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Improving Healthcare Provider Knowledge of Hospice and Palliative Medicine

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**Improving Healthcare Provider Knowledge of Hospice and Palliative
Medicine**

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Mississippi University for Women

NU 800: DNP Project I & II

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Abstract

By addressing the diseases symptoms directly, palliative care improves patients feel and can participate in their life by providing indispensable holistic health management and support for patients and families. Hospice is the focused service of palliative care, provided by specially trained healthcare professionals. Evidence suggests that patients are poorly educated on chronic illnesses, providers are failing to have end of life discussions with patients, and providers are poorly educated as to services available to patients at end of life. This quality improvement project was designed to assess provider knowledge of hospice and palliative care utilization. Convenience sampling was used to obtain participants. A pre-recorded educational session was conducted online, during which hospice admission criteria, hospice services, and benefits were reviewed. A pre-test and post-test were administered digitally at the time of the session. One month following the completion of session, another digital questionnaire was administered to reassess the same information along with self-reported practice change.

A total of twelve participants completed the pre-test, six completed the post-test, and four completed the follow-up surveys. Although the three questionnaires were evaluated as independent samples and responses were not matched, all providers who completed Questionnaire 2 were participants who had attended sessions and previously completed Questionnaire 1.

The nurse practitioners that participated cited lack of knowledge and their own desire to treat patients and preserve life as barriers to referring to hospice. Overall, the statistics indicated that increasing provider education only increased hospice referrals in 25% of respondents. Likewise, only 50% of respondents admitted to having made a practice change, despite 100% reporting that they felt more knowledgeable and believed

they would refer more to hospice. It is likely that the limitations of the study had a large impact on the outcome of practice change.

Dedication

I dedicate this project to my family. To my wonderful husband, Jeremy, thank you for always being supportive—you been my rock and biggest cheerleader throughout every degree I have earned. There is no way I could have made it without your love, help, time, and encouragement. Thank you for not letting me give up, especially when I wanted to. I love you more than words can say!

To my beautiful girls, Waverleigh and Wesleigh, thank you for being patient with me. Please always remember that you can do anything you set your mind to. Mommy loves you both more than you can ever know. To my big kids, Kandler, Brett, Ben, and Allyson—never stop learning and never give up. You are never too old to accomplish something and to better yourself.

To my Nannie, this is also dedicated to Pop—who always encouraged me and always reminded me of my worth. I hope he's just as proud now as he was when I graduated with my first baccalaureate degree—he's certain never had a "doctor" in the family. I love you and thank you for being you.

To my DNP classmates, it's been a long 2-3 years, but I'm glad I had y'all to go through this journey with.

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Last but certainly not least, Dr. McCoy, how fitting is it that my time at the W is ending alongside yours? You were the first face I saw when I started this entire journey in 2011 and the last when I walk across the stage to receive this honor. You always had words of encouragement for me and great faith in me, and for that, I am forever grateful—had it not been for you, I probably never would have enrolled in nursing school. Thank you for what you have helped Mississippi University for Women School of Nursing accomplish and for allowing me to be part of the long blue line.

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Practice change: Increasing primary care education and utilization of hospice care

Palliative care provides indispensable holistic health management and support for patients and families. Palliative care does not address curing the underlying disease, but rather addressing the diseases symptoms directly, which improves how the patient feels and is able to participate in their life. Hospice is the focused service of palliative care, provided by specially trained healthcare professionals. Evidence suggests that patients are poorly educated on chronic illnesses, providers are failing to have end of life discussions with patients, and many providers are poorly educated as to what services are available to patients at the end of their life. In Mississippi, only 45.2% of Medicare decedents received any hospice care, with only nine other states having lower percentages. Nationally, the statistics are equally as staggering. From 2014 to 2018, 50% or less of Medicare decedents received any hospice care in the United States. The median length of hospice stay for those patients was only eighteen days (National Hospice and Palliative Care Organization, 2020).

Purpose of the Project

The purpose of this project was to increase primary care provider knowledge of palliative care and hospice. By increasing knowledge, the author anticipated increased hospice referrals from primary care providers.

The Center to Advance Palliative Care (CAPC) defines palliative care as: “specialized medical care for people living with serious illness. It focuses on providing relief from the symptoms and stress of a serious illness—whatever the diagnosis... to improve quality of life for both the patient and the family” (Center to Advance Palliative

Care, 2016). The recognition of hospice and palliative medicine as its own medical subspecialty in 2006 by both the American Board of Medical Specialties (ABMS) and Accreditation Council for Graduate Medicine (ACGME) highlighted the importance of palliative care to Primary care practice.

Hospice care is the focused service of palliative care and has specific eligibility requirements. Admitting diagnosis includes neurological diseases, such as amyotrophic lateral sclerosis (ALS), Alzheimer's and dementia, cancer, heart disease, Human Immunodeficiency Virus (HIV), renal disease, stroke, coma, liver disease and pulmonary disease. Hospice uses a multidisciplinary-team approach to care (Kindred, 2020). Multidisciplinary teams include physicians, nurses, chaplains, personal care aides, social workers, volunteers, and various therapies if necessary. The majority of hospice care is provided in the patient home, although hospice care may occur in long-term care facilities or inpatient hospice facilities. Hospice team members visit the patient's home to assess symptoms, adjust medications to mitigate symptoms, and provide support for both patient and family, with 24-hour access to hospice staff. Hospice also provides needed durable medical equipment (DME). Hospice may also provide five days of respite care to minimize caregiver burnout and stress, during which hospice patients may be placed in a local nursing home or hospital for five days (Centers for Medicare and Medicaid Services, 2020). In providing respite care, the patient is cared for around the clock by trained healthcare professionals, meanwhile the caregiver has an opportunity for five days of rest. While under hospice care, patients are able to choose their primary care provider to oversee medical care in hospice, in addition to having hospice physicians (Buss et al., 2017).

Heart failure is a common disease process that can be addressed with Hospice care. Heart failure affects approximately 6.5 million people in the United States annually, with over nine-hundred thousand new diagnoses each year. Of those nearly one million new diagnoses, five to ten percent are considered “advanced stage,” with an approximate annual cost of \$30.7 million dollars. While heart failure is manageable, it is ultimately fatal. In 2017, two million lives could have been improved by managing symptoms at home, allowing patients to remain where they are comfortable with people that they love. Hospitalizations of heart failure as the primary diagnosis exceed one million hospitalizations annually, with an additional three million hospitalizations listing heart failure as secondary or tertiary diagnoses. Despite these staggering statistics, only four percent of these patients will receive palliative care services and over half of “advanced stage” heart failure diagnoses will die within five years of diagnosis (Benjamin et al, 2017). Imagine a world where fifty percent of these four million hospitalizations received palliative care instead of acute care hospitalization. Imagine the impact to Medicare funds, if those 2 million hospitalizations had not incurred. The evidence also suggests that early and appropriate hospice intervention leads to improved quality of life. Researchers in a randomized trial found that home-based palliative heart failure programs are beneficial in improving quality of life, satisfaction of care and enhanced caregiver burden of patients with end stage heart failure (Ng et al., 2018.)

Unfortunately, many health care providers have misconceptions about hospice. Many healthcare care providers are reluctant or unwilling to transition patients near end of life to palliative or hospice care. Barriers to referral include difficulty predicting life expectancy, lack of knowledge of patient eligibility guidelines, physician’s desire to

continue aggressive treatment and time constraints have also been identified as barriers in hospice referrals (Brickner et al., 2004; Tores et al., 2016). These barriers prevent providers from discussing end of life concerns proactively, ultimately failing to give the patient the right to choose their end-of-life goals and robbing patients from dying pain free and with dignity.

Problem Statement

Patients with terminal and end-stage diseases benefit greatly from the services hospice can provide to them. Ideally, primary care providers would refer patients to hospice as soon as a patient meets the criteria for hospice admission. Unfortunately, primary care providers lack adequate knowledge of hospice and palliative care. This means that patients are not receiving needed and beneficial healthcare services. By increasing healthcare provider knowledge of palliative care and hospice, the researcher anticipated that referral to hospice for patients in need will be more likely, and therefore those patients will receive the services they need.

Goals and Objectives

The goal of this project was to increase healthcare provider knowledge of hospice and palliative care, and in turn initiate provider practice change regarding hospice referral. The researcher's objectives were to meet with providers both in person and via pre-recorded online format to provide education related to hospice and palliative care.

Picot Question

The PICOT question for this project was, “Does education regarding hospice care and palliative medicine improve healthcare provider’s knowledge and willingness to refer patients to hospice services?”

Defined Terms

For this study, there were several terms that needed to be defined as they apply to the study. The theoretical and operational definitions follow, respectively.

Education

Operational: the knowledge and development resulting from the process of being educated (Miriam-Webster, 2020).

Theoretical: the act of providing teaching and information to expand knowledge.

Hospice

Operational: a palliative care program designed to provide palliative care and emotional support to the terminally ill in a home or homelike setting so that quality of life is maintained, and family members may be active participants in care (Miriam-Webster, 2020).

Theoretical: A business entity or agency that provides palliative care services to individuals.

Palliative medicine/ palliative care

Operational: Specialized medical care that focuses on providing patients relief from pain and other symptoms of a serious illness, no matter the diagnosis or stage of disease (Mayo Clinic, 2020).

Theoretical: Medical care that focuses on symptom control and pain management as opposed to aggressive therapy.

Primary care provider

Theoretical: Health care professionals who provide services in collaborative teams, but are ultimately responsible for the patient (American Academy of Family Physicians [AAFP], 2017).

Operational: Nurse practitioners, physician assistants, Doctors of Osteopathy (D.O) or Medical Doctors (M.D.) who manage chronic conditions and/or work in primary care clinics.

Referral

Operational: the act, action, or an instance of referring (Miriam-Webster, 2020).

Theoretical: the act of a licensed provider ordering some type of medical care by a licensed third party.

Willingness

Operational: of or relating to the will or power of choosing (Miriam-Webster, 2023).

Theoretical: making a choice between options.

Review of the literature

Literature for this project is largely qualitative and uses both providers and caregivers of deceased as subjects. Research in this realm is particularly difficult, as the party truly affected by hospice care is deceased and cannot participate. For this reason, the deceased patient's caregiver is the most appropriate to answer on behalf of the patient.

Cohen-Mansfield and Brill (2020) conducted a study of 83 caregivers, having cared for a family member at end of life. Participants were recruited from a geriatric hospital database fitting the abovementioned criteria. Participants were interviewed with both open and closed ended questions regarding their preference for their own end of life in two potential scenarios: advanced dementia and physical disability. Overwhelmingly, the participants' decisions were based on quality of life and degree of burden on their family. Many emphasized the importance of ending life with dignity, so that family members would remember them the way in which they desired to be remembered.

Wright et al. (2008) conducted a study of 332 terminally ill patients and their caregiver. Propensity scoring was utilized to determine patient performance status, symptom burden, and survival time. The researchers concluded that end of life discussions were not associated negative emotional states or mental health issues for patients. Likewise, patients who reported that they had discussed end of life care with their provider were more likely to prefer symptom control treatments. Furthermore, caregivers of patients that continued aggressive treatment rated the patient's quality of life to be much poorer than patients that chose symptomatic control. Caregivers of patients who underwent life-sustaining treatment were at higher risk of depression and rated their own quality of life much poorer.

Schulman-Green et al. (2005), conducted a data analysis using data from a prior study to identify common obstacles in nurse's discussion of prognosis and referral to hospice care. Data of 174 full-time experienced staff nurses in units that routinely saw terminally ill patients completed an open-ended survey. The most common barriers to the nurses' discussion of hospice care were: unwillingness of the patient or family to accept

prognosis, sudden death or non-communicative status by the patient, belief of the physician's hesitance to refer, their own personal discomfort, and their own desire to maintain hope with patient and family. The authors concluded that limited conversations between clinicians and patients about prognosis and treatment options reduces the likelihood of referral to hospice, therefore improved communication skills are necessary.

Hyman and Bulkin (1991) interviewed 17 practicing physicians who had referred patients to a hospice. The authors were able to establish multiple barriers to hospice referrals, including lack of knowledge and negative perceptions, physician belief that hospice is a "last resort," and difficulty discussing terminal diagnosis with patients.

Shalev et al. (2018) conducted a study using 19 semi-structured telephone interviews with 19 physicians, including primary care, from three practices in New York City. Primary care physicians identified their role in hospice care as educating patients and family on hospice and hospice expectations, as well as providing psychosocial support for the family. Primary care providers identified their current level of involvement in patient's hospice care was dependent on the level of intimacy and longevity of the patient-client relationship. Primary care providers identified their ideal role in patient's hospice care is to provide additional psychosocial support and continuity of care, as well as increased collaboration with the hospice team. Primary care physicians identified barriers to hospice referral as inability to remain involved in-patient care and the unclear role they were to play once a patient was using hospice services.

Maciasz et al. (2013), identified the use of terms "palliative care" and "hospice" as barriers themselves. Researchers conducted a randomized, between-subject telephone survey of patients with advanced cancer. Patients were organized into 1 of 4 groups, with

each group differing by terminology (supportive care v. palliative care) and description (patient-centered v. traditional). Participants were initially recruited from 20 participating medical oncology practices- each identified thirty patients each. Eligibility for inclusion was being over 18 years old, presence of advanced solid tumors defined as stage IV, or malignancy, having a working telephone number, and the ability to complete the thirty-minute survey without assistance. Exclusion criteria included emotional instability as determined by the oncologist and the inability to complete the survey without assistance. Surveys were administered using the previously delegated terms, and responses measured via Likert scale. Participants were also allowed open ended responses following the initial questionnaire. Demographics were included in questioning. Participants (n=169) were randomly assigned to each of the four survey groups (1- palliative care/ patient-centered terminology, 2- palliative care-traditional terminology, 3- supportive care/patient-centered terminology, and 4- supportive care/ traditional terminology). Maciasz et al. (2013) determined that no significant differences in age, gender, or cancer diagnosis varied between survey groups. Results also indicated that the term supportive care was associated with more favorable impressions and better understanding, in addition to increased perception of future needed services, but not currently perceived needed services. No outcome differences were noted by differences in description (patient-centered v. traditional). In open ended questioning, patients expressed confusion about what the term “palliative care” meant as compared to what “supportive care” meant. The outcome of this study identifies language and terminology used as a potential barrier to hospice referral.

Hong and Cagle (2019) also obtained similar findings dialogues and attitudes about palliative care. The researchers conducted random-sampling telephone interviews with 123 adults in the United States. This study was implemented using the Terror Management Theory (TMT). TMT describes how death anxiety impacts behaviors and attitudes towards end of life (EOL). Random selection occurred using computerized electronic technology to select telephone numbers (n=276) and 123 interviews completed. The researchers hypothesized that religiosity and comfort discussing death would affect attitudes about EOL care. Respondents average age was 48 years old, sixty-one percent were Caucasian, sixty-three percent female, and sixty-six percent college educated. Surveys indicated that fifty-nine percent of respondents indicated being comfortable discussing death. Additionally, Caucasian respondents reported being more comfortable with death and only forty percent of respondents indicated attending church at least weekly. Resulting ultimately showed that younger people, minorities, and religiously inactive persons have less favorable attitudes regarding death and EOL care. Overall, the research shows that providers do not have end of life discussions with patients. It also shows that providers are unsure of how hospice will benefit their patients and when patients qualify for care. Research also indicates consistency in the barriers for providers referring patients to hospice care.

Theoretical Framework

For this project, the Humanistic Learning Theory was utilized. The humanistic learning theory was developed by Maslow in 1943 as a means to explain how people learn and how learning can be improved. Maslow developed a hierarchical theory of

motivation, which indicated that in order for learning to be effective, a person's basic needs must be met. Those needs which Maslow differentiated are physiological, safety, love and belonging, esteem, and self-actualization. The theory was further expanded by Rogers, who applied to premise to therapy, creating "person-centered therapy" (Butts & Rich, 2019).

The humanistic learning theory emphasizes the personal worth, values, and positive human nature of a person, with its underlying premise that people are inherently good and strive to make the world better. Deviation from that is based on lack of individual needs being met. Likewise, further motivation lies in the capacity to which the individual's needs have been met. Therefore, in order to effectively and therapeutically treat a patient, the provider must meet the patient's basic needs (Butts & Rich, 2019).

Hospice and palliative care as a whole are rooted in the concept of holistic, person-centered care. Hospice treats the entire individual, not just their symptoms or diagnosis, in order help the patient meet their goals at end of life. Hospice meets a patient's basic needs to ensure quality of life. Likewise, the concept of *humanistic learning* can be applied directly to the providers, as their basic needs must be met, in that they must be comfortable with end of life and come to terms with their own feelings and emotions towards a patient being in the end stages of life, in order to fully appreciate the patient's needs and refer to hospice appropriately.

Project Implementation/Methodology

This quality improvement project regarding provider knowledge of hospice and palliative care utilization was adherent to Mississippi University for Women's guidelines with approval from the Mississippi University for Women Institutional Review Board

obtained prior to implementation (see Appendix D for IRB Approval). Convenience sampling was utilized for data collection. Participants were recruited by social media, email, and personal request. An educational session was conducted either in-person or pre-recorded online, which included a brief overview of the problem. Hospice admission criteria were reviewed, along with hospice services and benefits, in great detail.

Immediately before each session, the first questionnaire was administered (see Appendix E for Questionnaire 1). Immediately following each session, the second questionnaire was administered (see Appendix E for Questionnaire 2).

One month following the completion of educational session, another questionnaire was administered in order to reassess the same information along with self-reported practice change (see Appendix G for Questionnaire 3). Originally, it was planned for the researcher to personally deliver both education, and the pre-test and post-test questionnaires and also be available for any questions or concerns from the participants. This was able to occur for a portion of the sample, but it did not occur for all of the sample due to a coinciding worldwide pandemic that resulted in cancellation of any clinical experiences or face-to-face interaction. Therefore, Survey Monkey was utilized to collect responses to questionnaires digitally.

Tools/Instrumentation

The questionnaires utilized were developed by the researcher and therefore, only have face validity. Each questionnaire was reviewed by the project advisor and committee members prior to application for IRB approval (see Appendix E for Questionnaire 1 and Appendix F for Questionnaire 2, and Appendix G for Questionnaire 3). Questionnaire 1 assessed current self-reported practices, provider knowledge in

hospice and admission criteria, and plans for practice change. Questionnaire 2 assessed post-education provider knowledge in hospice and admission criteria and plans for practice change. Questionnaire 3 assessed the same information in addition to whether or not the provider reported any personal practice change as a result of the session

Evaluation Methods

Data was collected from nurse practitioners. Statistical analysis was conducted of each questionnaire as an independent sample and compiled in Microsoft excel.

Descriptive statistics were completed by the researcher. The data were stored in an Excel spreadsheet and sent to a professional statistician to aide in statistical analysis using inferential statistics. Subsequent analyses were performed using IBM SPSS Statistics Software, v. 27. The project had two goals: improving provider knowledge in hospice and increasing utilization of hospice services as measured by the self-reported practices of the participants.

Project Timeline

The original proposal was completed in the fall semester of 2020. The researcher continued to review literature and developed the questionnaires throughout the spring semester of 2021. Application was submitted for the approval of MUW IRB in spring semester of 2021. Due to the ongoing world-wide pandemic, IRB revision was requested and obtained in fall semester of 2021. Once IRB approval was granted, materials were printed for distribution and potential participants were contacted to schedule sessions. Sessions took place throughout the November and December of 2021, and January 2022. Then follow up questionnaires were collected in February of 2022. After data collection was completed, data were compiled into an excel spreadsheet and sent to a statistician to

aide in interpretation of findings. Results were compiled in April of 2022. Final defense of the project took place at the closure of the spring 2022 semester.

Results

This quality improvement project was conducted with the goal of increasing provider knowledge of hospice services. Educational sessions were conducted with questionnaires administered immediately before and following the session and again one month later. Descriptive and inferential statistics were utilized to analyze the responses to the three questionnaires as three independent samples.

Participants

The educational sessions were attended by nurse practitioners. Three surveys were given: pre-test, post-test, and follow-up. A total of twelve participants completed the pre-test, six completed the post-test, and four completed the follow-up surveys. Although the three questionnaires were evaluated as independent samples and responses were not matched, all providers who completed Questionnaire 2 were participants who had attended sessions and previously completed Questionnaire 1.

Outcomes

Of the twelve participants who completed the pre-test, 58% had referred zero patients to hospice care, whereas 42% had referred one to ten patients to hospice. All respondents reported being confident with their knowledge about services that hospice provides, with 58% being somewhat confident and 42% being very confident. When asked about barriers in referring patients to hospice, 50% of respondents selected “desire to preserve life and treat illness” and 33% selected “lack of knowledge.” When asked about palliative care, 50% of respondents believed they could provide palliative care

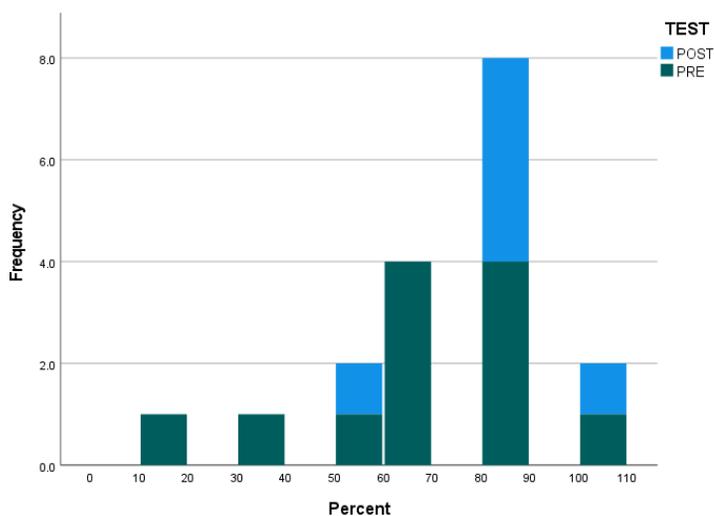
without hospice, 33% believed that hospice is the best service to provide palliative care, and 17% believed palliative care and hospice are the same thing.

Pre-test versus Post-test

The pre-test and post-test surveys were scored based on correct answers provided by the student researcher. Each survey had a total possible score of six points. Three points were from true/false questions, and three points were from correctly identifying the conditions that were admitting criteria for hospice. Scores were converted to percentages for ease in interpretation. The distribution of scores from the returned surveys is shown in Figure 1. The scores on the pre-test ranged from 17% to 100%, with an average score of 66.67 and a standard deviation of 23.57. The scores on the post-test ranged from 50% to 100%, with an average score of 80.56 and a standard deviation of 16.39.

Figure 1

Score Distribution of Pre-test and Post-test Surveys, With Scores Reported as Percentages



A one-way ANOVA (analysis of variance) was conducted to determine if there was a significant difference in scores between the pre-test and post-test surveys.

ANOVA results showed no statistical difference between the scores of the two surveys ($F(1, 16) = 1.656, p = .216$). While the average score improved by 13.89 percentage points, the difference is not statistically significant and may have been due to chance.

This may have also been due to a low sample size.

Impact of experience

Given the distribution of experience levels within the participants, the experience was binned into two groups: those with and without previous hospice referrals in the past six months. Results are summarized in Table 1. There was no significant difference in pre-test scores based on prior hospice referrals ($F(1, 10) = .158, p = .699$).

Table 1

Summary of Survey Results for Pre-test Based on Prior Hospice Referral Experience

	<i>Sample Size</i>	<i>Mean</i>	<i>Std Dev</i>
Pre-Test			
No Previous Hospice Referral	7	64.29	6.73
Previous Hospice Referral	5	70.00	14.34

Behavior Questions

At the end of the post-test and follow-up surveys, participants answered behavioral questions. A summary of those responses is shown in Table 2. Immediately after training, during the post-test, 100% of participants indicated that they felt more knowledgeable and would refer more patients. However, in the follow-up survey, only 25% of respondents reported increasing their referrals, and 50% reported having made a practice change.

Table 2

Summary of Survey Results for Post-test Based on Self-reported Knowledge and Practice Change

	<i>Sample Size</i>	<i>% Yes</i>	<i>% No</i>
Post-Test			
Do you feel more knowledgeable	6	100	0
Will you refer more patients	6	100	0
Follow-Up			
	<i>Sample Size</i>	<i>% Yes</i>	<i>% No</i>
Do you feel more knowledgeable	4	100	0
Will you refer more patients	4	75	25
Have your referrals increased	4	25	75
Have you made a practice change	4	50	50

Similarly, to the literature, the nurse practitioners that participated cited lack of knowledge and their own desire to treat patients and preserve life as barriers to referring

to hospice. Overall, the statistics indicated that increasing provider education only increased hospice referrals in 25% of respondents. Likewise, only 50% of respondents admitted to having made a practice change, despite 100% reporting that they felt more knowledgeable and believed they would refer more to hospice. It is likely that the limitations, which will be discussed next had a large impact on the outcome of practice change.

Project Limitations

When considering implementation of the project, several limitations were noted. First, the project's small sample size was a limitation. Also, the three questionnaires utilized in the study were developed by the researcher and only had face validity. Lastly, the number of respondents for Questionnaire 3 was less than that for Questionnaire 1 and Questionnaire 2. This is attributed to the inability to personally visit clinics for by the researcher due to the COVID-19 pandemic.

Project Significance

This practice change project is significant because it highlights the lack of knowledge, barriers, and current practice of providers related to hospice and palliative care utilization. This project has potential to be largely significant for the chronically ill population in the state of Mississippi, and many Mississippians are eligible for hospice based on their chronic illness, yet are not provided those needed services.

Implications and Recommendations

Although the sample size was small, the results of this project were statistically significant in several areas. There are implications and recommendations that are easily

drawn from this small quality improvement project. The implications for nursing, nursing research, nursing education, and the community will be further discussed.

Nursing

This project revealed that improving provider knowledge of hospice led to increased referral and utilization of hospice services. It is recommended at all healthcare providers improve knowledge of hospice in order to potentially improve their patient quality of life with evidence-based recommendations.

Nursing Research

This study could easily be used as a pilot study for future research. It is recommended that future studies obtain a larger sample size from a broader geographical location. It is also recommended that the provider type be more diverse, as this study largely consisted of nurse practitioners.

Nursing Education

The results of this study indicated that further education is needed regarding hospice and palliative care. It is recommended by the researcher that training should include more comprehensive education of hospice and palliative care. Evidence to support this could be gathered by future research on this topic. It is also recommended that these findings be disseminated to larger groups of healthcare providers through continuing education events or nursing publications.

Community

Healthcare providers who make a change to their clinical practice as a result of exposure to this material have potential to directly impact the health of their community. Hospice referral and subsequent utilization can greatly improve the quality of life of the

chronically ill. By improving provider knowledge appropriately and increasing hospice utilization, community health could thereby improve.

Budget/Cost

This project had minimal cost aside from personal time dedicated to its completion. The research was conducted for academic purposes, and the researcher was not reimbursed for time spend on the project. Additionally, the researcher's time spent away from work was not calculated into the project cost as the project was completed during personal time. The gross estimates for travel, material, and complimentary food for participants are calculated below.

Expense	Cost
Travel to present project to participants	\$0
Printing materials and algorithm for distribution when presenting	\$200
Breakfasts/Lunches for clinics	\$0
Total	\$200

Conclusion

This quality improvement project was completed in order to determine if educational sessions regarding palliative care and hospice would improve healthcare provider knowledge and lead to practice change. Three questionnaires were completed before, following, and 1-2 months after the sessions. Following statistical analysis, it was determined that the project goals were not met. Healthcare provider confidence improved, but the majority (75%) of participants reported not making a change to their routine clinical practice in the 1-2 months following the educational session. However,

due to the project limitations, it was concluded that education for healthcare providers across the state should continue in order to potentially improve the quality of life provided for the chronically ill population.

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Appendix A



May 10, 2021

aalester@muw.edu

Dear Dr. Lester:

I am pleased to inform you that the members of the Institutional Review Board (IRB) have reviewed the following proposed research and have approved it as submitted:

Name of Study:	Improving healthcare provider knowledge of hospice and palliative medicine
Research Faculty/Advisor:	Alena Lester
Investigators:	Ashleigh Flora

I wish you much success in your research.

Sincerely,

Scott Tollison, Ph.D.
Provost and Vice President for Academic Affairs

ST/tc

pc: Irene Pintado, Institutional Review Board Chairman

Appendix B

To: Dr. Alena Lester

From: Irene Pintado, IRB Chair

Date: 09/09/2021

Project:

Improving healthcare provider knowledge of hospice and palliative medicine

Dear Dr. Lester,

The IRB reviewed the following submission

Type of Review:	Amendment of protocol
Title:	Improving healthcare provider knowledge of hospice and palliative medicine
Investigator:	Dr. Alena Lester, Ashleigh Flora, & Lacy Estes
Funding:	None
Grant ID:	None
Documents Reviewed:	IRB proposal

The IRB approved the protocol from 09/09/2021 through 08/09/2022.

Good luck with your work!

Sincerely,

Irene Pintado

Irene Pintado, Ph.D.
IRB Chair

Appendix C

Hospice Knowledge and Utilization Screening Survey

Pre-test

This survey is only applicable to healthcare providers. If you are not a healthcare provider, please do not complete this survey. By agreeing to take this survey, your answers serve as your consent.

1. In the last 6 months, approximately how many patients have you referred for hospice services.
 - a. 0
 - b. 1-10
 - c. 11-20
 - d. 21-30
 - e. More than 30

2. How confident are you in your knowledge regarding the services that hospice provides?
 - a. Extremely confident- I know everything there is to know.
 - b. Very confident- I know enough to have educated discussions with my patients regarding hospice care
 - c. Somewhat confident- I know enough to make educated decisions
 - d. Not confident- I know very little or am not confident in my knowledge base
 - e. I don't use it in practice- I'm just here for the snacks.

3. Do you recognize any barriers to referring patients to hospice? Circle all that apply
 - a. Time constraints
 - b. Lack of knowledge
 - c. Desire to preserve life and treat illness
 - d. My own discomfort with end of life

4. In your opinion of the management your patient care of chronic disease, which of the following is most true:
 - a. Palliative care and Hospice are the same thing.
 - b. I can provide palliative care without hospice services
 - c. Hospice is the best service to provide palliative care

5. True or False: Hospice patients must be homebound.
 - a. True
 - b. False

6. True or False: Hospice patients are eligible for vaccines.
 - a. True
 - b. False

7. True or False: Hospice does not provide physical, occupational, or speech therapies.

- a. True
- b. False

8. Which of the following are admitting criteria for hospice (Circle all that apply):

- a. neurological diseases with dyspnea and 15% weight loss
- b. Alzheimer's/ dementia with comorbidities
- c. Congestive heart failure with an ejection fraction of 50%
- d. Stage IV adenocarcinoma, receiving chemotherapy
- e. Human Immunodeficiency Virus (HIV)
- f. renal disease, currently receiving dialysis
- g. pulmonary disease
- h. gastrointestinal disease with 10% weight loss
- i. diabetes mellitus with comorbidities
- j. stroke with decubitus ulcers and 10% weight loss

Appendix D

Hospice Knowledge and Utilization Screening Survey Post-Test

This survey is only applicable to healthcare providers. If you are not a healthcare provider, please do not complete this survey. By agreeing to take this survey, your answers serve as your consent.

1. In the last 6 months, approximately how many patients have you referred for hospice services.
 - a. 0
 - b. 1-10
 - c. 11-20
 - d. 21-30
 - e. More than 30

2. How confident are you in your knowledge regarding the services that hospice provides?
 - a. Extremely confident- I know everything there is to know.
 - b. Very confident- I know enough to have educated discussions with my patients regarding hospice care
 - c. Somewhat confident- I know enough to make educated decisions
 - d. Not confident- I know very little or am not confident in my knowledge base
 - e. I don't use it in practice- I'm just here for the snacks.

3. Do you recognize any barriers to referring patients to hospice? Circle all that apply
 - a. Time constraints
 - b. Lack of knowledge
 - c. Desire to preserve life and treat illness
 - d. My own discomfort with end of life

4. In your opinion of the management your patient care of chronic disease, which of the following is most true:
 - a. Palliative care and Hospice are the same thing.
 - b. I can provide palliative care without hospice services
 - c. Hospice is the best service to provide palliative care

5. True or False: Hospice patients must be homebound.
 - a. True
 - b. False

6. True or False: Hospice patients are eligible for vaccines.
 - a. True

b. False

7. True or False: Hospice does not provide physical, occupational, or speech therapies.

a. True

b. False

8. Which of the following are admitting criteria for hospice (Circle all that apply):

a. neurological diseases with dyspnea and 15% weight loss

b. Alzheimer's/ dementia with comorbidities

c. Congestive heart failure with an ejection fraction of 50%

d. Stage IV adenocarcinoma, receiving chemotherapy

e. Human Immunodeficiency Virus (HIV)

f. renal disease, currently receiving dialysis

g. pulmonary disease

h. gastrointestinal disease with 10% weight loss

i. diabetes mellitus with comorbidities

j. stroke with decubitus ulcers and 10% weight loss

9. Do you feel more knowledgeable about hospice care and referral than before?

a. Yes

b. No

10. Do you believe that you will refer more patients to hospice care following today's session?

a. Yes

b. No

Appendix E

Hospice Knowledge and Utilization Screening Survey

Follow-up

This survey is only applicable to healthcare providers. If you are not a healthcare provider, please do not complete this survey. By agreeing to take this survey, your answers serve as your consent.

1. In the last 6 months, approximately how many patients have you referred for hospice services.
 - a. 0
 - b. 1-10
 - c. 11-20
 - d. 21-30
 - e. More than 30

2. How confident are you in your knowledge regarding the services that hospice provides?
 - a. Extremely confident- I know everything there is to know.
 - b. Very confident- I know enough to have educated discussions with my patients regarding hospice care
 - c. Somewhat confident- I know enough to make educated decisions
 - d. Not confident- I know very little or am not confident in my knowledge base
 - e. I don't use it in practice- I'm just here for the snacks.

3. Do you recognize any barriers to referring patients to hospice? Circle all that apply
 - a. Time constraints
 - b. Lack of knowledge
 - c. Desire to preserve life and treat illness
 - d. My own discomfort with end of life

4. In your opinion of the management your patient care of chronic disease, which of the following is most true:
 - a. Palliative care and Hospice are the same thing.
 - b. I can provide palliative care without hospice services
 - c. Hospice is the best service to provide palliative care

5. True or False: Hospice patients must be homebound.
 - a. True
 - b. False

6. True or False: Hospice patients are eligible for vaccines.
 - a. True

b. False

7. True or False: Hospice does not provide physical, occupational, or speech therapies.

- a. True
- b. False

8. Which of the following are admitting criteria for hospice (Circle all that apply):

- a. neurological diseases with dyspnea and 15% weight loss
- b. Alzheimer's/ dementia with comorbidities
- c. Congestive heart failure with an ejection fraction of 50%
- d. Stage IV adenocarcinoma, receiving chemotherapy
- e. Human Immunodeficiency Virus (HIV)
- f. renal disease, currently receiving dialysis
- g. pulmonary disease
- h. gastrointestinal disease with 10% weight loss
- i. diabetes mellitus with comorbidities
- j. stroke with decubitus ulcers and 10% weight loss

9. Do you feel more knowledgeable about hospice care and referral than before?

- a. Yes
- b. No

10. Do you believe that you will refer more patients to hospice care following today's session?

- a. Yes
- b. No

11. Have your referrals increased?

- a. Yes
- b. no

12. Have you made a practice change based on this presentation?

- a. Yes
- b. No