SCREENING FOR PALLIATIVE CARE

NEEDS IN PRIMARY CARE

by

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A scholarly project submitted in partial fulfillment
of the requirements for the degree

of

Doctor of Nursing Practice

in

Family and Individual Health

MONTANA STATE UNIVERSITY
Bozeman, Montana

May 2022

DEDICATION

This paper and project are dedicated to my husband, Pete. Completing graduate studies during a global pandemic while parenting four young children was an impossible undertaking, but we did it anyway! I would also like to recognize my children, Luella, Calvin, Helen and Ida, for the hundreds of hours they wished for my presence while maintaining their wonder and excitement for my studies. I hope I made you proud.

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ABSTRACT

Statement of the problem. Palliative care is a fast growing, yet underutilized specialty that focuses on patient-perceived needs and goals of care. As the US population becomes older and sicker, the need for palliative care services will only grow. There are a variety of known benefits to early palliative care intervention. Unfortunately, barriers to palliative care referral widely described in the literature are reflected at the local organization.

Methods. This project took place at a healthcare organization in Montana. Two primary care teams incorporated a palliative care screening tool into daily huddles for all adult patients with elevated risk scores, according to an internal risk-stratification tool. Using a data collection tool, the care teams recorded screening data including the patient's age, risk score, payer, screening result, whether the patient was referred to palliative care, and the credentials of the screener. A post-intervention verbal debriefing was used to understand the perspectives of the participating care team members and the impact of the screening process at the conclusion of the project.

Results. During the six-week data collection period there were 188 high-risk patient encounters. Screening was completed on high-risk patients 43% (n=21) of the time in the first data collection cycle, 63.5% (n=47) of the time in the second data collection cycle, and 82% (n=38) of the time in the final data collection cycle. There were 22 patients with positive screening results, indicating unmet palliative care need. Ultimately, 9 patients were referred to palliative care.

Discussion. Though the pilot implementation of the palliative care screening tool did not meet the pre-determined goals, several valuable insights were gained from the project. Barriers to incorporating the screening process included integrating a paper-based process into a primarily digital practice, staffing and other impacts of COVID-19, changes to established workflows and unforeseen procedural issues. The screening tool was found to be acceptable by the project development team and screening for palliative care need was deemed valuable by the care teams. Adjustments for future iterations of this screening protocol were recommended.

CHAPTER ONE

INTRODUCTION

According to the World Health Organization (WHO), palliative care is defined as an approach to care that, "improves the quality of life of patients (adults and children) and their families who are facing the problems associated with life-threatening illness. It prevents and relieves suffering through early identification, correct assessment and treatment of pain and other problems, whether physical, psychosocial or spiritual" (WHO, 2020, para. 1). Palliative care represents the shift from standard, disease-focused, curative, or restorative therapies to a symptom-focused approach; where quality-of-life and patient-perceived needs are the focus of intervention (Meier, 2011). Palliative care should be provided independent of prognosis and can be concurrent with life-prolonging therapies (Center for the Advancement of Palliative Care [CAPC], n.d. a).

Arising from the hospice model of care, palliative care is a relatively new model of care which was only established as a medical specialty in 1987 (Milligan & Potts, 2009). The percentage of hospitals in the United States (US) with a palliative care program has quickly grown from 25% of hospitals with 50 or more beds in 2000 to 82% in 2019 (CAPC, 2021). Despite this tremendous growth, the WHO (2020) reports that approximately 40 million people worldwide need palliative care, and only about 14% of those people receive it. Palliative care utilization varies widely, with healthcare professionals demonstrating a lack of understanding of the purpose and scope of palliative care, as well as insufficient knowledge of conditions appropriate for referral (Monterosso et al., 2016). Early palliative care referral for many disease states, particularly in the outpatient setting, is associated with improved quality of life, decreased

healthcare utilization at the end of life (EOL), improved symptom control and increased patient and family satisfaction (Ernecoff et al., 2020; Gaertner et al., 2017; Hoerger et al., 2019; Hui et al., 2014).

<div align="center">Background</div>

In the US, the number of people older than 65 has grown from 35.0 million in 2000 to 40.3 million in 2010, representing a 15% increase (He et al., 2016). Further, the US population of those 65 years and older is projected to grow to 88 million by 2050 (He et al., 2016). Montana is the ninth oldest state in the US, and the oldest west of the Mississippi River (Dietrich & Dyer, 2020). Half of Montana's population is older than 40 years and this number is expected to grow over the next decade (Dietrich & Dyer, 2020). Additionally, four out of five older adults in the US live with at least on chronic condition (American Association of Retired Persons, 2018). In Montana, 62% of adults have one chronic condition, with 38% having two or more (Montana Department of Health and Human Services, 2019). As the population continues to age and the burden of chronic conditions rises, the need for palliative care will continue to grow (WHO, 2020).

Despite the quickly growing presence of palliative care programs and the mounting need for palliative care, it remains an underutilized modality that is frequently, but not exclusively, associated with the end of life. The WHO recommends expanding palliative care beyond only those with terminal illness to those with chronic illness (WHO, 2020). Palliative care program availability varies widely and is typically more easily accessible in urban areas with academic or religion-affiliated hospitals (Hughes & Thomas, 2014). Accordingly, the CAPC report card on

palliative care access gives Montana a C rating (57.1/100), with only 8 palliative care programs state-wide. Fortunately, the organization that is the focus of this quality improvement project has a robust palliative care team with inpatient and outpatient coverage, social work and chaplain support, and care management by Palliative Care Certified registered nurses, representing the largest palliative care program in the state of Montana. Despite the breadth of the palliative care team at this organization, there is consensus among the team members that there are no established referral criteria used at this organization, most of the referrals originate from the inpatient providers and referrals are too late in the patient's trajectory (K. Barbee, personal communication, September 3, 2021).

Numerous barriers to palliative care referral to have been established in the literature. Tehrani et al. (2016) concluded that misperceptions of palliative care by patients, families and practitioners was the primary cause of delayed or missed palliative care referrals. There is a misconception about the services that palliative care provides, with patients and health care professionals incorrectly associating palliative care with hospice (Reynolds et al., 2019). Practitioners have expressed a desire for more guidance on when palliative care should be initiated (Monterosso et al., 2016). Palliative care referrals are mostly based on clinician judgement, which results in variable referral patterns (Hui et al., 2018). Unfortunately, standardized referral criteria do not exist, despite quality evidence of the benefit and usefulness of palliative care (Monterosso et al., 2016). This lack of standardization has resulted in disparity between palliative care referral among those with serious nonmalignant illness and those with cancer (Jordan et al., 2020). The local palliative care team reports that barriers to palliative care referral in this practice reflect the research findings above with hesitation to refer based on

uncertainty of appropriateness and poor understanding of the service provided by the local palliative care team (K. Barbee, personal communication, September 3, 2021).

Outpatient palliative care programs are newly emerging (Rabow et al., 2013). Historically, palliative care programs have originated as hospital consultation service, therefore hospital-based service is more readily available and more widely studied (Rabow et al., 2013). This finding is reflected in national data, with the CAPC reporting that 48% of palliative care referrals originating from hospitalists and 15.9% from internal medicine and family medicine combined (CAPC, 2020). The local palliative care team identified that most referrals originate from providers caring for patients admitted to the hospital (n=1252) compared to referrals originating from outpatient encounters (n=545). The palliative care team sees an opportunity to move upstream in the palliative care referral process by identifying patients who may benefit from outpatient palliative care prior to a hospitalization, when patients and families are not ill or distressed (K. Barbee, personal communication, September 3, 2021). Outpatient palliative care, when compared to inpatient palliative care, has been shown to improve EOL care with respect to utilization metrics (Hui et al., 2014). Outpatient palliative care services have also been shown to improve symptom control, quality of life and patient satisfaction (Rabow et al., 2013).

There is growing evidence to support early referral to palliative care, though patients with life-limiting illness continue to be referred to palliative care late in their course of illness (Jordan et al., 2020). Early palliative care referral, defined as greater than 3 months prior to death, is associated with fewer emergency room visits, hospitalizations, and hospital deaths in the last 30 days of life (Hui et al., 2014) Late referral results in patients and family members not actualizing the total benefits that palliative care can offer. A large meta-analysis found the median duration

between palliative care referral and death was only 18.9 days (Jordan et al., 2020). Differences in

median duration were found between inpatient palliative care services (6 days) and community-

based outpatient palliative care services (20 days) (Jordan et al., 2020). Early palliative care

referral has been shown to decrease acute healthcare utilization in the last 30 days of life and

decreased direct costs in the last 6 months of life (Scibetta et al., 2016). The data from the local

palliative care team show inpatient referrals are unable to be completed because the patient is too

confused, patients are discharged prior to consultation being completed or family cannot be

present due to current visitation restrictions. Most concerning to the local palliative care team are

the 22 patients who expired within 24 hours of palliative care referral in 2020 (K. Barbee,

personal communication, September 3, 2021).

<div align="center">Purpose of the Project</div>

As described in detail above, early palliative care intervention has a variety of benefits.

Unfortunately, the local primary care clinic has no defined criteria for palliative care referral

which has resulted in varying referral patterns and late palliative care referrals. Therefore, the

purpose of this quality improvement project is to evaluate a pilot implementation of a palliative

care screening tool for primary care practice, based on the best available evidence, to identify the

number of positive screenings among a sample of primary care patients. The organization of

focus has a vision of becoming the gold standard for health care in Montana, with a mission to

improve the health, wellness, and quality of life of the people and the communities it serves. This

project intends to improve access to palliative care, a specialty focused on assisting patients and

their families as they face physical, psychosocial, or spiritual problems related to life-threatening illness, which is gold standard care.

Summary

Palliative care is a fast growing, yet underutilized specialty that focuses on patient-perceived needs and goals of care. As the US population becomes older and sicker, the need for palliative care services will only grow. There are a variety of known benefits to palliative care intervention. Unfortunately, barriers to palliative care referral widely described in the literature are reflected at this local organization. The project aims to facilitate identification of potentially palliative care appropriate individuals using a screening tool in a small sample of primary care practices within the larger healthcare organization.

CHAPTER TWO

LITERATURE REVIEW

Methods

Articles for the intervention of interest were searched using CINAHL, Web of Science and Google Scholar. The search was conducted from September 2021-October 2021, in consultation with a research librarian. The following search terms were used: palliative care screening, palliative care referral, primary care, standardization, process, instrument, pathway and tool. These search terms yielded quantitative and qualitative research articles as well as quality improvement projects. Criteria applied during the search included academic, English language journals with a date range of 2015-2021. Articles were excluded if they related to pediatric palliative care, inpatient palliative care, hospice referral, pain management referral or integrated or primary palliative care pathways.

The literature search yielded 602 articles. Article titles were reviewed and 536 were excluded based on the above criteria on title alone. The remaining 66 article abstracts were reviewed, and systematic exclusion identified the 21 research articles included in this review. The articles were assessed for strength and quality based on the Johns Hopkins Nursing Evidence Based Practice (JHNEBP) model and varied in type, strength, and quality (Dearholt & Dang, 2017). According to the JHNEBP model, level I evidence includes single experimental randomized controlled trials (RCTs), mixed method designs that include a level I quantitative study or systematic reviews of RCTs with or without meta-analysis. Level II evidence includes quasi-experimental studies, explanatory mixed method designs that include a level II quantitative

study or systematic reviews of studies that include RCTs and/or quasi-experimental studies, with or without meta-analysis. Level III evidence includes nonexperimental studies, systematic reviews of studies that include RCTs, quasi-experimental and/or nonexperimental studies, with or without meta-analysis, exploratory studies or explanatory mixed method designs that only include level III quantitative studies, qualitative studies and meta-syntheses. Level IV evidence includes expert opinion based on scientific evidence including clinical practice guidelines and position statements. Level V evidence includes integrative reviews, literature reviews, QI programs, case reports and expert opinion based on experiential evidence. Of the articles that were included, 1 was level I, 6 were level II, 12 were level III, 1 was level IV and 1 was level V articles were identified. All the articles were deemed either good or high quality according to JHNEBP appraisal criteria.

In general, limited evidence exists on palliative care screening and utilization in primary care. Since palliative care, and particularly outpatient palliative care, is in its infancy as a care modality, limited evidence is expected. Most evidence that met the inclusion criteria set forth in this review of literature were systematic reviews or retrospective cohort studies, though one high quality randomized controlled trial was also identified. This may be due to ethical concerns of a randomized study design within the context of this evidence question and the inability to have a valid comparator. Despite the dearth of high-level evidence, themes did emerge in this review of the literature, including consensus that prognostication is a poor proxy for assessing palliative care need, lack of standardized screening tool to identify patients appropriate for palliative care referral and barriers to palliative care referral and utilization among health care professionals and patients.

Prognostication as Proxy for Palliative Care Needs

The predominant finding of this literature review was the use of prognosis as a proxy for palliative care needs, even though prognosis may not appropriately represent a need for palliative care consultation. (Downar et al., 2017; Elliott et al., 2017; ElMokhallalati et al., 2020; Ermers et al., 2021; Gomez-Batiste et al., 2017; Lakin et al., 2016; Lakin et al., 2019a; Mitchell et al., 2018; White et al., 2017; van Wijmen et al., 2020; Veldhoven et al., 2019). The most encountered method of identifying potential palliative care referrals in this review was the "surprise question" (SQ), in which the practitioner reflects on whether he or she would be surprised if the patient was dead in one year. If the practitioner would not be surprised, it is thought that the patient may benefit from palliative care involvement. Despite its frequent use, a systematic review found the SQ did not accurately predict one-year mortality with meta-analytic estimates of 67% sensitivity and 80% specificity (Downar et al., 2017). The SQ doesn't perform well as a prognostic tool and is not meant to identify palliative care needs, even though it is widely used for these purposes.

Attempts have been made to improve the SQ by increasing the timeframe (Would you be surprised if this patient was dead in two years?) and adding a second SQ (If you would not be surprised if the patient was dead in one year, would you be surprised if the patient was alive in one year?) (Ermers et al., 2021; Lakin et al., 2019b; Veldhoven et al., 2019). Extending the SQ to two years improved the sensitivity (79.4%) of the SQ but still focused on prognosis as a proxy for palliative care need (Lakin et al., 2019a). Veldhoven et al. (2019) found that the SQ had low specificity (48.5%), identifying many patients with the answer 'no' on SQ1 who are not actually

in need of palliative care, and a low positive predictive value (14.9%, 9.8-21.4%). SQ2 had low

sensitivity (41.7%), in Veldhoven et al. (2019), indicating that more patients with palliative care

needs were missed using SQ2 alone.   However, when the two questions were combined, those

found to be SQ1 negative and SQ2 positive, had a much higher accuracy at predicting one-year

mortality (45.5%, 24.4–67.8%). More importantly, these patients had more contact with the

practitioner and aspects of palliative care and advance care planning were more often discussed

than the other groups, secondary measures of the study based on WHO palliative care

recommendations (Veldhoven et al., 2019; WHO, 2020).

Palliative care needs do not necessarily correlate with prognosis since prognosis does not

capture the impact of distressing symptoms or the burden of illness on the patient or family

(ElMokhallalati et al., 2020; Lakin et al., 2016). Many screening tools that have been introduced

have very few needs-based criteria, and instead focus on diagnosis and staging (Mo et al., 2020).

One case-control study by Woolfield et al. (2019) sought to identify need-focused factors, such

as decreased performance status or decreased weight, that could be used to predict death among

primary care patients. The algorithm created by Woolfield et al. (2019) shows promise, with

67% sensitivity, 87% specificity and 78% predictive accuracy for predicting death. Again, the

objective of the Woolfield et al. (2019) algorithm was predicting death rather than identifying

supportive needs.

Elliott et al. (2017) found that health care professionals would like to focus on supportive

needs and palliative care needs despite their difficulty with accurate prognostication. This review

of literature only identified one tool that was created with a specific focus of identifying

palliative care needs instead of prognosis: The Palliative Care and Rapid Emergency Screening

(P-CaRES) tool. P-CaRES was developed for use in the Emergency Department for identifying patients with palliative care needs (George et al., 2015).

<u>Lack of Standardized Screening Tool</u>

The other major finding of this review was a lack of standardized palliative care screening tools for use in the outpatient setting (Ament et al., 2021; Downar et al., 2017; Elliott et al., 2017; ElMokhallalati et al., 2020; Mo et al., 2020; White et al. 2017). Some of the outpatient screening tools that were evaluated in these studies were specific to disease states such as cancer, heart failure or dementia (Ament et al., Ermers et al., 2021; Chang et al., 2020; Mo et al., 2020). A systematic review of palliative care screening tools studied in primary care found that negative predictive value was generally high across all included studies, ranging from 69%-99% (ElMokhallalati et al., 2020). Sensitivity and specificity varied widely across the included studies, ranging from 3.2% to 94% and 26.4% to 99%, respectively (ElMokhallalati et al., 2020). ElMokhallalati et al. (2020) found moderate to high risk of bias and fair to low quality of all the included studies, based on the Newcastle-Ottawa scale. These results are not sufficient to advocate for the use of any particular tool.

Many of the screening tools have been created with proximity to death or expected mortality as the end point, as discussed in detail above, which necessitates study designs that work backwards from death, limiting strength of evidence needed to develop a screening tool. The clinical utility of screening tools is difficult to ascertain due to the lack of a valid comparator (ElMokhallalati et al., 2020). In other words, there is no way to calculate the number of patients

who had palliative care needs that were not identified, which limits high level of evidence study designs for this research question.

Some of the studies included in this review used the SQ as a pre-screener to identify patients for further screening using a tool (Lai et al., 2020; Mitchell et al., 2019). The intent of the prescreen with the SQ was to minimize time spent doing a universal palliative care needs screening. The SQ provides potential information on prognosis, which is then combined with the objective measurement of functional status, comorbidities, and other contextual factors (e. g. caregiver support, resources) by using the Palliative Care Screening Tool (PCST) (Lai et al., 2020). Mitchell et al. (2019) used a similar approach but found an unacceptably high level of false positive results with the SQ, which lead to unnecessary and time-consuming additional screening using the Supportive and Palliative Care Indicators Tool (SPCIT) (Mitchell et al., 2018). While this approach was successful at identifying and discriminating patients with palliative care needs, its results are limited since the sample was limited to peritoneal dialysis patients (Lai et al., 2020). Conversely, the SQ is included as the final question of the P-CaRES tool, after establishing the presence of a life-limiting condition and identifying palliative care needs (George et al., 2015).

Another study used risk stratification to pre-screen for high-risk patients, who were then screened using the two-year SQ (Lakin et al., 2019b). The approach by Lakin et al. (2019b) successfully identified most of the patients who died over the subsequent two years. However, the validity of these results may be limited due to the effect of the practitioner's consideration of the two-year SQ and how practitioner subsequently communicates with and manages the patients identified with suspected increased mortality risk (Lakin et al., 2019b).

Rural Barriers to PC Referral and Utilization

Barriers to palliative care referral were also examined in many of the articles included in this review of literature (Cai & Lalani, 2021; Elliott et al., 2017; Lakin et al., 2019a; Mo et al., 2020; Tedder et al., 2017). Common barriers identified can be grouped according to patient barriers, provider barriers, and geographic barriers. Barriers that pertain to rural patients and their families include fear of discussing palliative care, mistrust of healthcare professionals and communication barriers (Cai & Lalani, 2021; Tedder et al., 2017). Barriers specific to rural health care providers include over-confidence in treating diseases as they progress, discomfort discussing death or disease progression and difficulty identifying appropriate times to discuss palliative care despite recognition of multiple mortality risk factors and high symptom burden (Cai & Lalani, 2021; Elliott et al., 2017; Tedder et al., 2017). Rural consideration of geographic barriers that were identified include access to palliative care, access to transportation and lower socioeconomic status associated with rural areas (Cai & Lalani, 2021; Tedder et al., 2017).

Knowledge and communication of the referral criteria and treatment goals in palliative care, by patients and health care providers alike, was a commonly cited barrier (Cai & Lalani, 2021; Lakin et al., 2019a; Mo et al., 2020; Tedder et al., 2017). These findings are reflective of the lack of clarity on referral criteria for palliative care, as well as the common misconception that palliative care is synonymous with hospice care or is only available for cancer patients. Since outpatient palliative care is in its infancy, this knowledge deficit is understandable. Further, if there is a lack of knowledge of palliative care, it is reasonable that health care professionals and patients are unable to clearly communicate about palliative care (Cai & Lalani, 2021; Tedder et al., 2017).

Finally, lack of established referral criteria or recommended screening tool is, in itself, a barrier to palliative care. Without a feasible and validated screening tool, providers rely on either intuition or the SQ to identify patients appropriate for palliative care referral. Intuition and SQ have been shown to be ineffective tools for prognostication and not meant to identify palliative care needs (Downar et al., 2017; ElMokhallalati et al., 2020; Ermers et al., 2021; Gomez-Batiste et al., 2017; Lakin et al., 2016; Lakin et al., 2019b; Mitchell et al., 2018; White et al., 2017; van Wijmen et al., 2020; Veldhoven et al., 2019). Without the guidance of a screening tool or clear and proven criteria, many patients' needs are never identified, and palliative care intervention is never considered.

Summary of Literature Review Findings

This literature review found common themes in primary care-based PC referral including frequent use of prognosis as an inappropriate proxy for identifying PC needs, lack of standard or recommended tool for identifying potential PC referrals and barriers to PC referral and utilization in rural primary care patients. Despite the limited high-level evidence for a specific screening tool, there is value in this proposed practice change. The focus organization has no specific referral criteria and instead loosely suggests consideration of the SQ if they suspect there are palliative care needs. As discussed above, the SQ is not appropriate for identifying PC needs, nor is it a useful tool for determining prognosis. CAPC (n. d. b) suggest balancing sensitivity and specificity by starting with a data-generated list, which is then reviewed by the practitioner using the SQ. Several studies looked at combining the SQ with other screening tools with positive results (George et al., 2015; Lai et al., 2020; Lakin et al., 2019b; Mitchell et al., 2018). Based on

these findings within the context of the focus organization, this project will attempt to correct

current practice of informally using the SQ with a standard protocol for identifying and

considering the palliative care needs of the patients. In this pilot project, patients identified as

high-risk, using an existing risk-stratification algorithm, will be screened using the P-CaRES

tool, which has been validated to identify patients with unmet palliative care needs (George et

al., 2015; Lakin et al., 2019b). Additionally, barriers that are specific to this practice will need to

be address for the success of the project.

CHAPTER THREE

METHODS

There is growing evidence in support of early PC referral. The purpose of this project was to examine the feasibility of initiating a PC screening tool in a primary care clinic. The intent was to incorporate a PC screening tool into a sample of primary care teams and identified the number of positive screenings among a sample of primary care patients. Hui and Bruera's (2015) time-based model of palliative care integration was used to conceptualize PC referral timing. The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care (2017) was also used to guide this project.

Theoretical Underpinnings

Time-Based Model of Palliative Care Integration

Several conceptual models have been used to describe palliative care involvement in the care of patients. This project used Hui and Bruera's (2015) time-based model of palliative care integration, shown in Figure 1. The model illustrates how the timing of palliative care initiation results in variable palliative care intervention in relation to time. When palliative care is only considered when curative treatments are no longer available, opportunities for supportive care are missed. Patients not only forego ongoing supportive care, but palliative care is further stigmatized as being reserved only for those near death (Hui & Bruera, 2015). Though this model was created for patients with cancer, it was applied to patients with any advanced, life-limiting condition in this project. This conceptualization lent itself to this project because it provided a

visual representation of how palliative care and curative treatments can co-occur, according to

CAPC recommendations (CAPC, n. d.). Additionally, the model allowed for flexibility in the

level of consultative palliative care involvement, depending on the individual's needs.

Figure 1. Time-Based Model of Palliative Care Integration
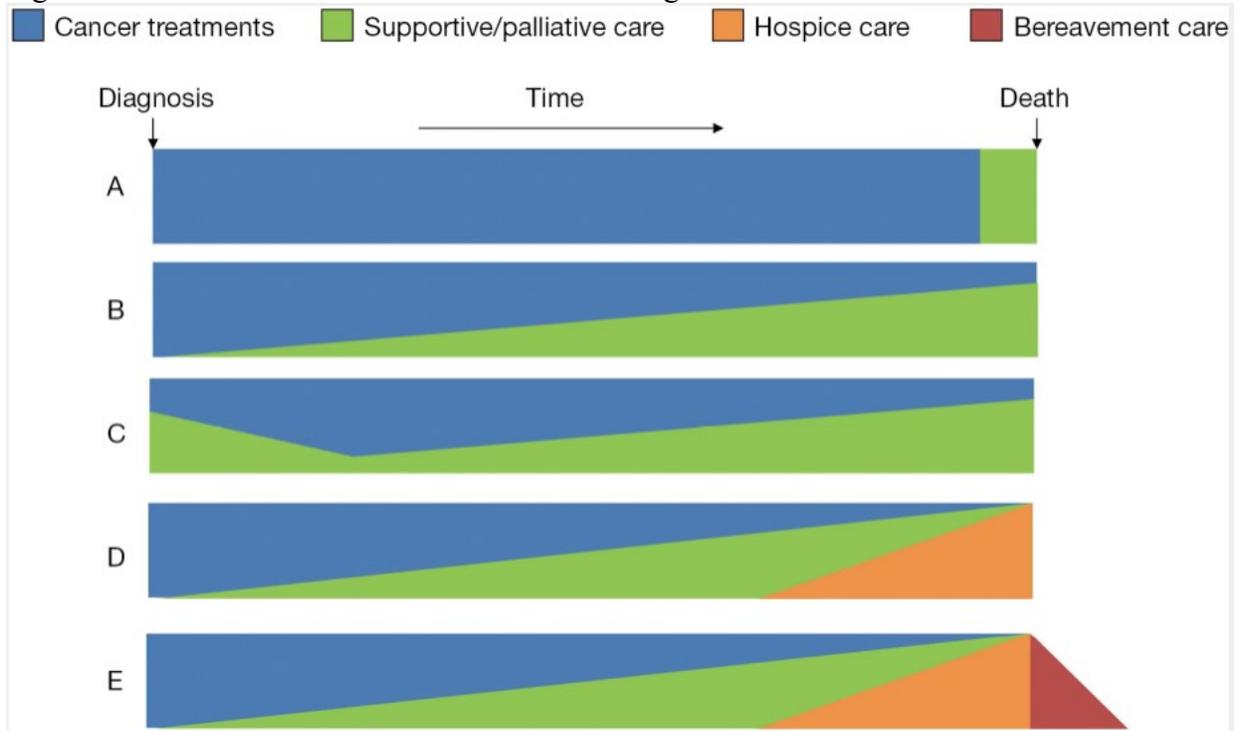
The blue area represents the pursuit of curative or disease-focused treatments, which are

implemented in isolation of palliative care in bar A. Palliative care and curative care do not co-

occur and palliative care is only offered at the very end of life. Bars B and C illustrate early and

co-occurring palliative care, with the green and blue areas both present to varying degrees over

time, which is aligned with CAPC and WHO recommendations (CAPC, n. d.; WHO, 2020). Bar

D shows the addition of hospice care, represented in orange, and bereavement care, represented

in red. Bars D and E will not be addressed by this project. With the pilot implementation of a

palliative care screening tool in a sample of primary care teams, the organization began the

transition from the previous state, represented by Bar A, to earlier and co-occurring palliative

care, represented by Bars B and C.

The Iowa Model Revised: Evidence-Based
Practice to Promote Excellence in Health Care

The Iowa Model (Appendix A) was first developed in the early 1990s by nurses to guide

clinicians in evaluating and implementing new research into nursing practice (The Iowa Model

Collaborative, 2017). According to Buckwalter et al. (2017), the Iowa Model was originally

based on Roger's (1983) theory of Diffusion of Innovations and built upon the Quality

Assurance Model Using Research by Watson et al. (1987). Since its inception, the Iowa Model

has been widely used for practice changes and has undergone systematic, user-driven revision.

The steps of the Iowa Model can be summarized as: (1) identify a trigger, (2) determine

organization priority, (3) form a team (4) assemble, critique and synthesize literature, (5) design

and pilot proposed practice change, (6) integrate the practice change if appropriate, and (7)

disseminate the results. The Iowa Model was selected for its emphasis on using a problem-

focused trigger to prompt practice change and the use of pilot implementations to test potential

practice changes as a part of an iterative practice change.

Triggers In accordance with the Iowa Model, this DNP project was prompted by a

problem identified in clinical practice, which acted as a "trigger" to practice change. This trigger,

as described by the Iowa Model, may be a risk management concern, a clinical concern or a

financial issue that is impacting an organization (Buckwalter et al., 2017). The triggers for this

project were identified by leaders in the organization and included (a) a paucity of outpatient

palliative care referrals originating from primary care, (b) lack of clarity on who should be referred to palliative care, and (c) referrals to palliative care that are too late in the patient's disease trajectory.

Organizational Priority This clinical-problem trigger was raised by organizational leadership staff, including the Director of Complex Care, the Director of Post-Acute Care Services and inpatient and outpatient palliative care practitioners. Their concerns and the scope of the local problem were discussed in Chapter 1. Attempting to shift palliative care referrals from inpatient, hospitalization-centered referrals to outpatient, patient need-centered referrals was an organizational priority. The presence and underutilization of a robust outpatient palliative care team was also a catalyst for this project.

Form a Team The Iowa Model suggests formation of a team to support the work of developing a practice change. The team for the planning and development of the practice change included the DNP student, an outpatient palliative care nurse, an outpatient palliative care provider, the Director of Complex Care and a primary care nurse. The pilot phase of the project included a wider team including the nursing staff and providers from two primary care teams within the organization.

Assemble, Critique and Synthesize Literature The literature review and synthesis used for this project was completed by the DNP student and discussed at length in Chapter 2. The Johns Hopkins Nursing Evidence Based Practice model was used to assess the strength and quality of the assembled evidence (Dearholt & Dang, 2017). These findings were presented to the project planning team by email and during regularly scheduled, bi-weekly palliative care team meetings.

Design and Pilot Proposed Practice Change The literature findings were used to create

the pilot project plan, in collaboration with the organizational representatives, as described in

further detail in the Methods section. A strength, weakness, opportunity, threat (SWOT) analysis

of the organization helped guide the pilot plan and assured that the plan accounted for the

nuances of the organizational culture and priorities (Appendix B). Specific and measurable goals

were established prior to implementation, to guide evaluation of the pilot project and determine

if the practice change will be implanted across the broader organization.

Remaining Iowa Model Steps The data and results of the pilot implementation were

shared with the focus organization for them to determine if the practice change should be

implemented across the organization. Regardless of the pilot program outcomes, results of this

pilot project will be disseminated within the organization, to guide future attempts to improve

identification of appropriate individuals for outpatient palliative care referral. The dissemination

plan for of the results of this pilot implementation is discussed in Chapter 4.

Methods

Human Subjects Protection

The protection of the rights of human subjects involved in this project were considered.

In preparation for this project, the DNP student successfully completed the Collaborative

Institutional Training Initiative course in Human Subjects Protection. As a quality improvement

project initiative, the project was registered with the Montana State University Institutional

Review Board (IRB). There was no plan to randomize subjects to different treatments or record

personal identifiable data or health information, therefore exempt status was granted (Appendix

G). Further, as a quality improvement project initiative, consenting procedures were not required.

The screening intervention did not pose additional risk beyond standard practice.

Agency Description

The focus organization was a healthcare system in Montana, which includes a 99-bed

acute care hospital with three affiliated outpatient clinics which include primary care and

numerous specialty clinics. The healthcare system serves nearly 100,000 rural residents. The

primary care department, the focus of this project, is comprised of twenty physicians, five nurse

practitioners and six physician assistants, across all three outpatient clinics. The organization was

a Comprehensive Primary Care Plus (CPC+) site, an innovative medical home model that

focuses on shifting from fee-for-service to a value-based payment model. To track value and

outcomes, the organization used an internal population health tool that risk-stratifies patients

based on diagnoses, utilization and social determinants of health and identifies individual patient

needs based on diagnosis for every patient that is on the schedule for a given day.

Target Population

The target population for implementation of the screening tool was primary care patients

with a risk score greater than or equal to 6, according to the internal population health tool. This

risk score is calculated based on number of medications, previous 6-month emergency room,

urgent care and hospital utilization, ambulatory-sensitive chronic conditions, and some social

determinants of health. The risk score calculation is listed in Appendix C. PCP A has a panel size

of n=883, with an average risk score of 3.93, with approximately 215 patients with a risk score

greater than or equal to 6. PCP B has a panel size of n=1080, with an average risk score of 3.91, with approximately 239 patients with a risk score greater than or equal to 6.

<u>Stakeholders</u>

The stakeholders involved with the pilot implementation of this project included primary care staff members, primary care patients and outpatient palliative care staff. Each PCP staff included one patient access staff, one RN coordinator, one primary nurse and the PCP. The SWOT analysis is included as Appendix B. Strengths of this organization with respect to this project included a robust PC team and the existence of a population health tool. Additionally, this organization used a team-based care model which prevented the work of the screening from falling on one individual within the care team. This organization has also had a recent focus on increasing advance directive discussions, so there were many nurses and providers who were well-versed in initiating goal of care discussions.

Though there were many strengths noted within this organization, several weaknesses were identified. Providers and other staff had a poor understanding of the function and scope of the palliative care team. Many providers had mistaken a palliative care referral as a transfer of primary care, rather than a consultation by a specialist. Lack of organization-specific palliative care referral criteria was also a weakness, which stems from an industry-wide gap. The major weakness within the organization was that palliative care was frequently consulted too late, often when the patient was already appropriate for hospice.

These strengths and weaknesses lent themselves to several important opportunities for growth. The outpatient palliative care team had capacity for growth and the ability to see patients within their home or facility setting. The value-based payment model incentivized decreased cost

and improved quality, which have been associated with early palliative care referral. The organizational values and mission of improving quality of life also provided an opportunity to align patient care with patient values, a tenant of palliative care.

Threats to this project included primary care providers wanting to "keep" their patients, rather than "pass them off" to palliative care. This stemmed from confusion about the role of palliative care. Many providers inappropriately conflated palliative care and hospice. Another threat to the project was the lack of consensus on referral criteria or referral practices. The final threat to this project, was that numerous screenings have been implemented in primary care in the last few years, which may have led staff to feelings of "screening fatigue".

Project Design

This project was a pilot implementation of a screening tool. It explored the acceptability and ease of utility of implementing a screening tool to identify primary care patients who may have been appropriate for palliative care referral. The project consisted of educating staff of two primary care teams, the care team reviewing data from the population health tool, and screening for potential palliative care referral.

Instrument

The screening tool selected for this project was initially implemented and tested in the emergency room setting (George et al., 2015). The tool has since been named the Palliative Care and Rapid Emergency Screening (P-CaRES) tool, Appendix D. The P-CaRES tool first identified the presence of a life-limiting condition (advanced dementia, central nervous system disease, cancer, renal disease, heart disease, liver disease and/or COPD) (George et al., 2015). If none of

those conditions were present, the screening was considered negative and complete. If the patient had one or more life-limiting conditions, the care team moved to the second part of the tool. The second part of the tool assessed for unmet palliative care needs by looking at emergency room utilization, recent hospitalizations, uncontrolled symptoms, functional decline, and the surprise question (George et al., 2015). If two or more unmet palliative care needs were identified, the screening was considered positive, and a palliative care referral was discussed with the patient.

Without an established or standard screening tool specifically for use in the primary care setting, the DNP student, in consultation with organization stakeholders, selected the P-CaRES tool for use in this pilot project. The DNP student and organization stakeholders sought to select a brief instrument that could be electronically integrated into the population health tool as well as the electronic medical record if it was found to be acceptable after the pilot implementation.

The project development team selected the P-CaRES tool because it had many strengths that were deemed important by the project development team. The P-CaRES tool was designed to be completed by a member of the care team based on information that could be gathered during a single patient encounter by a variety of staff members (physician, physician assistant, nurse practitioner or registered nurse) and has been specifically validated for identifying patients with unmet palliative care needs (George et al., 2015). The tool was found to have a sensitivity of 93.2% (95%, CI = 91% - 94.9%) for identifying unmet palliative care needs and specificity of 71.8% (95%, CI = 63.8% - 77.6%) (Bowman et al., 2016). Respondents were able to successfully identify PC need regardless of provider experience or provider type (physician, physician assistant, nurse practitioner or registered nurse), for malignant and non-malignant conditions (Bowman et al., 2016). Most providers (87.1%) found the tool easy to use and 90.4% of

providers thought the tool would improve their ability to identify patients needing PC, demonstrating high levels of acceptability (Bowman et al., 2016). Inter-rater reliability was found to be "almost perfect" agreement (Gwet's AC1 of 0.88 – 1) across all test cases (Bowman et al., 2016). While the P-CaRES has been shown to have prognostic utility, the predominant focus of the tool is unmet palliative care needs, which was the priority of the project development team (Te Paske et al., 2021).

The P-CaRES tool was also critiqued for its weaknesses to be appropriately vetted. The tool was newer than other PC screening tools and, therefore, less studied. In fact, the P-CaRES tool had only been tested in investigational settings, subsequent clinical testing was recommended (Bowman et al., 2016; George et al., 2015; Te Paske et al., 2021). The tool was originally developed for use in emergency departments, aiming to contain as few questions as possible while still representing key domains of PC needs (George et al., 2015). The project development team viewed this as a positive, as time constraints are also present in primary care clinics and this tool was significantly shorter than other PC tools considered for this project. The P-CaRES tool had not been tested explicitly for external validity because there is no universally accepted criterion standard to determine which patients need palliative care consultation in any setting at the time of this pilot implementation. Ultimately, this was a weakness for any PC screening tool in any setting, therefore the development team determined that the lack of external validity testing was a non-issue.

Implementation Timeline

A detailed timeline was developed and adhered to for this pilot project implementation. The timeline was included in Appendix E. The project was submitted for institutional review

board review in early December 2021, with exempt status granted in early January 2022. The

project did not begin prior to IRB approval.

Staff Education

In January of 2022, prior to implementation of this pilot screening project, face to face

educational sessions were held with the staff of PCP A and PCP B. During each session, the staff

received information about the breadth and scope of outpatient palliative care, benefits of

outpatient palliative care and suggested language to use when discussing palliative care.

Additionally, the P-CaRES instrument was reviewed within the context of a sample, hypothetical

patient. Education was provided on data collection process for this project.

Screening Process and Data Collection

The screening process and data collection took place over 6 weeks in early 2022. During

the data collection period, the DNP student was available onsite weekly, during clinic hours, to

offer support and answer questions. The DNP student was also available any time via email or

phone when not at the clinical site. The DNP student delivered paper copies of the P-CaRES tool

to both pilot sites during the educational sessions. Each care team (staff for PCP A and PCP B)

was asked to use the P-CaRES tool for every patient with a risk score of 6 and greater that were

seen in the clinic during the 6-week data collection period. The paper P-CaRES was maintained

in the patient's chart. A separate data collection form, as shown in Appendix F, was then

completed by care team staff, solely for the purpose of this project. The data collection sheets

were placed in a folder, in a locked drawer within the clinic, then collected by the DNP student

each week during the data collection period. The data were manually extracted from the paper

form into a Microsoft Excel spreadsheet by the DNP student. Once the data were entered into the

Microsoft Excel spreadsheet, the paper forms were placed in the clinic's locked shred-bin to be

destroyed according to organization policy.

<u>Post-Screening Data Collection</u>

At conclusion of the 6-week data collection period, the DNP student reviewed

appointment data using the population health tool for all patients with visit encounters during the

data collection phase. The following aggregate and de-identified information was collected using

the data collection sheet: the total number of patient encounters, the total number of patients with

risk scores greater than or equal to 6, the total number of P-CaRES screenings completed, the

number of screenings completed according to credential (MD/DO/NP/PA/RN), individual P-

CaRES scores, if a referral was initiated based on screening result (yes/no), age (or >89 years)

and payer.

<u>Data Analysis Plan</u>

No individual patient identifiers were included in the data set. Data were coded and

entered into a password-protected Microsoft Excel spreadsheet, which was kept in a OneDrive

file connected to the DNP student's MSU credentials, ensuring the information was password

protected and secured using Montana State University's security systems. Descriptive statistics

were conducted to better understand the demographic profile of the sample. A detailed

description of the data analysis plan was included in Appendix F. This aggregate and de-

identified data were shared with the organization and used to assess the frequency of utilization

of the P-CaRES tool during the pilot period. These data led to a better understanding of the rate

of positive screenings among patients with elevated risk scores and determined the level of success of this pilot project. In the future, these data will help the palliative care team understand the potential volume of new PC referrals when and if the screening is adopted throughout the organization.

Goals

The pilot project was initiated with following measurable goals for the data collection period:

1- PCP teams will complete a P-CaRES tool on 50% of patients with a risk-score of greater than or equal to 6 by the end of week 2 of the data collection period.

2- PCP teams will complete a P-CaRES tool on 75% of patients with a risk-score of greater than or equal to 6 by the end of week 4 of the data collection period.

3- PCP teams will complete a P-CaRES tool on 100% of patients with a risk-score of greater than or equal to 6 by the end of week 6 of the data collection period.

While outside the scope of this project, the organization will continue to track the number of outpatient PC referrals originating from primary care and the duration of PC involvement (from referral to death) to gage the long-term outcomes of this or any PC screening tool implementation. Collecting and understanding these data will be important in understanding the capacity and utilization of the local outpatient PC team and will help them advocate for more team members in the future.

Summary

Upon approval by the Montana State University IRB, the DNP student provided educational sessions to the pilot staff. During the data collection period, high risk patients were screened using a paper P-CaRES tool, which was maintained in the patient chart. Data collection sheets were collected by the DNP student and the data were entered into a protected Excel spreadsheet. The data underwent analysis to determine if the goals of the pilot implementation were met. These results were shared with the focus organization.

CHAPTER FOUR

RESULTS AND DISCUSSION

For this pilot project, a sample of staff members in a primary care clinic implemented palliative care screening for all high-risk adults seen in the clinic over a 6-week period. Aggregate and de-identified information was collected including the total number of patient encounters, the total number of patients with risk scores greater than or equal to 6, the total number of P-CaRES screenings completed, the number of screenings completed according to credential (MD/DO/NP/PA/RN), individual P-CaRES result (+/-), if a referral was initiated based on screening result (yes/no), age (or >89 years) and payer.

Participant Characteristics

The sample of care teams participating in this pilot implementation of the P-CaRES tool included 6 participants. Concerning care team role, 33% were patient access staff, 33% were nurses (LPN and RN) and 33% were physicians (MD and DO). With respect to professional experience, 17% had worked in their clinical discipline for greater than 10 years and the remining care team members had worked in their clinical disciplines for 5-10 years. All team members have worked for the focus organization for less than 5 years. Regarding work schedule, 50% worked 40 hours per week and 50% worked 32 hours per week. All care team members serve patients across the lifespan, however, any participant under the age of 18 was excluded from this screening pilot project. The face-to-face educational session was completed in mid-January 2022 with all participating care team members in attendance.

Screening Results

During the six-week pilot period, data were collected weekly and analyzed in three data analysis cycles in accordance with the SMART goals established for this pilot implementation project. The two care teams had 492 patient encounters, 38% (n=188) of these encounters were adults with a risk score of greater than or equal to 6. The care teams completed 106 P-CaRES screening tools over the 6-week period. A summary of the number of high-risk visits in which a screening was completed is provided below (Table 1).

Table 1. High-Risk Encounters with and without screening.

High-Risk Encounters With and Without Screening		
	Received Screening	Did Not Receive Screening
Risk Score (n, %)	n (%)	n (%)
6 (63, 34%)	30 (48%)	33 (52%)
7 (43, 23%)	28 (65%)	15 (35%)
8 (39, 21%)	23 (59%)	16 (41%)
9 (28, 15%)	12 (43%)	16 (57%)
10 (5, 3%)	4 (80%)	1 (20%)
11 (3, 2%	3 (100%)	0 (0%)
12 (2, 1%)	2 (100%)	0 (0%)
13 (2, 1%)	2 (100%)	0 (0%)
14 (0, 0%)	0 (N/A)	0 (N/A)
15 (3, 1%)	2 (67%)	1 (33%)
All High-Risk Encounters	106 (56%)	82 (44%)

High-risk individuals, defined as those with a risk score of 6 or greater, ranged in age from 18 to greater than 89 years old. The number of high-risk visits according to age is depicted in Figure 2. The care teams did report that there were two high risk individuals that were younger than 18 years old and they were careful not to include these screenings in the data collection for

this project. However, per their verbal report, the providers did decide to use the P-CaRES

screening tool to screen the individuals for palliative care need. For clarity, there were also two

high-risk individuals between the age of 18 and 20, and these data are included in the set.

Figure 2. Distribution of high-risk visits by age.
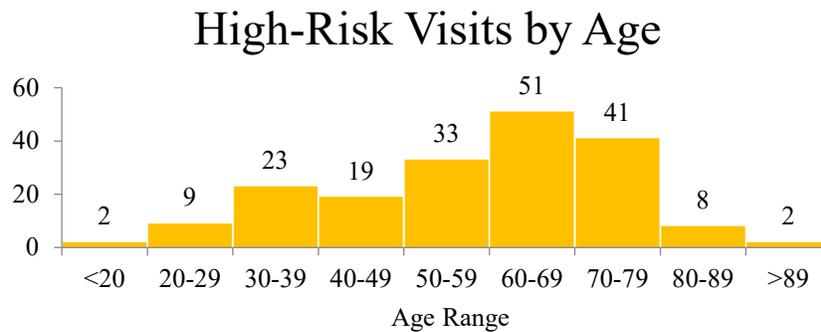
P-CaRES screening tools were completed on high-risk patients 43% (n=21) of the time in

the first data collection cycle, 63.5% (n=47) of the time in the second data collection cycle, and

82% (n=38) of the time in the final data collection cycle. This project aimed for screening 50%

of high-risk individuals by the end of week two, screening 75% of high-risk individuals by the

end of week four and screening 100% of high-risk individuals by the end of week 6. While 106

screenings over the 6-week period was a notable achievement, the goal was not met during any

of the data collection cycles, depicted in Figure 3.

Figure 3. Percentage of P-CaRES screenings completed on high-risk adults compared to goal.

Percentage of P-CaRES Screenings Completed on High-Risk Adults
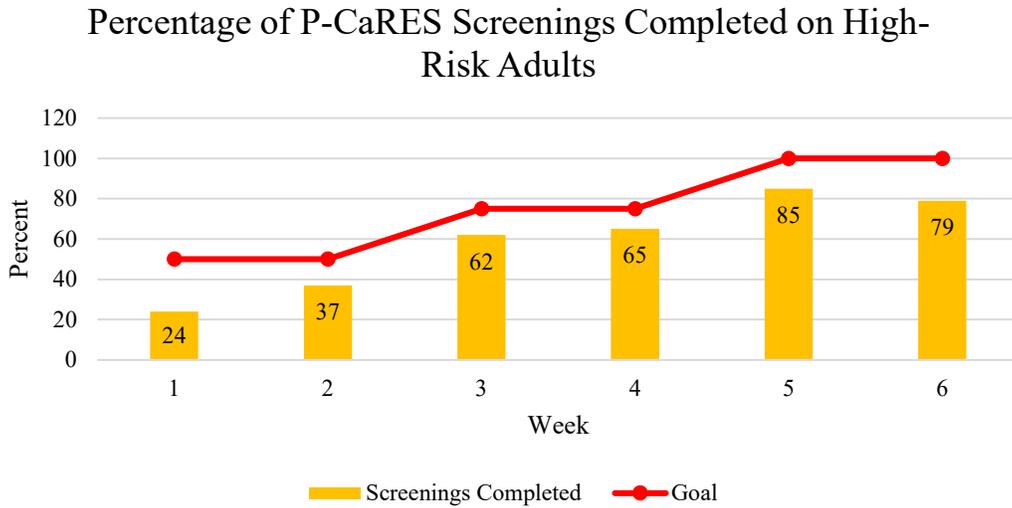
Of the 22 patients with positive screenings, the majority (n=14) of the patients were between the age of 60-79. The majority of patients with positive screenings had a risk score of 7 or greater, with only 2 positive P-CaRES in individuals with a risk score of 6. A summary of the positive screenings is shown in Figure 4 and Figure 5 according to age and risk score, respectively.

Figure 4. Distribution of positive P-CaRES by age.

Positive P-CaRES by Age
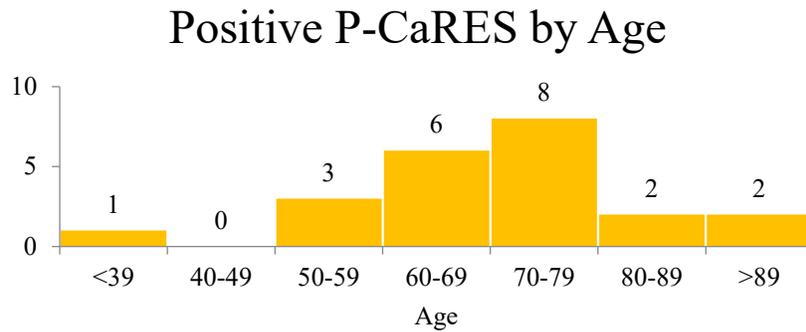
Figure 5. Distribution of positive P-CaRES by risk score

Positive P-CaRES by Risk Score
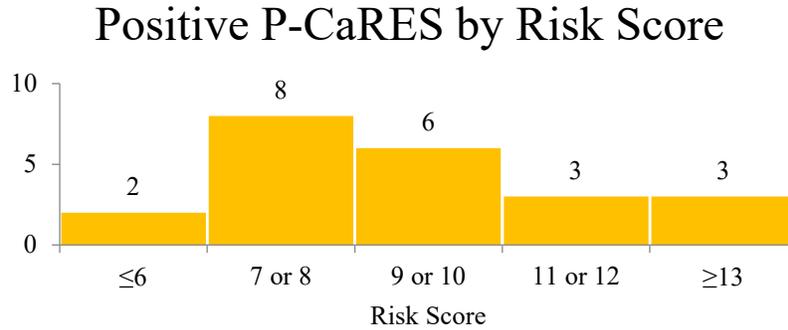
Of these 22 patients with positive screenings, 9 were referred to palliative care and one was referred to hospice. The majority of palliative care referrals sent were for individuals greater than 60 years old. With respect to risk score, 3 referrals were made in those with a risk score of 7 and 4 referrals were made with a risk score of greater than or equal to 9. Palliative care referrals made, according to age and risk score are shown in Figure 6 and Figure 7.

Figure 6. Distribution of palliative care referrals by age.

Palliative Care Referrals by Age
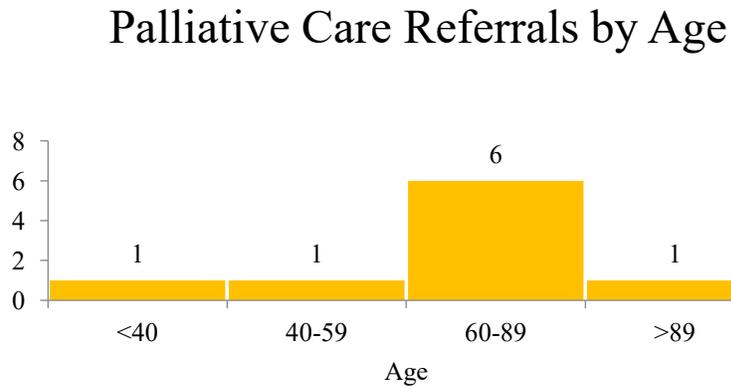
Figure 7. Distribution of Palliative Care referrals by risk score.

Palliative Care Referrals by Risk Score

Discussion

This quality improvement project implemented the P-CaRES tool, within a sample of primary care providers, with the goal of screening 50% of high-risk patients seen in the clinic during the first two-week period, 75% of high-risk patients seen in the clinic during the second two-week period and 100% of high-risk patients seen in the clinic during the final two-week period. During the first data collection period, P-CaRES screening tools were completed on high-risk patients 43% (n=21) of the time. The care teams reported difficulty in remembering a new, paper-based process and cited the two-week period between the educational session and the initiation of the screening process. This extended gap was related to staffing issues within the two primary care teams as well as broader clinical staffing issues related to the SARS-CoV-2 (COVID-19) pandemic.

During the second data collection period, P-CaRES tools were completed on high-risk patients 63.5% (n=47) of the time. The care teams attributed the increased screening completion rate to increased familiarity with the P-CaRES tool and the NP student reinforcing the idea that any care team member can complete the screening. At this point, the care teams generally

switched from the physician completing the screening, to the nurse completing the screening, and the care teams remarked on the simplicity of the P-CaRES tool and how quickly the screenings could be completed.

During the final data collection period, P-CaRES tools were completed on high-risk individuals 82% (n=38) of the time. The care teams report that every high-risk patient was identified, however, three screenings were not completed because those patients had already been screened in the preceding weeks of the data collection period. Additionally, two screenings were not completed on high-risk individuals because the individuals were already receiving ongoing outpatient palliative care. These two caveats raise important points that will need to be considered as the screening protocol is refined and will be discussed in later sections. Further, since all other high-risk individuals were screened during this period, one could argue that the screening goal was met, since all high-risk *patients* were screened for palliative care need even though a screening was not done at every *encounter* the high-risk individual had during the data collection period.

The care team members stated appreciation for having a framework to consider what patient needs could potentially be addressed by outpatient palliative care. This is congruent with findings by Monterosso et al (2016), in which practitioners expressed a desire for more guidance on when palliative care should be initiated. The physicians and nurses found it easier to discuss palliative care within the context of meeting needs rather than anticipating death, which is similar to the findings by Elliott et al. (2017) in which health care professionals wished to focus more on supportive needs and palliative care needs. The care teams felt they could talk about specific topics from the P-CaRES tool as descriptors for the role of a palliative care consultation

and that patients could see the reason for discussing a palliative care referral. This reflects the validation of the P-CaRES tool by George et al. (2015) and Lakin et al. (2019b).

The physicians both noted that they were surprised at some of the patients who screened positive and subsequently agreed to a palliative care referral. While these patients had positive surprise question responses and were therefore previously not considered for palliative care referral under current referral standards, the physicians noted that the patients did have unmet needs. This is reflective of the predominant finding of the literature review done for this project; the use of prognosis as a poor proxy for palliative care needs since prognosis may not appropriately represent a need for palliative care consultation. (Downar et al., 2017; Elliott et al., 2017; ElMokhallalati et al., 2020; Ermers et al., 2021; Gomez-Batiste et al., 2017; Lakin et al., 2016; Lakin et al., 2019a; Mitchell et al., 2018; White et al., 2017; van Wijmen et al., 2020; Veldhoven et al., 2019). One of the physicians described that she previously felt a little nervous to refer to palliative care since she was never quite sure if she was making an accurate prognosis. This is likely an accurate observation on this physician's part since a systematic review by Downar et al. (2017) found the SQ did not accurately predict one-year mortality.

Overall, the care teams had positive feedback on the brevity and ease of use of the P-CaRES tool. This is consistent with Bowman et al. (2016), who concluded that most providers (87.1%) found the P-CaRES tool easy to use and 90.4% of providers thought it would improve their ability to identify patients needing PC, demonstrating high levels of acceptability. The nurses, who ultimately ended up completing most of the screenings, stated that by the end of the data collection period, they could determine a positive or a negative P-CaRES without even

having to refer to the printed sheet, however, for data collection purposes, they still completed the P-CaRES.

The care teams for this project were very knowledgeable about the scope of outpatient palliative care services in our community. This contrasts with findings by Cai and Lalani (2021 and Teffer et al. (2017), in which health care providers' knowledge and communication of the treatment modalities and goals in palliative care are commonly cited as barriers to palliative referral. However, this is not the case across the broader organization, in which many providers express hesitation discussing the services that palliative care can provide. However, Cai and Lalani (2021) and Tedder et al. (2017) noted that the lack of knowledge of palliative care may contribute to the inability of health care professionals and patients to clearly communicate about palliative care. Despite the care teams' knowledge and comfort with palliative care referral, they still expressed that the P-CaRES tool facilitated palliative care discussions. This hints at the thought that they may have previously been somewhat uncomfortable discussing palliative care prior to this project.

The greatest barrier in this pilot project was the physicians and nurses simply forgetting to incorporate the P-CaRES screening into their workflow. At times they forgot the screening tool itself and at times, they forgot to complete the data collection sheet. It is understandable that a brand new, paper-based process, that is completely outside the digital workflow of a clinic to be forgotten. This has been a common consideration for screening protocols at this organization. Additionally, during the current state of constant change due to COVID-19, this additional process may have simply been too much to ask of the staff at this time.

Limitations

This pilot implementation project has several important limitations that must be considered prior to drawing conclusions from this pilot implementation project. Firstly, the sample of participating care teams was small and from a single, rural organization and may not accurately represent the general population of care teams or patients with palliative care needs. Additionally, the project's generalizability is also limited by the short time that data was collected.

Only 56% of the high-risk individuals seen during the data collection period were screened for palliative care need. Since only anecdotal information was gathered about why high-risk people were not screened, it is difficult to identify and mitigate these circumstances for future attempts to initiate a screening process. Since there was a high percentage of high-risk individuals who were not screened (44%), the data may not accurately represent the population of interest.

The focus organization has an established population health tool that uses numerous patient characteristics to risk-stratify the patient panel. This was a fundamental tenant of this project. Without the ability to establish some meaningful "trigger" for screening, the care teams may be faced with an overwhelming or unacceptable volume of individuals to screen, or a rigorous process of identifying life-limiting conditions, which are often difficult to quickly extract from medical records. Some electronic health record platforms are able to risk-stratify patients or automatically identify patients with certain characteristics that would trigger a screening, and this would be a reasonable alternative for organizations without a population health tool.

The physicians who participated in this project are strong proponents of palliative care and are two of the providers who most frequently referred to palliative care prior to the pilot implementation. This may have skewed the results of the project since they had such a strong baseline knowledge and comfort with the palliative care modality. Other providers within the focus organization do not share this enthusiasm and therefore implementing this screening may not be a priority for those providers with less buy-in. This will also differ among external organizational cultures.

Recommendations for Practice

Based on the feedback from the care teams that participated in the pilot screening project, as well as the palliative care nurse coordinator, it is recommended that the P-CaRES be used going forward. Since there is no universally preferred palliative care screening tool and the staff found the P-CaRES tool easy to use and valuable for identifying unmet palliative care needs, the project development team did unanimously agree that the P-CaRES tool was the appropriate choice for the organization going forward.

It is recommended that the P-CaRES tool be integrated into the electronic health record. For this pilot project, paper-based screenings were preferred by the project development team as it could be initiated quickly without much organizational effort for a screening that had not yet been internally vetted. The organization is transitioning electronic health records in the next year. The project development team will submit the P-CaRES tool as a part of the general template used for primary care visits.

It is recommended that the risk score that triggers a palliative care screening be adjusted. Only two individuals with a risk score of 6 were identified as having unmet palliative care needs. Only one of these individuals was referred to palliative care. The project development team wanted to ensure that the screening was seen as valuable to the care teams by identifying appropriate patients to screen and limiting unnecessary or unhelpful screenings. Additionally, the palliative care team is concerned that implementing an organization-wide screening of patients with a risk score of greater than or equal to six would result in too many referrals, based on the number of referrals that resulted from this project. Therefore, it is recommended that individuals with a risk score of greater than or equal to 7 be screened using a P-CaRES tool. As the palliative care team grows, and the screening protocol is refined, this risk score can be adjusted to fit the needs of the organization.

Additionally, clarification on how frequently to screen high risk patients is needed. In the examples discussed earlier, high-risk patients that are seen in the clinic weekly do not need to be screened weekly. The project development team suggests screening with a P-CaRES tool quarterly for all patients with a risk score of 7 and above. Further, patients who are already on hospice or are already receiving palliative care, need to be screened. As the screening is integrated into the electronic health record, these patients will need to be removed from the denominator in order to clearly understand screening rates.

Summary

Though the pilot implementation of the P-CaRES tool did not meet the pre-determined goals, several valuable insights were gained from the project. The overall percentage of high-risk

patients screened for unmet palliative care needs was 57%. The screenings identified 22 patients with unmet palliative care needs and 9 of these patients were referred to palliative care. The P-CaRES tool was found to be acceptable by the project development team and adjustments for future iterations of this screening protocol were recommended.

CHAPTER FIVE

REFLECTION

Like all doctoral nursing programs accredited by the Commission on Collegiate Nursing

Education (CCNE), the Doctor of Nursing Practice (DNP) Family Nurse Practitioner Program at

Montana State University is fundamentally based on the eight DNP essentials (American

Association of Colleges of Nursing [AACN], 2006). These eight DNP essentials are intended to

establish standard areas of competency that DNP programs should aim to develop in the practice-

focused, doctoral nursing students (AACN, 2006). According to the Montana State University

College of Nursing Graduate Program Handbook (n. d.), the DNP scholarly project provides the

DNP student with the opportunity to demonstrate the cumulative competency gained from the

DNP program. While all DNP essentials were utilized in the development, execution, and

presentation of this project, I would like to focus on five specific essentials I found most salient

to this project and the DNP program at Montana State University overall.

Essential I

This first DNP essential calls the DNP student to understand the complexity of the

foundations of nursing practice including biologic processes, human behavior within

environments, how health status may be affected and the whole humanness of people (AACN,

2006). While it would be a simple task to list the scientific learnings and the actions that lead me

through the completion of this quality improvement project and DNP program, this is not the

spirit of this DNP essential. Rather, it is the revelation that the ever-evolving DNP practice

springs from the conceptual foundations of nursing theory. Advances in science and technology are and will be ubiquitous. I have a better understanding that, as a practicing DNP, learning is never complete. There will always be emerging science and evolving theories for framing it. There will be shifts in social constructs that dictate environments. The practicing DNP must be prepared for this ambiguity by having a strong understanding of the scientific foundations, such as natural sciences, social sciences, organizational structures, ethical implications, and historical contexts and use it as a lens for viewing future health or health care delivery phenomena. This DNP essential emerged as pertinent as I began to think about the new modality of palliative care within the context of the more prevalent disease-focused primary care model. To understand why identifying unmet palliative care needs was significant, I had to have a strong understanding of the underlying forces and ultimate objectives of curative care. This is how I will use the first DNP essentials in my future DNP practice.

Essential II

The second DNP essential requires the DNP graduate to use organizational and systems leadership for quality improvement and systems thinking (AANC, 2006). In my mind, this DNP essential is the one in which the practicing DNP acts as a catalyst for systems or organizational changes that further improves care for current and future individuals and populations. To be successfully competent in this DNP essential, the DNP student must have a keen ability to see systems as they are and as they could be as well as the interpersonal skills to gain support and buy in from key stakeholders. The DNP graduate program at Montana State University offered the unique opportunity to explore systems thinking for practice changes for assignments across

many courses including the financial project proposal, learning circles in Healthcare Delivery Systems and the project for Program Planning & Evaluation, Outcomes, and Quality Improvement. This DNP essential arose within the context of this quality improvement project when it became evident that there was a problem with referrals to outpatient palliative care originating from primary care. As discussed in the first chapter of this manuscript, the population of older adults is growing (He et al., 2016). The future needs of this population need to be addressed and the healthcare systems that care for them must be accountable to the quality and cost of caring for this population. I was surprised to find that even among those who were strong proponents of the change proposed in this project, they still struggled to execute the new process. This is where strength in systems and organizational leadership are crucial. The DNP graduate must be able to effectively adapt leadership style and communication methods to address the various microcultures within the broader organization while remaining true to the necessary practice change. I aspire to continue to refine this nimble leadership as a practicing DNP, as outlined by the second DNP essential.

Essential III

The third DNP essential involves scholarly and analytical competency in applying the evidence to practice (AANC, 2006). This essential steams from the fundamental divergence between PhD graduate programs and the DNP graduate programs, whereas the PhD graduate generates new knowledge within the strict confines of research and DNP graduate takes that newly generated knowledge and applies it to the messy humans and the uncontrolled systems of the real world. There cannot be progress within one realm if there is not progress within the other

realm. To do my part to further the progress of DNP practice, I must have an acute familiarity with scholarly appraisal and the discretion to understand its application to practice. The DNP graduate program at Montana State offered ample opportunities to hone these skills. The essential became apparent within the context of this quality improvement project while selecting the palliative care screening tool to trial at this organization. After critically reviewing frequently used palliative care screening tools, it became apparent that the primary goal of the organization, to identify patients with unmet palliative care needs, may not be appropriately achieved using these popular palliative care screening tools. To see the best way forward, I had to have a strong grasp of how to find and evaluate the evidence for its merit to apply it to the local practice. I also had to weigh the risks and benefits of using a lesser studied, yet appropriately validated, screening tool. As I move forward as a practicing DNP, I hope to maintain this level of scholarly scrutiny.

Essential IV

DNP essential IV emphasizes the use of information systems and technology to improve and transform patient care (AANC, 2006). Thankfully, the DNP program at Montana State University offers numerous opportunities to explore the ways in which the DNP graduate may utilize health information systems to improve patient care including projects in Health Care Informatics and Program Planning & Evaluation, Outcomes, & Quality Improvement. The focus organization for this quality improvement project utilizes a population health tool that extracts patient data from the electronic health record to receive value-based payments. This existing technology allowed me to utilize data that was already being automatically collected to identify

patients according to risk score. During my literature review, the findings by Lakin et al. (2019b) when risk-stratification algorithms were used to pre-screen patients who should be screened for palliative care need, in addition to the recommendations by CAPC (n. d. b) to balance sensitivity and specificity using a data generated list to identify patients who may benefit from formal palliative care screening. With the firm understanding of what the risk score at this institution represented, I felt confident that integrating the existing information systems and technology into this project would create an easy pathway utilizing existing workflows and would minimize human labor by capitalizing on information that was readily available and already frequently referenced by clinical staff. Going forward, this same population health tool will be integral in evaluating the long-term success of the palliative care screening practice change. My background in population health, which relies heavily on data aggregation, in addition to the skills gained through this DNP program and this quality improvement project will serve me well as a DNP graduate as I evaluate information systems as they apply to future practice changes. The level of integration between healthcare and technology will only grow during my future DNP practice and being able to conceptualize how data can be used to improve patient care and healthcare systems is an invaluable skill.

<u>Essential VI</u>

DNP essential VI emphasizes interprofessional collaboration as an imperative proficiency among DNP graduates (AANC, 2006). Patient-centered care will inherently require an interprofessional team to address all aspects of the patient's need. A DNP graduate must not only be able to communicate and collaborate across healthcare professions, but they should also be

equipped to act as the leader of these collaborations. The leadership course within the DNP

graduate program at Montana State University offers the DNP student the necessary background

knowledge on effective communication and various leadership paradigms to gain competency in

this essential. The AANC (2006) describes the fluidity of the role of each individual or specialty

on the patient's care team. I think this was the most relevant DNP essential to the project due to

the patient-centeredness of this project and of palliative care overall. Hui and Bruera's (2015)

time-based model of palliative care, which was central to the conceptualization of this project,

perfectly demonstrates the variability of the roles of the individual interprofessional team

members according to patient need that is described in this essential. Being able to seamlessly

move from leader of the interdisciplinary team to member of the interdisciplinary team while

maintaining effectiveness and keeping the patient at the center of the team is vital to this

competency. This ability is not only important for the care of individual patients, as described

above, but also for organizational issues or practice changes. I hope to continue to refine these

leadership and communication skills throughout my DNP practice to continue to ensure effective

patient care and practice changes across the organizations that I will practice within.

Summary

The design of the DNP graduate program at Montana State University was based upon

the DNP essentials to ensure that DNP graduates possess a standard, basic level of competency

needed to enter DNP practice. Throughout the DNP program, I was able to practice these skills.

The culminating DNP project offered me the opportunity to demonstrate competency in these

areas that are so important to effective DNP practice. Ultimately, however, it is up to me to view

these DNP essentials as goals to continually aspire to and skills to persistently develop over the course of my future DNP practice. The DNP essentials provide a framework to approach future clinical and practice issues that will certainly arise within the constantly evolving health care industry.

APPENDICES

APPENDIX A

THE IOWA MODEL REVISED: EVIDENCE-BASED PRACTICE

TO PROMOTE EXCELLENCE IN HEALTH CARE

AND PERMISSION TO USE

The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care

Identify Triggering Issues / Opportunities
- Clinical or patient identified issue
- Organization, state, or national initiative
- Data / new evidence
- Accrediting agency requirements / regulations
- Philosophy of care

↓

State the Question or Purpose

↓

Is this topic a priority? — No → **Consider another Issue / opportunity**

Yes ↓

Form a Team

↓

Assemble, Appraise and Synthesize Body of Evidence
- Conduct systematic search
- Weigh quality, quantity, consistency, and risk

← **Reassemble**

↓

Is there sufficient evidence? — No → **Conduct research**

Yes ↓

Design and Pilot the Practice Change
- Engage patients and verify preferences
- Consider resources, constraints, and approval
- Develop localized protocol
- Create an evaluation plan
- Collect baseline data
- Develop an implementation plan
- Prepare clinicians and materials
- Promote adoption
- Collect and report post-pilot data

← **Redesign**

↓

Is change appropriate for adoption in practice? — No → **Consider alternatives**

Yes ↓

Integrate and Sustain the Practice Change
- Identify and engage key personnel
- Hardwire change into system
- Monitor key indicators through quality improvement
- Reinfuse as needed

↓

Disseminate Results

◆ = a decision point

M Gmail

McCall Elverum <mccallelverum@gmail.com>

Permission to Use The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care

---

Kimberly Jordan - University of Iowa Hospitals and Clinics <survey-bounce@survey.uiowa.edu>
Reply-To: Kimberly Jordan - University of Iowa Hospitals and Clinics <kimberly-jordan@uiowa.edu>
To: mccallelverum@gmail.com

Fri, Oct 29, 2021 at 11:49 AM

You have permission, as requested today, to review and/or reproduce *The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care.* Click the link below to open.

The Iowa Model Revised (2015)

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Reference: Iowa Model Collaborative. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing, 14(3), 175-182. doi:10.1111/wvn.12223*

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Please contact UIHCNursingResearchandEBP@uiowa.edu or 319-384-9098 with questions.

APPENDIX B

SWOT ANALYSIS

SWOT Analysis	
Strengths	**Weaknesses**
- Robust PC team - Population health tool - Advance Directive discussion part of standard Medicare Annual Wellness visits - Team-based care with Care Managers and Social Workers available	- Poor understanding of PC services - Referral too late according to local and national data - No established PC referral criteria
Opportunities	**Threats**
- Room for OP PC growth - Potential for increased patient QOL and decreased cost, value-based payment model - Align care with patient values - Increasing number of older patients and patients with chronic conditions	- PCPs want to "keep" patients - Numerous other new screenings in last few years, "screening fatigue" - Role confusion (PC versus hospice) - No clear "best practice" - Cultural resistance to talking about death/dying

APPENDIX C

EXPLANATION OF RISK SCORE CALCULATION

Primary Care Risk Logic		
Attribute	Value	Points
6 Month Hospital Admission Count	0	0
	1	1
	2	2
	3	3
	4	4
	5+	5
6 Month ER Visit Count	0	0
	1 - 2	1
	3 - 4	2
	5 - 6	3
	6 - 7	4
	7+	5
6 Month Urgent Care Visit Count	0	0
	1 - 4	1
	5+	2
Primary Insurance Coverage	Commercial	0
	Medicaid or Medicare	1
	Self-Pay	2
Active Medications	<4	0
	4 - 10	1
	> 10	2
Ambulatory Sensitive Chronic Conditions	0	0
	1 - 3	1
	> 3	2
Social Determinants of Health	0	0
	1 - 2	1
	3 - 4	2
	5 - 6	3
	7 -8	4
Substance Abuse Diagnosis	0	0
	>=1	1
Mental Health Diagnosis	0	0
	>=1	1
BMI >=40	<40	0
	>=40	1
Active Tobacco User	No Tobacco	0
	Active User	1
Age	< 65	0
	65 - 80	1
	> 80	2
Total Points Possible		**28**

Ambulatory Sensitive Chronic Conditions
Ischemic Vascular Disease
Congestive Heart Failure
Chronic Obstructive Pulmonary Disease
Coronary Artery Disease
Hypertension
Diabetes
Asthma

Mental Health Diagnoses
Anxiety
Depression
Bipolar Disorder
Schizophrenia

Social Determinants of Health
Food Insecurity
Housing Instability
Utility Needs
Financial Resources Strain
Transportation
Exposure to Violence
Care Giver Burnout
Education
Social Isolation & Support

APPENDIX D

PALLIATIVE CARE AND RAPID EMERGENCY

SCREENING TOOL

1. Does the Patient Have a Life-Limiting Illness? (Check all that apply)
____ **Advanced Dementia or CNS Disease** (e.g., history CVA, ALS, Parkinson's) with assistance needed for most self-care (e.g., ambulation, toileting) and/or minimally verbal
____ **Advanced Cancer** metastatic or locally aggressive disease
____ **End Stage Renal Disease** on dialysis or creatinine >6
____ **Advanced COPD** continuous home O2 or chronic dyspnea at rest
____ **Advanced Heart Failure** chronic dyspnea, chest pain or fatigue with minimal activity or at rest
____ **End Stage Liver Disease** history of recurrent ascites, GI bleeding or hepatic encephalopathy
____ **Recent Septic Shock** (i.e., signs of organ failure due to infection) requiring ICU admission within the last 3 months and significant pre-existing comorbid illness
____ **Provider Discretion** high chance of accelerated death (e.g. hip fracture > age 80, major trauma in the elderly such as multiple rib fractures or intracranial bleed, advanced AIDS, etc.

No Checked Items? STOP! Screening is Complete	**ONE** or More Checked Item? CONTINUE screening!

2. Does the Patient Have TWO or More Unmet Palliative Care Needs? (Check all that apply)
____ **Frequent Visits** 2 or more ED visits or hospital admissions in the past 6 months
____ **Uncontrolled Symptoms** visits are prompted by uncontrolled symptoms: e.g., pain, dyspnea, depression, fatigue, etc.
____ **Functional Decline** e.g., loss of mobility, frequent falls, decreased PO, skin breakdown, etc.
____ **Uncertainty about Goals-of-Care and/or Caregiver Distress** Caregiver cannot meet long-term needs; Uncertainty/distress about treatment goals.
____ **Surprise Question** you would not be surprised if this patient died within 12 months?

Less than TWO checked items? STOP! Screening is Negative	**TWO or more checked items?** Palliative Care Referral Recommended

APPENDIX E

DETAILED PILOT PROJECT TIMELINE

Task	2021					2022				
	A	S	O	N	D	J	F	M	A	M
Identify Trigger	x									
Determine Organization Priority	x	x								
Form a Team		x								
Submit Chapter 1 Draft to Project Chair		x								
Assemble, Critique & Synthesize Literature		x	x							
Submit Chapter 2 to Project Chair			x							
Design Pilot Project			x	x						
Submit Chapter 3 to Project Chair				x						
Submit IRB approval request				x						
DNP Proposal Defense					x					
Receive IRB Approval					x					
Develop Staff Education Materials					x					
Staff Education						x				
Implement Pilot/Data Collection						x	x			
Analyze and Interpret Data							x			
Results submitted to Project Chair							x			
Final Paper Submitted to Project Chair								x		
DNP Project Defense									x	
Prepare and Share Dissemination Products										x

APPENDIX F

DATA COLLECTION SHEET AND

DETAILED DATA ANALYSIS PLAN

Data Collection Sheet	
Patient's Age (or >89)	
Patient's Risk Score (0-28)	
Payer (MCR/MCD/Private/None)	
Referral (Y/N)	
Credentials (MD/DO/NP/PA/RN)	

Detailed Data Analysis Plan					
Risk Score (0-28)	Payor (MCR/MCD, Private, None)	P-CaRES Screening Completed (Y/N)	P-CaRES Result (+/-)	Screener Credentials (MD/DO/ NP/PA/RN)	Palliative Referral (Y/N)

<u>APPENDIX G</u>

INSTITUTIONAL REVIEW BOARD EXEMPT STATUS APPROVAL

M Gmail

McCall Elverum <mccallelverum@gmail.com>

Exempt Request-Elverum

Beiswanger, Kelly <kelly.beiswanger@montana.edu>   Mon, Jan 24, 2022 at 12:46 PM
To: McCall Elverum <mccallelverum@gmail.com>
Cc: "Luparell, Susan" <luparell@montana.edu>

Dear McCall,

Thanks for your patience as I caught up on my work. Here is your official IRB approval letter for your records.

Thank you for your application. This email acknowledges receipt of the request for IRB Review and serves as the Approval Letter for your research. Your new **IRB Exempt Protocol # is ME012422-EX**.

Study Title: **Screening for Palliative Care Needs in Primary Care**

As the PI, it is your responsibility to facilitate subject understanding by informing subjects of all aspects of the project, providing an opportunity to ask questions, and describing risks and benefits of participation. Submit any new changes to the research protocol to the IRB via Amendment Form prior to implementing.

The research described in your submission is exempt from the requirement of additional review by the Institutional Review Board in accordance with 45 CFR 690.104(d). The specific paragraph which applies to your research is (3)
(i) Research involving benign behavioral interventions in conjunction with the collection of information from an adult subject through verbal or written responses (including data entry) or audiovisual recording if the subject prospectively agrees to the intervention and information collection and at least one of the following criteria is met:

(A) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects;

(B) Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; or

(C) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by § 690.111(a)(7).

(ii) For the purpose of this provision, benign behavioral interventions are brief in duration, harmless, painless, not physically invasive, not likely to have a significant adverse lasting impact on the subjects, and the investigator has no reason to think the subjects will find the interventions offensive or embarrassing.:

Thank you,

Kelly Beiswanger

IRB Administrator & Program Manager

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