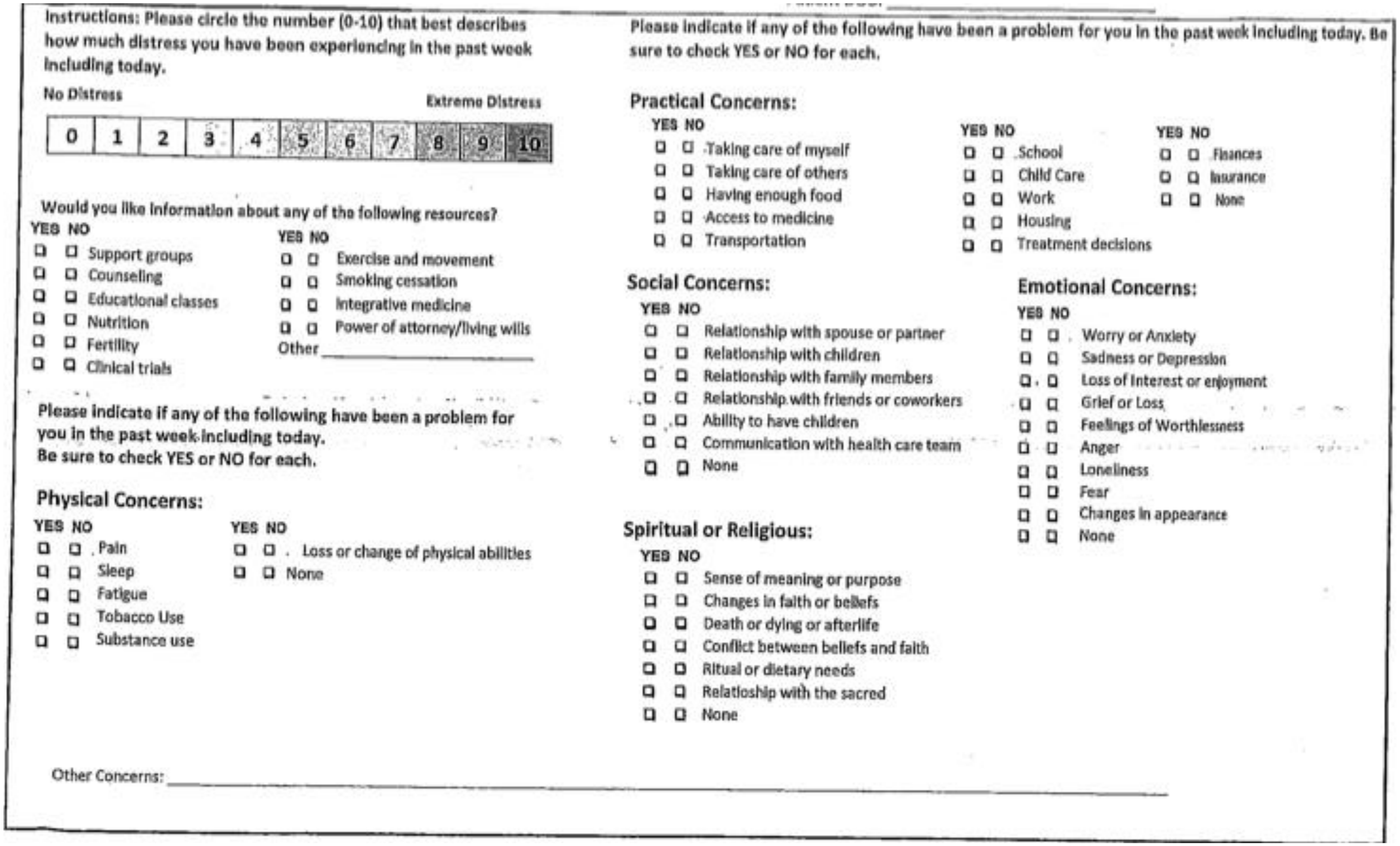
The central problem to be addressed is the lack of palliative care involvement in patients suffering from terminal cancers, with an emphasis on early integration of services. Literature has shown that the lack of palliative care referrals early in terminal cancer diagnosis is multi-factorial. The two main findings being the lack of standardized screening for palliative care needs and a lack of understanding of palliative care services by both providers and patients. To improve early palliative care referrals this project aims to implement a standardized screening tool to all newly diagnosed oncology patients. If the screening tool is positive and the patient has a terminal diagnosis, a discussion will occur with the primary oncologist as to why this patient would benefit from palliative care. A palliative care referral will be placed at that time, or the oncologist will verbalize why they find this service inappropriate for this patient. The primary oncologist will initiate the discussion with the patient about palliative care needs identified and the palliative care team will reinforce the services they offer to help improve quality of life.

## Organizational Microsystem Assessment

The focus organization is a healthcare system located in Montana which includes an outpatient oncology clinic with an embedded palliative care team. The oncology clinic employs five medical oncologists, two radiation oncologists, and one nurse practitioner, seeing 50 patients per day on average with three to four new patient visits daily. In addition to the providers, the clinic employs numerous nurses, medical assistants, patient service representatives, a social worker, a dietitian, and a counselor. The embedded palliative care team includes one nurse practitioner who is supported by a nurse and a patient service representative. The healthcare system in general serves the local community of 75,000 people as well as many surrounding rural community members with 159,000 people living within a 50-mile radius of the Montana town (University of Montana, 2023).

The target population for this project includes first time patients being seen at the oncology clinic, with a focus on those suffering from a terminal prognosis disease. Implementing a screening tool with a pathway for referral will help identify patients with terminal cancer suffering from decreased quality of life or high symptom burden. The distress screening tool identifies needs including advanced care planning (ACP), and physical, practical, social, spiritual, and emotional support needs. The electronic medical record (EMR) does have a Best Practice Advisory (BPA) trigger built in to recommend palliative care for patients suffering from pancreatic cancer, acute leukemia, or stage IV lung cancer; although this BPA is often negated by the oncologists. Therefore, all terminal diagnoses will need to be identified through a thorough chart review of all newly diagnosed oncology patients to identify appropriateness of palliative care referral.

Figure 2. Distress screening tool utilized within the study as the standardized screening form for all new oncology patients



**Instructions: Please circle the number (0-10) that best describes how much distress you have been experiencing in the past week including today.**

**No Distress** — **Extreme Distress**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

**Would you like information about any of the following resources?**

**YES NO**
☐ ☐ Support groups
☐ ☐ Counseling
☐ ☐ Educational classes
☐ ☐ Nutrition
☐ ☐ Fertility
☐ ☐ Clinical trials

**YES NO**
☐ ☐ Exercise and movement
☐ ☐ Smoking cessation
☐ ☐ Integrative medicine
☐ ☐ Power of attorney/living wills
Other ____________________

**Please indicate if any of the following have been a problem for you in the past week including today. Be sure to check YES or NO for each.**

**Physical Concerns:**

**YES NO**
☐ ☐ Pain
☐ ☐ Sleep
☐ ☐ Fatigue
☐ ☐ Tobacco Use
☐ ☐ Substance use

**YES NO**
☐ ☐ Loss or change of physical abilities
☐ ☐ None

**Please indicate if any of the following have been a problem for you in the past week including today. Be sure to check YES or NO for each.**

**Practical Concerns:**

**YES NO**
☐ ☐ Taking care of myself
☐ ☐ Taking care of others
☐ ☐ Having enough food
☐ ☐ Access to medicine
☐ ☐ Transportation

**YES NO**
☐ ☐ School
☐ ☐ Child Care
☐ ☐ Work
☐ ☐ Housing
☐ ☐ Treatment decisions

**YES NO**
☐ ☐ Finances
☐ ☐ Insurance
☐ ☐ None

**Social Concerns:**

**YES NO**
☐ ☐ Relationship with spouse or partner
☐ ☐ Relationship with children
☐ ☐ Relationship with family members
☐ ☐ Relationship with friends or coworkers
☐ ☐ Ability to have children
☐ ☐ Communication with health care team
☐ ☐ None

**Spiritual or Religious:**

**YES NO**
☐ ☐ Sense of meaning or purpose
☐ ☐ Changes in faith or beliefs
☐ ☐ Death or dying or afterlife
☐ ☐ Conflict between beliefs and faith
☐ ☐ Ritual or dietary needs
☐ ☐ Relationship with the sacred
☐ ☐ None

**Emotional Concerns:**

**YES NO**
☐ ☐ Worry or Anxiety
☐ ☐ Sadness or Depression
☐ ☐ Loss of interest or enjoyment
☐ ☐ Grief or Loss
☐ ☐ Feelings of Worthlessness
☐ ☐ Anger
☐ ☐ Loneliness
☐ ☐ Fear
☐ ☐ Changes in appearance
☐ ☐ None

Other Concerns: ____________________

Key stakeholders involved in the implementation of this project include leadership within the oncology clinic and palliative care teams, as well as the providers and support staff within both settings. Perhaps most important will be the oncology social worker who is the person reviewing new patient diagnoses and completed screening tools, then contacting the oncologist to encourage a referral to palliative care when appropriate; they are the connection between the two independent teams.

## Quality Improvement Model

The healthcare system at which the project will be completed utilizes the Institute for Healthcare Improvement (IHI) Quality Improvement Essentials which includes the use of the PDSA process; Plan, Do, Study, Act. The IHI Model for Improvement utilized includes three important questions to guide the improvement process; 1. What are we trying to accomplish, 2. How will we know that a change is an improvement, and 3. What changes can we make that will result in improvement (Moran et al., 2020). These three questions guide the quality improvement project by identifying the aim, selecting measurements, and knowing what the goal of change is. The PDSA cycle is then completed to test the change, several cycles may need to be completed to hone in on the best process for change (Moran et al., 2020). The IHI model will be utilized to first answer the three important questions regarding palliative care within the oncology clinic. Then, several PDSA cycles will be completed within the healthcare system, making changes if the current plan is not meeting goal expectations; this can be quantified using the measurements set prior to the project start. Once the practice change is at its best and improvement has been identified, the next step is to broaden the scale of the project and implement it throughout the larger healthcare system.

## Specific Aim/Purpose Statement

The purpose of this quality improvement project is to increase newly diagnosed terminal oncology patients that are being referred to and meeting with the palliative care team. Prior to placement of a referral, this project will identify which patients may benefit from palliative care by screening all new patients with a standardized distress screening tool. Patients that screen positive and have a terminal prognosis will receive education on palliative care services and be offered referral to the palliative care team embedded within the oncology clinic. Receiving palliative care early on in an advanced cancer disease improves quality of life for both patients and families as well as decreases symptom burden (Chosich et al., 2019). Therefore, by increasing early referrals to palliative care this project will aim to improve quality of life and decrease symptom burden in patients suffering from advanced cancers. A known barrier to palliative care integration is a lack of knowledge or misunderstanding of what palliative care services are to patients (Barth et al., 2020). In addition to increased palliative care referrals, this project will also aim to identify and increase education being provided to oncology patients regarding what palliative care is and how their services many benefit patients prior to end-of-life.

## Methods

### Implementation Summary

This quality improvement project will take place at an oncology clinic located in a Montana. The oncology clinic is part of a large healthcare system and has a palliative care team with a nurse practitioner embedded within the oncology clinic. The population of focus is newly diagnosed oncology patients, with a primary focus on those with terminal prognosis. Utilization of the distress screening tool will look to identify patients with high symptom burden, indicating a need for palliative care intervention. The oncology social worker will evaluate the distress screening tool and if positive, will encourage the oncologist to refer the patient to palliative care at that time. Measurements including diagnosis status (terminal vs. none), screening tool results (positive or negative), messages sent from social worker to the oncologist, referrals placed, as well as patients scheduled and seen by palliative care will all be measured over a six-week time period. In addition to palliative care referrals, this project will also attempt to assess education provided to patients regarding palliative care services. This will occur by keeping a tally of how many palliative care pamphlets or EMR information links are sent to patients over the six-week time period, recorded by the oncology social worker.

## Intervention and Implementation

The oncology clinic is already utilizing a distress screening tool which is completed by all new patients at the oncology clinic, the workflow change will include utilizing this tool to identify patients appropriate for palliative care referral. After the patient completes the distress screening tool it will be returned to the oncology social worker who will enter it into the EMR. They will evaluate the tool looking to identify palliative care needs such as support completing Advanced Care Planning (ACP) or symptom burden, including physical, practical, social, spiritual, or emotional distress. If the patient meets both criteria of having a terminal diagnosis as well as a positive distress screening tool, the social worker will route a message to the oncologist within the EMR encouraging a referral be placed to palliative care. The oncologist will then either place the referral themselves, return message to the social worker to place the referral, or notify the social worker they do not feel palliative care is appropriate. If the oncologist does not feel that palliative care is appropriate, the project lead will follow up with them gathering information as to why and have the social worker place a reminder within the EMR to follow up in four weeks to see if this has changed and referral may then be appropriate.

Once a referral to palliative care is placed, the referral goes through the EMR into a que that the palliative care nurse manages. They will again review the patients' chart to assure they are appropriate for palliative care, looking at diagnosis and the distress screening tool responses. If the patient is appropriate, the nurse will contact the patient and work to get them scheduled for an appointment with the outpatient palliative care nurse practitioner. In most situations the patient is able to see the palliative care provider during their next visit with their oncologist or during a cancer treatment; this allows for clustered care and less travel for the patient. The palliative care nurse practitioner also offers virtual or telephone visits if the patient is unable or unwilling to travel into the clinic. In person, virtual, and telephone visits will all be considered as establishing with the palliative care service.

In regard to measuring patient education, many barriers are present as data cannot be collected regarding each conversation had with new oncology patients or other oral forms of education provided by staff. To increase education being provided to new oncology patients, a workflow change will occur so that all patients who are determined to be appropriate for palliative care or having a terminal diagnosis and positive distress tool will receive written education regarding what palliative care is and the services they offer. This education will either be a message sent through the EMR or a mailed copy if they do not utilize the EMR messaging system. To gather insight into how education is being provided and how often, the oncology social worker will keep a tally of how often they are mailing palliative care pamphlets or sending

EMR messages to patients with the palliative care education included. A tally count will also be gathered by the project lead on how many palliative care pamphlets are available within the oncology clinic, thus being able to determine how many were taken or handed out in a given week. This count will not be specific to newly diagnosed oncology patients but will include any oncology patients seen within the clinic.

There are several barriers that can be anticipated while implementing this quality improvement project. The first barrier that can be anticipated is the lack of a documented final diagnosis at the time of a patient's initial oncology appointment. Although the diagnosis of cancer has been made, final pathology or staging may still be pending. This information helps determine the patient's prognosis such as terminal versus none, which means that identifying a terminal diagnosis within the patient's chart may not be possible. To address this barrier, if the social worker cannot identify a final diagnosis within the patient's chart, they will route themselves a reminder within the EMR to re-check the diagnosis in two weeks; if the diagnosis is terminal, they will route the oncologist a message within the EMR encouraging palliative care referral.

A second barrier within this project is having a warm handoff between the oncologist and the palliative care provider. The distress tool will be evaluated after the patient has already left the clinic, meaning the oncologist will be unable to speak with the patient at the new patient appointment regarding what palliative care is. Having a warm handoff may look different for each provider and patient duo, communication within the EMR between the social worker and oncologist will be most important within this phase. Several oncologists have voiced they prefer to discuss palliative care in person, this would be accomplished by placing an appointment reminder note within the EMR on the patient's next scheduled visit; reminding the oncologist to discuss palliative care or notify the social worker they do not want palliative care involvement at that time. Other oncologists have voiced they would be okay with a telephone or patient message within the EMR discussing palliative care with the patient. In this situation a script will be developed for the social worker to utilize for a phone conversation or a script to be sent through the EMR to the patient by the social worker. This would allow the patient to receive education and ask questions regarding palliative care services prior to getting called to schedule by the palliative care team. A third barrier that can be anticipated is the lack of patient education regarding what palliative care is and the services they offer. As discussed above, in addition to the telephone and EMR scipts, the oncology clinic has pamphlets available that have the palliative care teams information on it, these pamphlets can also be mailed to patients or accessed online if they are not within the clinic.

## Evaluation and Analysis

There are several data points that will need to be collected and evaluated throughout the implementation of this project. These include the number of new patient visits, number of distress tools completed at new patient visits, number of terminal or advanced disease new patients, number of patients that are determined to be appropriate for palliative care or having a terminal diagnosis and a positive distress tool, number of patients offered a referral to palliative care, number of patients referred to palliative care, and the actual number of patients that are seen by palliative care for an initial consult. Each of these data points will be collected on a weekly basis utilizing a detailed chart review by the project lead, the duration of data collection will be six weeks. The oncology social worker will collect the distress screening tools after completion by the patient and input the information into the EMR, they will also keep the hardcopy for the project lead to cross reference. The project lead will input all data points described above into an Excel spreadsheet to be stored on the secure healthcare network. The data collected will then be placed into run charts for further analysis and percentage calculations, more specific analysis information provided in appendix B. Additional data will be collected on patient education resources, keeping a count of how many palliative care pamphlets are handed out at the oncology clinic as well as how many are mailed or sent through the EMR to new oncology patients that are consider appropriate for palliative care. This data will be collected as a tally count over the six week period and stored in Excel, again a run chart will be utilized to analyze this data.

## Safety and Confidentiality

Safety and confidentiality are of the utmost importance within a quality improvement project. The data that is to be collected does not impose any risk towards the patient, its intentions are to improve patient care. Confidentiality must be maintained throughout the project, several interventions will assure this occurs. All data collected will be stored on an Excel spreadsheet which will only be accessed on password protected, network secure devices. If the data does need to be evaluated on a personal device, the participants will be de-identified utilizing a numbering system by the project lead and the spreadsheet will be kept only on a password protected personal device. The data that is to be collected includes the patients' medical record number, date of new patient appointment, completion of distress tool or not, diagnosis as terminal or none terminal, referral to palliative care or not, date of referral to palliative care, date contacted for scheduling by palliative care, and date seen by the palliative care provider. No data will be recorded to include patient name or birthday, the patient’s medical record number will be utilized for tracking of referral status over the six week period. However, the medical record number will be de-identified once completion of data collection occurs and prior to any data presentation. The initial hard copy of the distress screening tool will be utilized for data collection, this copy will remain at the healthcare facility and will then be shredded per the healthcare facility policy after all data is recorded into the EMR and Excel.

# CHAPTER THREE

## QUALITY IMPROVEMENT MANUSCRIPT

### Contribution of Authors and Co-Authors

Manuscript in Chapter 3

Author: Jamie Martin, BSN, DNP Candidate

Contributions: Conceived the idea and design of the study, performed data collection, analysis, and interpretation; completed writing, editing, and formatting of manuscript

Co-Author: Margaret Hammersla, PhD, ANP-BC

Contributions: Provided expertise, feedback, and revisions to project idea and design, data collection, analysis, and interpretation process as well as content and stylistic/grammatical revisions to the manuscript

Co-Author: Jamie M Nelson, PhD, MN, RN

Contributions: Provided expertise and feedback to content and stylistic/grammatical revisions to manuscript

## Manuscript Information

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# Abstract

## Background

This quality improvement project operates within a Montana healthcare system, addressing the need for enhanced early involvement of palliative care among terminal oncology patients. The initiative utilizes an existing distress screening tool to identify eligible patients and prompt palliative care referrals, aiming to bridge a critical gap in care for terminal cancer patients.

## Local Problem

The outpatient clinic is part of a larger healthcare system, with Montana having a higher rate of cancer diagnosis compared to the overall United States within the last five years. Recognizing the importance of early palliative care integration, the project focuses on streamlining the referral process and improving patient education regarding palliative care services to those with terminal cancer.

## Methods

Data collection spans six weeks and includes metrics such as new patient visits, distress tool completion, patients with terminal illness, those suitable for palliative care, and actual palliative care consultations. SMART goals guide the analysis, using bi-weekly and final run charts and descriptive statistics are employed to assess progress against predefined benchmarks.

## Interventions

The project repurposes the existing thermometer distress screening tool to prompt palliative care referrals for eligible patients, streamlining the workflow within the oncology

clinic. Educational materials about palliative care are provided to identified patients, addressing the existing barrier of limited knowledge or misconceptions about palliative care services.

### Results

Utilization of the distress screening tool resulted in 93.3% completion at initial oncology consults. Overall 25% of patients screened were considered appropriate for palliative care, 72.9% were offered referral and 43.9% were referred to palliative care; 92.9% received education regarding palliative care services. Of those referred, 100% were seen by palliative within the duration of this project.

### Conclusion

The initiative holds the potential to significantly impact the quality of life for patients facing terminal cancer prognosis by facilitating timely access to palliative care and addressing gaps in patient education.

## Clinical Problem

Cancer is the second leading cause of death within the United States (National Cancer Institute, 2005) with more than 18 million Americans living with a history of cancer (Miller et al., 2022). The rate of cancer in the state of Montana was estimated to be 4% higher than the overall United States rate from 2015-2019 (Montana DPHSS, 2022). When terminal cancer is diagnosed, the health care team places focus on staging of the disease and developing a treatment plan for the best possible outcome. With continuous advancement in cancer treatments, over 60% of those diagnosed now surpass a five-year survival milestone (National Cancer Institute, 2005).

Individuals living with terminal cancer suffer with various symptoms stemming from both the disease and it's treatments, including uncontrolled pain, gastrointestinal issues, emotional distress, among many others. Unfortunately, the early stages of diagnosis often lack a comprehensive approach to managing disease burden. Palliative care, as defined by the National Cancer Institute (2020), offers a holistic strategy that addressed the entirety of an individual, not just the disease. This approach prioritizes symptom and side-effect prevention while tacking psychological, social, and spiritual concerns. Palliative care has been shown to increase quality of life, while reducing symptom burden (National Cancer Institute, 2021) and early integration is an essential component of maximizing its benefit among persons with terminal cancer.

## Review of the Literature

Palliative care has demonstrated its efficacy in enhancing the quality of life and alleviating symptom burden for individuals facing terminal cancer (National Cancer Institute, 2021). The integration of palliative care at an early stage can not only improve the quality of life for those with terminal prognosis cancer but can also improve end-of-life care, reduce emergency department visits, and lower overall hospital costs (Barth et al., 2020; Chosich et al., 2019; Gemmell et al., 2019; Foster et al., 2019; Harnischfeger et al., 2022; Ziegler et al., 2017). Early integration focuses on patient centeredness and a proactive approach to identify those patients who will benefit (Chosich et al., 2019). However, there is hesitancy to involve palliative care early on, often resulting in referrals only when symptoms become unmanageable or in the late stage of diagnosis (Barth et al., 2020; Chosich et al., 2019; Gaerther et al, 2011; Ziegler et al., 2017).

Identifying when early integration of palliative care should occur in the treatment process has proven to be challenging. Gemmell et al. (2019) highlight a lack of research on the best methods to integrate palliative care early, while other studies underscore the need for an identification tool to flag those who may benefit from palliative care involvement (Gaerther et al., 2011; Gemmell et al., 2019; Sato et al., 2022). The main barriers to early integration include the lack of a standardized screening tool as well as insufficient education and communication among both healthcare providers and family members regarding palliative care services (Gaerther et al., 2011; Gemmell et al., 2019). Recommended practice changes include implementation of a standardized screening tool and referral process to palliative care for patients diagnosed with terminal cancer, emphasizing early initiation. In addition, comprehensive education for both healthcare providers and patients, as well as their family members, is crucial to promote a better understanding of palliative care, its benefits, and the distinction between palliative care and hospice care (Barth et al., 2020; Chosich et al., 2019; Harnischfeger et al., 2022; Sato et al., 2022).

## Conceptual Framework

The conceptual framework utilized to guide this project is the Institute for Healthcare Improvement (IHI) Quality Improvement Essentials which includes the use of the PDSA process; Plan, Do, Study, Act. Within the IHI Model for Improvement, three crucial questions shape the improvement process; 1. What are we trying to accomplish, 2. How will we know that a change is an improvement, and 3. What changes can we make that will result in improvement (Moran et al., 2020). These three questions serve as the compass for the quality improvement initiative within the oncology clinic, steering the identification of the aim, selection of measurements, and determination of the change objective. By addressing these questions, the PDSA process is initiated. Multiple PDSA cycles are completed within the healthcare system, allowing for adjustment if the current plan falls short of meeting goal expectations. Progress is measured using predefined metrics established prior to the project start. Once the optimal practice change is identified, and improvement is discerned, the next phase is to broaden the scale of the project and implement it throughout the larger healthcare system (Moran et al., 2020). This systematic approach ensures a continuous cycle of improvement, emphasizing adaptability and responsiveness to achieve the desired outcomes in palliative care within the oncology clinic.

## Aims/Purpose

The objective of this quality improvement initiative is to enhance the early involvement of newly diagnosed terminal oncology patients with the palliative care team. To achieve this, the project introduces a proactive approach by implementing a standardized distress screening tool to identify patients who may benefit from palliative care services. Patients that screen positive and have a terminal prognosis will receive education on palliative care services and be offered referral to the palliative care team embedded within the oncology clinic. Early initiation of palliative care in advanced cancer disease has been shown to improve quality of life for both patients and their families while concurrently reducing symptom burden (Chosich et al., 2019). Therefore, by increasing early referrals to palliative care this project will aim to improve quality of life and decrease symptom burden in patients suffering from terminal prognosis cancers. Recognizing the existing barrier of insufficient knowledge or misconceptions about palliative care services among patients (Barth et al., 2020), this initiative goes beyond increasing referrals. It also sees to elevate awareness and understanding among oncology patients about what palliative care entails and how its services can be beneficial prior to the end-of-life stage. Through increased education, the project aims to empower patients to make informed decisions regarding their care and foster a more comprehensive approach to managing the challenges associated with terminal cancer diagnosis.

## Methods

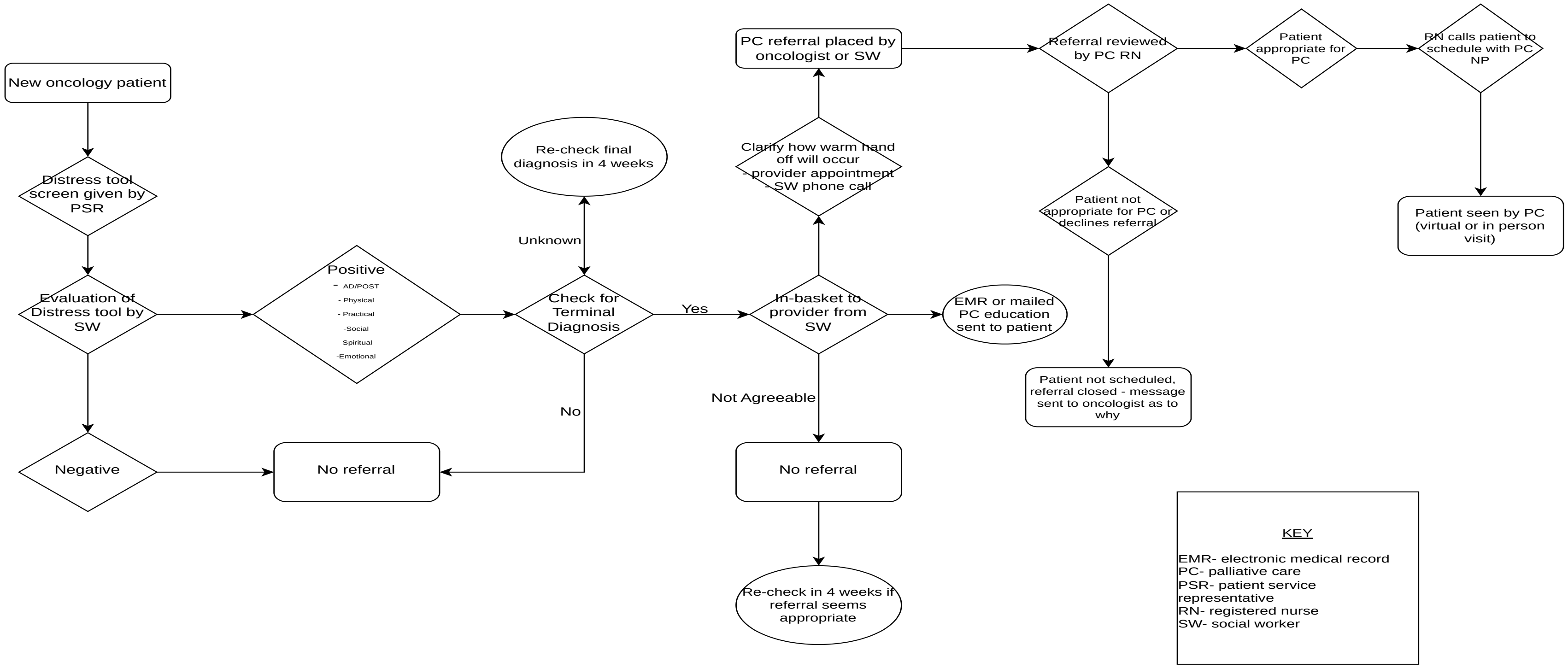
### Context

This quality improvement project is set within a Montana healthcare system, encompassing an outpatient oncology clinic with an integrated palliative care team. The oncology clinic employs five medical oncologists and one nurse practitioner, on average seeing 50 patients per day with three to four new patient visits daily. In addition to the providers, the clinic employs numerous nurses, medical assistants, patient service representatives, a social worker, a dietitian, and a counselor. The embedded palliative care team includes one nurse practitioner who is supported by a nurse and a patient service representative. The healthcare system serves the local community of 75,000 people as well as many surrounding rural community members with 159,000 people living within a 50-mile radius of the Montana town (Swanson, 2023). The target population for this project includes first time patients being seen at the oncology clinic, with a focus on those suffering from a terminal prognosis disease.

### Intervention/Practice Change

The oncology clinic is already utilizing a thermometer distress screening tool, a tool recommended by the National Comprehensive Cancer Network (NCCN), which is completed by all new patients at the oncology clinic; the tool will be repurposed and used to identify patients suitable for palliative care referral. After completing the distress screening tool, it is returned to the oncology social worker and entered into the EMR. Patients meeting both criteria of having a terminal diagnosis as well as a positive distress screening tool will initiate the social worker sending a message to the oncologist within the EMR encouraging a referral be placed to palliative care. The oncologist then either places the referral themselves, asks the social worker to place the referral, or notifies the social worker they do not feel palliative care is appropriate and why. To enhance patient education, all patients who are determined to be appropriate for palliative care or having a terminal diagnosis and positive distress tool will receive written educational material regarding what palliative care is and the services they offer; unless already discussed in person and documented by the oncologist at the time of initial visit. This education includes either a message sent through the EMR or a mailed copy if they do not utilize the EMR messaging system

Figure 3. Workflow diagram demonstrating the updated step by step process for new oncology patients



Measures

There were several data points that were collected and evaluated throughout the implementation of this project. These include the number of new patient visits, number of distress tools completed at new patient visits, number of terminal prognosis new patients, number of patients that are determined to be appropriate for palliative care or having a terminal diagnosis and a positive distress tool, number of patients offered a referral to palliative care, number of patients referred to palliative care, and the actual number of patients that are seen by palliative care for an initial consult.

Table 1. Measurements utilized within the data collection process

| **Measurements** | |
|---|---|
| **# of new patient visits (oncology)** | **# of patients offered palliative care** |
| **# of completed distress tools** | **# of patients referred to palliative care** |
| **# of new terminal diagnoses** | **# of patients seen by palliative care** |
| **# of palliative care appropriate patients** | **# of education sent through EMR/mail** |

Each of these data points was collected on a weekly basis utilizing a detailed chart review, the duration of data collection was six weeks. Additional data was collected on patient education resources, keeping count of how many education resources were sent through the EMR, mailed to new oncology patients, or education provided in person and documented within the EMR to those considered appropriate for palliative care.

## Analysis

SMART goals were set prior to project implementation and were used as a guide for data analysis. Bi-weekly and final run charts were developed utilizing the data points collected over the six week period, showing a visual representation of the data and whether pre-set goals were being met. The mean, or average, was used as the descriptive statistic in comparing data to the percentage goal; the mean represents the sum of all data values divided by the total number of data values. Mean is used as a measure of central tendency, representing the entirety of data collection as a single value, as there were no anomalies within the data set, mean was utilized over mode for this analysis (Kim et al., 2022).

## Goals

1- At initial consult appointments, 100% of new oncology patients will be screened using the distress thermometer tool

2- Of patients identified as appropriate for palliative care, positive distress screen and terminal diagnosis, 75% will be offered a referral to palliative care within two months of initial consult

3- Of patients identified as appropriate for palliative care, positive distress screen and terminal diagnosis, 50% will be referred to palliative care within two months of initial consult

4- Of patients referred to palliative care, 75% will have an initial consult with palliative care within four months of initial oncology consult

5- Of patients identified as appropriate for palliative care, positive distress screen and terminal diagnosis, 90% will receive a form of education regarding palliative care services offered

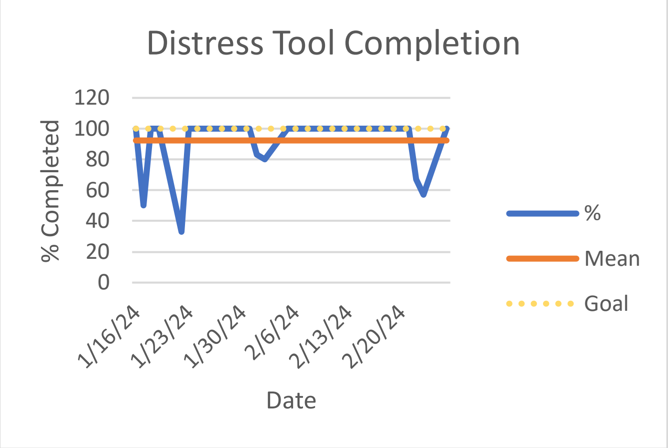
Summary

Upon approval by Montana State University IRB with the determination of not human research, education was provided to oncology and palliative care staff through email and the six week data collection process began. During the data collection period, the DNP student collected bi-weekly data entered into a protected Excel spreadsheet and developed bi-weekly run charts. The data underwent analysis to determine if the pre-set SMART goals were met.

## Results

Over the six week data collection process, there were 88 new oncology consult appointments, 25% (n = 22) of these patients were identified as appropriate for palliative care with a positive distress screening tool and a documented terminal diagnosis. Of the 88 new oncology appointments, an average of 93.3% of patients completed the distress screening tool. Of the patients identified as appropriate for palliative care, 72.9.% were offered a referral to palliative care and 43.9% were actually referred to palliative care. For those patients not offered referral to palliative care the three main reasons were that the patient decided on hospice (44%), the oncologist did not think referral was appropriate at that time (33%), or the patient refused the referral (22%). For those patients that were referred to palliative care, 100% were seen for an initial consult by palliative care within the six week data collection time period. In regards to education, 92. 9% of those identified as appropriate for palliative care received some form of education regarding palliative care services; most often education occurred in-person provided by the oncologist and was documented within the EMR.

Figure 4. Distress tool completion run chart, showing the goal of 100% completion and actual completion below the goal at 93.3%



## Discussion

This quality improvement project utilized the thermometer distress screening tool to be completed by all new oncology patients to identify patients that could benefit from palliative care involvement, with the goal of screening 100% of new oncology patients. This goal was found to be unrealistic in that a portion of new oncology patients refused completion of the screening questionnaire; Zwahlen et al. (2017) identifies that some patients have trouble even sharing emotional difficulties let alone addressing these difficulties. In patients that were identified as appropriate for palliative care referral, the multidisciplinary team communication pathway fell just short of reaching the pre-set goals for referrals offered and referrals placed. Within the communication process, oncologists provided reasoning as to why they did not think palliative care referral was appropriate at the time of initial diagnosis. Most often, the oncologist described unmet social needs that must be placed as a priority; in one case a patient was found to be homeless without a food source, therefore priority was placed on social work involvement with the goal to readdress palliative care needs in the future. A successful finding within the project timeframe was all patients referred to palliative care were seen for an initial palliative care consult, these consults occurred much quicker than the pre-set four month goal and meant patients received extra support quickly.

Increasing education to patients and families was a priority within this quality improvement initiative. With oncologists providing and documenting in-person education as well as developing and sending scripted education materials, almost 93% of patients identified as appropriate for palliative care received some form of education; this exceeded the pre-set goal of 90%. Delays in palliative care referrals have been associated with misunderstanding of what palliative care is and insufficient communication between patient and providers regarding these services (Chosich et al., 2019). Continuing to provide education regarding these services prompts a better understanding of the palliative care practice with the intent of more patients utilizing the services. For those patients who did not receive education, again social barriers were identified as the main reason.

Table 2. Comparison of SMART goals and data collection findings

| Description | Goal | Findings |
|---|---|---|
| At initial consult appointments, new oncology patients will be screened using the distress thermometer tool | 100% | 93.3% |
| Patients identified as appropriate for palliative care, positive distress screen and terminal diagnosis, will be offered a referral to palliative care within two months of initial consult | 75% | 72.9% |
| Patients identified as appropriate for palliative care, positive distress screen and terminal diagnosis, will be referred to palliative care within two months of initial consult | 50% | 43.9% |
| Patients referred to palliative care will have an initial consult with palliative care within four months of initial oncology consult | 75% | 100% |
| Patients identified as appropriate for palliative care, positive distress screen and terminal diagnosis, will receive a form of education regarding palliative care services offered | 90% | 92.9% |

## Limitations

This quality improvement initiative has several limitations that must be addressed regarding generalizability. Firstly, the project occurred at a single outpatient oncology clinic within one care team serving a rural Montana community. The sample size was fairly small (n=88) and the duration of study was short, six weeks. Therefore generalizability to other oncology clinic models and larger urban communities may be limited.

A limitation within the study included staffing concerns and changes within the six week time period. Within the duration of the project, the oncology social worker placed her notice to leave as well as the palliative care team updated their hours of operation from Monday-Friday to Monday-Thursday. The change in social workers had little effect on the multidisciplinary communication model as the previous social worker remained within the clinic to train the new staff and provide guidance on the project workflow and goals. Although palliative care staffing was shown to be adequate, with 100% of those referred being seen, the change in clinic hours did cause hesitation for referral by several oncologists. Without palliative care coverage on Fridays, oncologists voiced concern that they would become responsible for taking phone calls and filling prescriptions outside of their comfort level on these days. Palliative care does have positions posted to hire for greater coverage however lower referral rates may be seen until this coverage is established.

## Recommendations

Based on the findings within this initiative, continued standardized screening for all new oncology patients is recommended with utilization to identify those appropriate for palliative care referral. However, just completing and inputting the screening tool findings into the EMR does not mean referral and follow up will occur. Therefore, continued multidisciplinary discussions regarding patient care needs in addition to continued education provided to patients must occur. Effective patient-provider communication can encourage patients to share psychosocial needs, this trusting relationship may take time to build (Zwahlen et al., 2017). A future recommendation discussed at that conclusion of this project includes a rescreening process for patients. This would mean patients are again asked to complete the distress thermometer tool at one year intervals. Collection of this data could help identify patients not referred at initial diagnosis that may now be ready for increased support from palliative care as well as it could provide data on how well symptoms are being managed for those that are established with palliative care.

## Conclusion

Early integration of palliative care for those facing terminal cancer prognosis can increase quality of life, decrease symptom burden, and lower overall hospital costs. Screening all new oncology patients for high symptoms burden and terminal diagnosis allows a pathway for early referrals to occur and should be utilized within the oncology practice. This process takes a multidisciplinary team with effective communication regarding patient care needs. Perhaps most importantly, it must include an education process to patients regarding palliative care services to help disseminate the services and goals of this practice. Addressing these two barriers can help improve the lives of patients and family members facing terminal cancer and should be placed as a priority within the oncology setting.

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# CHAPTER FOUR

# ADVANCED NURSING ESSENTIALS REFLECTION

The American Association of Colleges of Nursing (AACN) publishes the *Essentials* to provide a framework of preparation for nurses, these *Essentials* include *The Essentials of Doctoral Education for Advanced Nursing Practice* (AACN, 2006) which guides Montana State University's (MSU) Doctoral of Nursing Practice (DNP) program. Throughout this program we have demonstrated these *DNP Essentials* within our course work as well as within our clinical experiences, with a focus on advancing the discipline of nursing to the advanced practitioner level.

## Essential I

The first DNP essential focuses on the academic preparation for nursing practice, highlighting the heritage of the nursing discipline. To provide care at the DNP level, one must understand the foundation of the nursing practice and must understand current knowledge of the sciences; ethics, biophysical, psychosocial, analytical, organizational. The first essential is demonstrated throughout MSU's extensive course work within the DNP program. This begins with a thorough review of body systems within Advanced Pathophysiology and Advanced Health Assessment. The delivery of healthcare is evaluated within Design of Healthcare Systems and Vulnerability and Health Care in Diverse Communities. Within these courses, we completed several projects focusing on how advanced practice nurses can help change healthcare delivery for the better; this included creation of visual aids to evaluate current systems such as flow chart and fish bone diagrams, as well as evaluation and inclusion of a vulnerable population, with Veteran's as a focus group.

## Essential II

The second DNP essential focuses on the organizational and leadership component of practicing at the advanced practice level. Not only do DNP's practice direct patient care, but they must also place focus on delivery of care and the ability to provide new delivery care models to advance the nursing practice. The second DNP essential is demonstrated within MSU's curriculum within the DNP quality improvement project. Within my quality improvement project, *Early Integration of Palliative Care in Patients with Terminal Cancer Prognosis,* I worked within two separate care teams to better close the gap in care and provide improved quality of care to a vulnerable population, those suffering from terminal cancers. By utilizing a screening tool and in-depth chart review, vulnerable patients were able to be identified and referred to palliative care services; with research showing improved quality of life for those followed by palliative care early on in the disease process. Within this project, growth in communication and coordination of care was demonstrated with integration of the two care teams for best patient outcomes.

## Essential IV

The fourth DNP essential looks at information systems and technology, with advanced practice nurses needing to have the ability to utilize these systems to improve health outcomes. Information systems and technology are utilized within the health care system to evaluate current practices and outcomes, which allows for change and improvement within the system where outcomes are lacking. This can be seen with the utilization of budgeting and productivity tools as well as with utilization of web-based health support, such as technology through a patient portal within the electronic medical record (EMR). The fourth essential is demonstrated through the Design of Healthcare Systems as well as Healthcare Informatics courses in the MSU curriculum. Within Design of Healthcare Systems, I evaluated the current low-technology workflow process of supply ordering and how the utilization of a higher-technology process, such as barcode scanning within a Kanban system, would better benefit the clinic both in practice and financially. Within Healthcare Informatics, we worked within teams to develop new patient technology applications to support areas of health care disparities; my group focused on care gaps within the diabetic population and how best to engage this population utilizing technology for better patient outcomes.

## Essential VI

The sixth DNP essential highlights the importance of interprofessional collaboration within our health care system; the advanced practice nurse must understand how to facilitate collaboration within a team while also demonstrating leadership within the working team when appropriate. The sixth essential was demonstrated within this program throughout group projects built into the course work as well as throughout my DNP quality improvement project. Within Healthcare Informatics, as discussed above we completed a team project in supporting change to improve health care disparities. My team consisted of myself and two dietitian students studying within a different program; this allowed for interprofessional collaboration on how to best reach diabetic patients and also allowed myself to demonstrate leadership skills within the team. Leadership was demonstrated by scheduling meetings, setting agendas, and keeping timelines to assure completion and submission of work by deadlines. Within my DNP scholarly project I have utilized effective communication between two care teams to allow for collaboration, this has included many different team members; nurses, social worker, dietitian, and providers. I have also been a part of the EMBERS program which is an interprofessional team that identifies high-risk patients within the oncology setting and communicates how to best support these patients throughout their treatments.

## Essential VII

The seventh essential focuses on clinical prevention and health promotion for improvement of overall health within the United States. This essential aligns with *Healthy People 2020* in utilizing more preventative interventions within our health care system. This essential was demonstrated through several clinical placements I participated in throughout my DNP rotations. I spent a week on the Northern Cheyenne Indian Reservation providing health care screenings among school aged children, this focused on hearing, vision, height and weight. Within this vulnerable population, many children have limited access to health care and are not seen for regular visits by their health care providers. In addition to this, they may be unable to get proper help within the school systems without up to date screenings of vision and hearing. By completion and documentation of these screening, high-risk children are able to be flagged and followed up on appropriately, with interventions to prevent further health complications. In addition to this clinical, I completed 50 clinical hours with a Medicare Wellness Nurse Practitioner; these visits focus on health promotion and look at patients cancer screenings, immunization status, and functional status. These visits required knowledge on current screening and immunization practices as well as clear communication with patients regarding the importance of preventative health practices.

## Summary

The *DNP Essentials* outline and guide the curriculum and competencies within the DNP course work, these fundamentals are demonstrated throughout MSU's DNP program. Through reflection of the *DNP essentials* and the course work completed within MSU's DNP program it brings to light the growth that I have experienced throughout this program towards the advanced practice nursing role. As I move through this role transition, the *Essentials* will continue to serve as a guideline of what the DNP role looks like and the importance of advanced practice competencies within our profession. MSU's program has provided the essential skills and competencies to perform at the advanced practice nursing level.

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