

**Marian University
Leighton School of Nursing**

**Doctor of Nursing Practice
Final Project Report for Students Graduating in August 2019**

Referring Palliative Care Patients:

A Process Improvement Project

Shantrece Davis

Marian University

Leighton School of Nursing

Chair:

Cathryn Baack, PhD, APRN, FNP-C, CPNP

(Signature)

Organizational Liaisons:

Susan Pruce, RN, MA

(Signature)

Lisa Knapp, LCSW

(Signature)

Date of Submission: August 5, 2019

TABLE OF CONTENTS

Abstract	4
Palliative Care Referral Process	5
Background	6
Problem Statement	7
Organizational “Gap” Analysis of Project Site	8
Review of the Literature	14
Theoretical Framework	19
Goals/Objectives/Expected Outcomes	22
Project Design/Methods	22
Project Site and Population	23
Measurement Instrument(s)	24
Data Collection Procedure	25
Ethical Considerations/Protection of Human Subjects	25
Data Analysis and Results	26
Conclusion	27
References	29
Appendix (Listed sequentially in order they appear in paper)	33
Appendix A	33
Appendix B	34
Appendix C	35
Appendix D	36

Appendix E	37
Appendix F.....	38
Appendix G.....	39
Appendix H.....	40

Abstract

Background: The lack of palliative care (PC) services poses a significant risk for PC patients.

Research indicates that patients' needs often go unmet when PC referral processes are not well established within a health system. Furthermore, PC patients have higher readmission rates, thus increasing health care costs. PC referrals improve the quality of care while also reducing

readmissions. *Purpose:* The purpose of this project was to determine whether PC referrals impacted the readmission rates of chronically and terminally ill patients.

Methods: A 2018 practice assessment of an Indiana community hospital revealed a high rate of readmissions among chronically and terminally ill patients. An evidence-based process improvement project was implemented, guided by the Iowa model, in which a sample of 22 terminally and chronically ill patients were identified and referred for PC. Following PC training, risk assessment scores were used to identify PC patients appropriate for referral, after which case managers provided follow-up over the course of six months. *Results:* Six months before implementation, the sample ($n = 22$) recorded 19 Emergency Department (ED) visits and 65 total admissions, with some being direct admissions. Results showed that 89% of ED visits resulted in admission. Post-intervention, there were six (27%) ED visits for the same sample ($n = 22$), only 0.04% of which resulted in actual admission. *Conclusions:* Educating staff and implementing a PC referral process for chronically and terminally ill patients may be an effective method of reducing readmission rates, thereby decreasing costs.

Keywords: palliative care, referral, readmission rates

Palliative Care Referral Process

This project has been submitted to the faculty of Marian University Leighton School of Nursing as partial fulfillment of degree requirements for the Doctor of Nursing Practice, Family Nurse Practitioner track. In 1989, the World Health Organization (WHO) defined palliative care (PC) as care afforded to patients who were deemed unresponsive to treatment (Mizuno, Shibata, & Oishi, 2019). The term was later refined and broadened to include treatment for both the patient and the patient's family (Mizuno et al., 2019). Over time, the term evolved further, extending beyond terminal illness to include anyone seeking care, no matter their prognosis or diagnosis (Mizuno et al., 2019).

Lee, Senglaub, Walling, Mosenthal, and Cooper (2019) provide further support for the evolution of the term, "Palliative care is an interdisciplinary approach to care focused on improving QOL for patients and families at all stages of serious illness and improves the quality of care for seriously ill patients" (p. 607). PC is an essential requirement for patients dealing with chronic disease or terminal illness. Consequently, patients' needs often go unmet when PC is omitted from practice standards. The essential nature of PC requires early planning and implementation (Dionne-Odom et al., 2015).

According to research, PC improves the patient's quality of life, and is an essential element of health care (Bakitas et al., 2009). The purpose of this project is process improvement. The project was developed to address a practice problem where a tertiary hospital was found lacking with respect to a PC referral process. This paper describes the practice problem, provides evidence to support the change in practice, and describes an intervention aimed at ameliorating the practice problem.

Background

Morrison et al. (2008) demonstrate that consultation teams can be effective in improving the care of adults with serious illnesses. PC programs and consultation teams have been developed to address the needs of the patient, and as such, perform a wealth of patient-centered activities. Research has shed light on the positive attributes of PC and has demonstrated its beneficial effects on patient outcomes, thus highlighting the importance of PC participation for organizations (Bakitas et al., 2009). Additionally, the provision of significant cost savings in the overall care of patients increases profit margins and reduces health care costs (Morrison, 2013). The setting for this project was a 161-bed facility located in Hamilton County, Indiana. This setting is a tertiary, community-based hospital that provides immediate, primary, and specialty care services to county residents.

However, the health system lacked PC support, and a practice assessment revealed that support services for PC patients were not being adequately managed. At the time of assessment, processes and protocols were nonexistent, and patients requiring PC resources were not well served. The organization found it necessary to address this problem due to the high rates of readmission and subsequent high cost of hospital care. Although there were several areas requiring improvement, the lack of communication between staff members regarding candidates for PC proved to be the most pressing issue. Despite staff often identifying possible PC patients, there was little consistency in how staff understood the PC concept, thus resulting in inconsistent patterns of identification.

The meaning and process of referral for PC candidates was unclear for many within the health care organization. This project was developed and implemented to

address the needs of PC patients and to reduce the hospital readmission rate for patients requiring PC services. As such, one of the goals of this project was to improve the process for providing PC support services within the organization. To this end, beneficial changes in practice would not only result in improved health outcomes and lower rates of readmission but would also increase reimbursements from private insurers. Payers make bundled payments to health care organizations for services and require that several parameters be met before compensation is maximized (Morrison, 2013).

Many of the reimbursement initiatives in place at the time of this practice assessment had developed because of changes within the Patient Protection and Affordable Care Act (PPACA). The goals of the PPACA are to provide better care and to facilitate optimal patient outcomes while reducing health care costs (Morrison, 2013). Nevertheless, lacking an established PC referral process, the health care organization was in violation of the PPACA initiative, and as such, was ineligible for various reimbursements. And without access to these sources of reimbursement, the organization would continue to lose profits and funding. Therefore, the development of PC services and referral pathways was identified as a service requirement necessary for medical reimbursement. Implementing a process improvement strategy aimed at directly addressing the requirement for PC services would help to mitigate the practice problem associated with high rate of readmission and would help to reduce health care costs.

Problem Statement

The needs of PC patients have gone unmet within the community health organization because current practices do not support their needs. Moreover, the rate of hospital readmissions has been increasing, while the organization's profit margins have

been declining due to the lack of a PC referral process. Implementing a process improvement project may help reduce the rate of readmission, thus reducing the cost of hospital care, and improving profit margins. This process improvement project seeks to determine whether the implementation of a defined process for referring PC patients is effective in reducing the rate of inpatient readmission over a 6-month time frame.

Organizational Gap Analysis of Project Site

PC is a necessary component of providing quality care. To this end, the organization has an opportunity to make improvements in the quality of care provided by addressing the needs of patients with serious illnesses. Quality care is based on evidence and is aimed at providing the patient with the best available options based on their clinical profile. Therefore, this quality improvement project aims to enhance the current standard of practice. Effective quality improvement projects, however, begin with an assessment of current practice, with changes made and implemented based on need as well as the determination of costs versus benefits (Lau et al., 2014).

Practice assessment. A practice assessment identified a need to better define PC services within the health care organization, and that the needs of PC patients were going unmet. This practice assessment was conducted in the spring of 2018, during which time the need for a more effective PC process became evident. The practice mentor for the project was the Clinical Quality Coordinator; however, significant input was also provided by other stakeholders (e.g., the Chief Medical Officer (CMO) and the Director of Clinical Services), who helped to formulate the goals and outcomes for this project.

The goals of this quality improvement project were established to meet measures identified by external organizations (i.e., private insurance and Medicare), as well as an

internal organizational desire to reduce hospital costs. The needs and goals of the organization were reasonable and aligned with the practice outcomes. As such, the goal of the assessment was to identify current practice, establish goals in terms of desired outcomes, and to formulate a comprehensive plan for implementation.

Several meetings, each lasting for approximately 1.5 hours, were held, during which time lengthy discussions revolved around identifying the needs of the organization. During these deliberations, the health care organization clarified its position that it was not interested in owning a PC program. However, they were interested in implementing a process that would allow them to meet the required measures to maximize reimbursement and provide better care. Medicare and private insurance plans provide annual goals and standards that must be achieved in the area of PC for reimbursements. To this end, the health care organization had been experiencing financial losses because they had yet to identify a process with which to address the needs of PC populations.

Prior to the practice change, there was no communication among practitioners or health care providers as to how to handle PC patients or their concerns. At the time of the assessment, the practice did not provide services, resources, or even referrals for PC patients. Moreover, the health care organization was unable to provide an accurate account of how PC inquiries were handled nor exactly what resources were available for residents within the catchment area. The identification of these problems provided validation for a change in current practice.

An assessment of the practice site revealed that the project would require significant input from all stakeholders, including the CMO, physicians, nurses, practice manager, and case managers. While providing quality care to patients is a priority of the

health care organization, the organization nonetheless lacked the resources and support required to improve the care of seriously ill patients. There were no established interventions to address the needs of PC patients, and the practice faced several challenges in initiating the practice change. The next step in the assessment was to identify how the goals or outcomes would be met via the stakeholders.

This part of the analysis focused on identifying the key responsibilities of relevant stakeholders. These stakeholders include: (a) the practice mentor, who acts as the practice liaison between Marian University and the health care organization; (b) the Director of Case Management, who manages the case managers, acts as liaison, and manages data for the project; (c) the CMO, who is responsible for assessing and approving any changes in practice; (d) case managers, who act as the primary point of contact for coordinating patient care and the allocation of health care resources; and (e) registered nurses, the inpatient staff who provide care for seriously ill patients. Further analysis revealed that these stakeholders were often: (a) unclear about the meaning of PC, (b) unaware about the strategies for improving care, (c) unsure about the best approach for educating staff to identify candidates of PC, (d) unclear on what made a PC patient eligible for referral, and (e) uncertain about who would own the PC organizational change.

The next step involved reviewing the identified goals of meeting reimbursement measures, of improving the quality of care, and assessing all available options for achieving these goals. Although the health care organization had no desire to fund or operate its own PC program, the organization was nonetheless willing to implement a process that would align it with best practice standards of care. An analysis was

conducted to better understand the measures used for determining reimbursement. This analysis revealed that it was necessary to submit annual outcome measurement data before being eligible for reimbursements from private insurance companies and Medicare. These outcome measures were adapted from various national organizations and standards of practice.

Therefore, the health care organization is required to submit annual reports identifying what outcome measures or benchmarks have been achieved in the provision of care as a requirement for receiving reimbursements. Such outcome measures were not being submitted because the organization did not provide care in this regard. As such, the following changes were necessary to satisfy these requirements: (a) implementation of a PC program or process via a PC team or PC policy, (b) annual PC training for hospital staff, and (c) the implementation of a formal assessment process for identifying patients with serious illnesses. Given that the health care organization received only partial reimbursements for these unmet outcome measures, the organization was not operating as financially efficiently as it could.

Information gleaned during the analysis helped to inform the formulation of an action plan aimed at remedying the problem. A SWOT analysis was used to examine the effects of the practice change (Appendix A). In terms of strengths, the intended practice change would result in a better quality of care for patients, reduced costs for the organization, reduced readmission rates, and improved scores on the outcomes measured used for reimbursement, thereby increasing profits. Opportunities included better patient outcomes, thereby increasing both profits and referrals, while decreasing symptom burdens and deaths. Weaknesses included the lack of training and inconsistencies in

educational preparation across providers, a lack of participation due to barriers or disengagement, the current absence of any practice plans, and the lack of any specialty PC staff with which to address the PC needs of patients. The final analysis revealed the following threats to practice: poor PC outcomes may cause staff to become disengaged, financial losses due to unestablished plans, and increased readmissions and patient deaths while awaiting the practice change.

A final observation permitted discussions in relation to preferences regarding the implementation process. The organization was open to implementing the best available evidence to remedy the practice problem. Specific requests regarding implementation involved educating stakeholders, specifically care providers and case managers. A literature search revealed that best practices included the provision of pre-discharge PC consultations, thereby addressing the needs of the patient and reducing costs associated with readmission. A proposal was made to undertake the practice change as a research project, which increased the organization's interest in developing and implementing an intervention to address the needs of the PC patient. A recommendation was offered to perform pre- and post-intervention evaluations to determine the effectiveness of the changes. This evaluation provided a comprehensive overview of the needs of the health care organization and helped to formulate an appropriate evidence-based intervention to commiserate with the needs of the organization aimed at addressing the practice problem.

Proposed practice change. The barriers to implementation were overcome with solutions identified via research aimed at providing the best available evidence for the implementation of process improvement. To this end, the best approach to implementation involved the development of a research project aimed at providing

strategies for process improvement related to PC services. The research revealed two useful approaches for the delivery of PC within hospitals: interdisciplinary and inpatient consultation teams (Morrison, 2013). Given the organization's desire to reduce costs, there was reluctance to fund or operate its own PC program. Additionally, the nature of the reimbursement mechanism meant that only physicians on interdisciplinary teams would be reimbursed; this influenced the decision by the organization to prefer an inpatient approach. This plan was the most straightforward recommended approach and best for implementation (Morrison, 2013; Smith & Cassel, 2009).

The research literature demonstrates several positive outcomes associated with the implementation of PC services, including reduced hospital costs and increased patient satisfaction following the provision of PC services. Smith and Cassel (2009) report a significant reduction in the hospital length of stay (LOS), frequency of emergency room visits, doctor's office visits, and a 33% reduction in hospital costs following the introduction of PC services. These findings are consistent with what other studies have reported, that patient outcomes are better, and that readmissions rates are reduced when PC support services are available (Lau et al., 2014; Smith & Cassel 2009).

As such, the best approach for addressing the needs of PC patients would entail the provision of a plan aimed at addressing the needs of both the organization and of all seriously ill patients. To this end, the following proposals were made to address the barriers to PC provision; firstly, the meaning of PC was defined for all stakeholders. Secondly, evidence-based strategies for PC were identified and provided to stakeholders. Third, a web-based training program was developed to educate inpatient registered nurses about PC, with a follow-up live teaching provided to introduce nursing staff to the

process used for identifying PC patients. Fourth, the LACE (Length of stay, patient Acuity, Comorbidities, and number of Emergency department (ED) visits over a 6-month period) index scoring system was utilized to identify PC referrals, with candidates for PC identified based on LACE risk scores greater than 13 (Wang et al., 2015). Fifth, the case management team assumed ownership over the change as they were the stakeholders most aware of potential candidates for PC. After education and training, the health care organization was prepared for implementation, and the process began during the fall of 2018.

Review of the Literature

According to the WHO (2018), “Each year an estimated 40 million people need PC, 78% of whom live in low- and middle-income countries... worldwide, only about 14% of people who need PC currently receive it” (para 7). Today, more patients are dealing with chronic and terminal illnesses, and many are left without resources or the support to combat their illness. As such, Yohannes (2007) reports, “Currently, there is a lack of PC provision for patients... evidence of PC provision for...patients indicate that it improves quality of life and reduces health care costs” (para. 1). Consequently, while the needs of many PC patients often go unmet, it appears that PC referrals may be effective in reducing readmission rates.

The WHO (n.d.) defines PC thus,

An approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and

treatment of pain and other problems, physical, psychosocial and spiritual. (para.

1)

As indicated, PC is an essential component in providing patients and families with quality care. Greene, Tuzzio, and Cherkin (2012) observe that care involving close family members and friends is crucial for achieving positive patient outcomes and clinical goals.

Nevertheless, Yohannes (2007) estimates that “there is a lack of resources which constraints for the wider availability of the PC programs in the health care system” (para. 9). According to the literature, many health care organizations lack appropriate supports for PC patients. Studies suggest that these shortcomings may be the product of various limitations inherent to the concept of PC. Yohannes (2007) further suggests that potential barriers might arise in patients’ unwillingness to discuss advance directive planning and hospice care with their providers, noting factors such as “time, increased workload, fear of the unknown, associated with the uncertainties found within the disease prognosis, and the lack of resources in guiding general practitioners on the timing of PC referrals” (para. 18). The purpose of this literature review, therefore, is to determine how PC referrals are made and whether these referrals have a positive impact on health care costs and readmission rates.

Smith, Brick, O’Hara, and Normand (2014) observes that PC programs have a positive impact on patients during transitional care and contribute to reduced rates of readmission if PC patients are appropriately referred at discharge. A common theme throughout the literature concerns the use of patient propensity scoring to measure the efficacy of the intervention. Morrison et al. (2008) describes how propensity scores are used to compare two groups of patients, those who use PC services versus those who

received usual care. The authors examined the effects of PC consultation against hospital costs between 2002 and 2004. Patients were examined, using propensity scores, across eight hospitals offering PC services. The sample included 2966 PC patients, aged 18 years or older, who received care from six experienced PC consultation teams. The average inpatient LOS was 7–30 days (Morrison et al., 2008). Data related to the PC patient sample was extrapolated from hospital databases, the findings of which suggested that PC consultations decreased hospital-related costs. Moreover, the study revealed that consultation teams improved the quality of care provided to adults with serious illnesses.

Morrison et al. (2008) reported seeing “adjusted net savings of \$1696 in direct costs per admission ($P = .004$) and \$279 in direct costs per day ($P < .001$)...and patients who died had an adjusted net savings of \$4908 in direct costs per admission ($P = .003$) and \$374 in direct costs per day ($P < .001$)” (p. 1). These statistically significant findings support a change in practice or expansion of PC services within health care organizations. Morrison et al. (2008) attributed these cost savings to several factors, concluding that the most significant cost savings were realized from having shifted many of the usual costs of care away from the usual hospital pathways. Several contributing factors were identified, including the need to establish clear treatment goals, to review current treatments and to ensure goal alignment, as well as ensuring that treatment no longer indicated is discontinued.

Bruera and Hui (2012) provide further validation with respect to the claim that the implementation of appropriate PC reduces costs, reporting cost savings associated with: (a) PC service reimbursement, and (b) measures aimed at avoiding unnecessary costs. To this end, admitting patients to their respective PC units as opposed to the mainstream

hospital yielded a higher rate of reimbursement and reduced the overall costs associated with their care (Bruera & Hui, 2012). The model of PC described by Bruera and Hui (2012) involved the provision of mobile acute care and supportive care services. The design included a mobile team, physician, mid-level provider, and a fellow. The acute care concept was adopted by inpatient health care teams who addressed the PC needs of patients. The results demonstrated an increase in the number of referrals for PC, and the need for less aggressive hospice care. Moreover, the researchers found that patients reported feeling better understood by their providers (Bruera & Hui, 2012).

Smith et al. (2014) conducted a literature review aimed at providing insights into the cost and cost-effectiveness of PC interventions. The findings were consistent with those of previous studies, that the implementation of PC services led to reduced health care costs and improved patient outcomes (Bruera & Hui, 2012; Smith et al., 2014). The studies introduced concepts and strategies that proved to be effective in reducing costs and improving care. These concepts addressed the ideas of reduced cost for Medicare, with the results showing a reduction in hospital expenditure between the time of referral to PC services and patient death.

The findings as mentioned above are consistent with those of the studies included within this literature review (Bruera & Hui, 2012; Morrison et al., 2008; Smith et al., 2014). Additional studies measure the efficacy of PC interventions by way of their effect on 30-day readmission rates, with notable reductions observed following the introduction of PC services. Kheirbek et al. (2015), and O'Connor, Moyer, Behta, and Casarett (2015) reported a reduction in 30-day readmission rates for both heart failure patients and PC

patients after the introduction of PC services. A key finding of both these studies is that readmission rates are reduced when PC services are utilized.

Evidence-Based Practice: Verification of Chosen Option

Research findings reported in the literature strongly support the realization of cost reductions or cost-effectiveness within organizations that utilize PC programs. Kheirbek et al. (2015) found that the development of inpatient PC programs was crucial for advancing the quality care afforded to patients and was an effective approach to reducing readmission rates over 30 days. Therefore, the literature review directly addresses the question of whether reducing the rate of hospital readmissions can be equated with

Overall, patients' PC needs often go unmet within many organizations; however, following the implementation of PC services, the quality of care, and quality life of PC patients can be improved considerably. Nevertheless, there are several barriers to the implementation of PC services, with the main obstacles being in education, support, and funding. However, the literature supports PC programs for seriously ill patients as best practice. The findings support the implementation of a quality PC referral process for patients so that they might find support in managing their chronic or terminal illness. PC is an essential component in providing quality care. Many patients have unmet needs in terms of PC. Given the sheer volume of patients presenting with chronic and terminal illnesses, potentially overwhelming the health care system, PC support is essential.

Research has demonstrated that both health care organizations and patients alike can benefit from the introduction of PC services. Smith et al. (2014) report, "PC is most frequently found to be less costly relative to comparator groups, and in most cases, the difference in cost is statistically significant" (p.1). Resources to assist organizations and

stakeholders with the implementation of process improvement strategies are readily available, helping to guide the translation of evidence into practice, and to promote quality care.

Theoretical Framework

The Iowa Model of Evidence-Based Practice to Promote Quality Care

The Iowa model contains several key elements to guide stakeholders with the implementation and translation of evidence into practice (Appendix B). White, Dudley-Brown, and Terhaar (2016) observe, “The Iowa model of research-based practice was developed as a decision-making algorithm to guide nurses in using research findings to improve the quality of care” (p. 15). To this end, the Iowa model facilitates both the integration and translation of evidence into practice while helping to reduce costs and create better quality outcomes. The model helps to guide clinical decision making in relation to identified problems. As such, the Iowa model was selected for implementation due to its ease of use and alignment with the outcome goals of this project. The Iowa model helps stakeholders to “organize and systemically track progress in implementing evidence into practice” (Brown, 2014, p. 157).

The practice assessment revealed significant issues with poor communication and an underserved patient population, with the literature supporting an evidence-based practice change to ameliorate this situation. In terms of implementing the practice change, the Iowa model served to guide the introduction of a PC program. The Iowa model is amenable to being implemented in a series of steps. During the first step, stakeholders determine the nature of the problem. Brown (2014) notes that the initial steps of the Iowa model permit an opportunity to determine whether the issue is problem-

focused or knowledge-focused. Additionally, Brown (2014) suggests that problem-focused issues are derived from problems within the organization (e.g., financial, clinical, or risk-management), while knowledge-focused issues are derived from issues identified during the introduction of new research. The second step in utilizing the Iowa method is derived from prioritizing the problem, with the problem of costs being assigned the highest priority. The third step involves the formation of a team assembled to solve the problem through the implementation of a process improvement initiative. The team is comprised of various stakeholders, including non-clinical staff. The designated team will develop, implement, and evaluate the practice change after an extensive review of the best available evidence with which to support the practice change. The final step involves the implementation of a pilot change project, with the implementation of permanent change to be determined based on the outcomes of this pilot (Brown, 2014).

In the case of the health care organization used as the setting for this study, there was sufficient evidence to support a practice change, and as such, the implementation of a PC referral process was initiated.

PC was associated with a significantly lower likelihood of ICU use and lower inpatient costs... findings, coupled with those indicating better patient and family outcomes with PC, suggest both a cost and quality incentive for hospitals to develop palliative programs. (Penrod et al., 2010)

During the initial implementation phased of the Iowa model (Step 1), a problem-based trigger was revealed in which both chronic and terminally ill patients were discharged without available community PC support. The health care organization lacked the resources or processes to support the PC population properly. This *problem* contributed

to increased hospital costs and was largely responsible for the high rate of hospital readmissions. In accordance with Step 2 of the process, the associated cost problem was prioritized as a high priority. This advanced stakeholders to Step 3, the implementation phase, during which an appropriate team was assembled to assume ownership over the implementation process through research. The literature revealed that patients who received transitional or PC fared better and had lower readmission rates, thereby saving health care systems money over time. These studies were clinically relevant in terms of supporting change. The literature reviewed has demonstrated clinically and statistically significant findings, revealing that referrals and the implementation of PC positively benefits patients and health care organizations alike; as such, we proceeded to the final step of pilot implementation.

In conclusion, the Iowa model provides a guide to the implementation of practice change in relation to PC. Moreover, a review of the literature revealed that evidence strongly supports a change in practice to provide the best quality of care. To this end, the evidence suggests that a change in practice will likely reduce readmission rates, thereby reducing the costs of care for health care organizations and increasing profit margins. Furthermore, the practice change benefits both the patient and the health care organization.

Goals, Objectives and Expected Outcomes

The goal of this project is to determine whether a PC program will reduce readmission rates within a community health service over the course of 6 months. The objective is to provide better quality care to chronically and terminally ill patients in an inpatient setting at a reduced cost and to increase profit margins. The expected outcomes

of this project are: (a) implementation of a PC referral process will result in better quality care for chronically and terminally ill patients, and (b) the readmission rate of chronically and terminally ill patients over the course of 6 months will be reduced following referral to the PC service. The identified practice problem is one of great significance; PC patients are currently underserved, and as such, a practice change may provide better outcomes for both the patient and the health care organization.

Project Design/Methods

This project uses a process improvement design where in a PC referral program is implemented to remedy the practice problem of a high rate of readmissions and poor profits. The project was implemented in the fall of 2018, during which time the nurses and case managers within the organization received PC training via a web-based learning approach. After having completed their PC training, nurses and case managers completed an assessment of their PC knowledge to determine the effectiveness of the educational intervention (Appendix C). Moreover, having completed the initial PC training with the nurses and case managers in December of 2018, additional training was provided to both nurses and case managers with respect to the process of referral, with this being incorporated into their annual training schedule.

Patient referrals commenced shortly after the completion of the first round to annual PC referral training. During referral, case managers identified candidates for PC referral upon admission using the LACE risk score (Appendix D). These scores were used to predict the likelihood of death or unplanned readmission over a 30-day period after discharge (Wang et al., 2015). Stakeholders reviewed LOS and ED visit data during weekly meetings to identify potential candidates for PC referral. These patients were

then scored using the LACE instrument and referred for PC services if their scores exceeded 13 (Appendix D). There was consensus across the organization that a LACE score over 13 or higher was associated with an increased risk of readmission.

Case managers assessed the quality of the referral and the patient to determine whether the assessment had revealed an actual PC need; if so, the patient received a PC consultation and was allocated resources as necessary to initiate their care. Patients were referred to a list of preselected providers to receive either PC services or hospice care. The case managers then tracked the number of departmental referrals to the preferred providers. Case managers used a Microsoft Excel spreadsheet to record and track the ED visits and readmission rates of identified patients pre- and post-referral.

Project Site and Population

The project site was a 156-bed tertiary community hospital, north of Indianapolis. The health care organization is a full-service hospital that includes primary and immediate care, as well as specialty care services for patients. The hospital's goal is to provide quality patient-centered care to its over 60,000 community members. Approximately 90% of the community serviced by the hospital are Caucasian, with African Americans making up approximately 4% of the community members; the mean age of the population is 33 years of age (Stats Indiana, n.d.). The project site's ED was the setting for patient emergency visits with the hospital hosting admissions on their inpatient units. Project participants were chronically and terminally ill patients who arrived at the ED in a serious condition as a result of their state of health.

The key stakeholders for the project site were identified as the practice mentor, who acts as the practice liaison between the Marian University DNP student and the

health care organization; the Director of Case Management, who manages key contacts for PC requests; and the CMO, who assessed and approved the change in practice ahead of implementation. Registered nurses and case managers, given their direct and routine contact with the PC population, were charged with the responsibility for initiating PC referrals.

The inclusion criteria for participants in this research project included newly admitted patients deemed eligible for PC referral based on their LACE risk assessment scores (Appendix D). During the project, the DNP student interacted with the practice mentor, Director of Case Management, and the CMO, who provided a letter of support for the project's implementation and provided approval in compliance with the Health Insurance Portability and Accountability Act (HIPAA) (Appendix E). Barriers encountered during the implementation phase of this study included delayed results due to reporting lags, and the researcher's limited access to the facility and staff. However, these minimal barriers did not affect the implementation of the project or the results.

Measurement Instruments

In order to measure the outcomes of this DNP Project, a Microsoft Excel file was used to record, track, and evaluate the data due to the small sample size and ease of use for the case managers. Case managers tracked both inpatient and outpatient referrals; however, only inpatient results were used in this project. Although the implementation took place over 6 months, there were significant lags in the reporting of inpatient PC data. Consequently, the data included within the Excel file spans only April–June of 2019 (Appendix F).

Data Collection Procedures

Prior to the commencement of data collection, case managers were asked to identify patients as potential candidates for referral. These were patients who had a chronic or terminal illness, and whose electronic health record quarterly report indicated frequent ED visits or admissions. Selected patients were then entered into and tracked using a Microsoft Excel spreadsheet, with their data recorded at all stages of project implementation (i.e., pre-, intra-, and post-intervention). Recorded data tracked the patient's date of referral, de-identifier number, age, race, gender, referral source (inpatient versus outpatient), agency of referral, acceptance of services by the patient, ED visits since referral, admissions since referral, history of admissions 6 months prior to referral, history of ED visits 6 months prior to referral, and whether the patient was deceased as of 6/25/19 (Appendix F). Due to the small sample size, no other instruments or tools were used to track the data.

Ethical Considerations/Protection of Human Subjects

The Marian University Institutional Review Board (IRB) determined that this project was exempt from full Human Subject review. All subjects were protected by the Health Insurance Portability and Accountability Act of 1996 (HIPAA), which guarantees and protects the privacy of patient health information (US Department of Health and Human Services, 2013). In addition, data collected during this project was collected by the DNP student and practice personnel as part of a service evaluation project. Data collected for this project was aggregate data from project subjects and did not include any potentially identifying formation. Consequently, the risk to patients participating in this project were no different than the level of risk associated with receiving standard PC.

Patient confidentiality was assured by coding participants using specific identification numbers. The list of patients and their identifying numbers were protected, and the DNP student did not at any time have access to any identifying information. Patient identifying information was only accessible to the project coordinator. All electronic files containing identifiable information were password protected to prevent access by unauthorized users. Only the project coordinator had access to the passwords. Patient data was protected in compliance with IRB requirements (Appendix G).

Data Analysis and Results

Data from this DNP project was subjected to quantitative statistical analysis using Microsoft Excel. The project sought to compare data on ED visits in the 6 months prior to referral against post-referral visit data, as well as pre-referral admissions to post-referral admissions. A sample of 22 inpatients (50% male, 50% female) were identified as candidates for PC referral.

The demographics of the PC referrals ranged between 60 and 92 years of age. All referrals were for non-Hispanic males and females. No other identifying information about race was provided. Six-month pre-referral data was recorded for the sample ($n = 22$). This data showed that 19 participants had visited the ED in the previous 6 months, with several patients having visited the ED more than once. Moreover, despite the small sample size, 89% of ED visits resulted in an admission.

Post-implementation, the results for the same patient sample ($n = 22$) revealed only six ED visits since patient referral (27%), with only the one patient visiting the ED more than once. Admissions post-referral were 0.04%, with only the one patient admitted more than once. The data revealed that three patients expired before the end of

monitoring. Although the three deceased PC patients were no longer apart of the monitoring, this did not significantly impact the results. Only one of the three deceased patients were readmitted during the 6 months of monitoring. In comparison to previous admission rates, the data supports the claim that PC referrals may be helpful in reducing the rate of readmission among chronically and terminally ill patients when PC services are available. These results also provide evidence for the realization of significant cost savings for the health care organization (Appendix H).

Conclusion

This change of practice project concerns a tertiary community hospital that lacked PC support services for chronically and terminally ill patients. The health care organization experienced problems with an unacceptably high rate of readmission rates of seriously ill patients, while health care costs were skyrocketing out of control. Additionally, the health care organization was ineligible to receive reimbursement payments from private health insurance or Medicare because of the lack of PC service provision. As such, the health care organization failed to meet its annual quality benchmarks necessary for maximum reimbursement by private insurers and Medicare. This had a deleterious effect of the hospital's profit margins. A practice assessment revealed the need for a change in practice.

The results of this DNP project revealed that a properly implemented PC referral program could have a positive impact on both the health care organization and its patients. The PC referral program was implemented during the fall of 2018 and lasted over 6 months. During this time, the health care organization reported a significant drop in the number of admissions as compared to 6 months before the intervention. Barriers to

the DNP project included the small sample size, which may limit the generalizability of the findings, as well as the limited access of the researcher to the data collection process and the participants considering the HIPAA regulations. Although, the results revealed a high rate of hospital readmissions in the 6 months prior to implementation (89%), post-implementation results revealed a significant reduction in readmissions (0.04%) in the months following implementation.

The findings of this study are consistent with those of other studies in this field, reporting that patients provided with best practice PC before discharge, require fewer readmissions. These findings have significant implications for other health care organizations considering the benefits of implementing a palliative referral program, helping these organization to reduce both their costs and readmission rates.

Notwithstanding, this study was not without its limitations, and in this case, the generalizability of these results is limited by the small sample size. Additionally, the narrow timeframe for this project is a limitation; as such, future process improvement projects should look to overcome these potential hurdles. Nevertheless, the results offer some promise for future PC process improvement projects.

References

- Bakitas, M., Lyons, K. D., Hegel, M. T., Balan, S., Brokaw, F. C., Seville, J., ... & Ahles, T. A. (2009). Effects of a palliative care intervention on clinical outcomes in patients with advanced cancer: The Project ENABLE II randomized controlled trial. *JAMA: Journal of the American Medicine Association*, 302(7), 741–749. <https://doi.org/10.1001/jama.2009.1198>
- Brown, C. G. (2014). The Iowa model of evidence-based practice to promote quality care: An illustrated example in oncology nursing. *Clinical Journal of Oncology Nursing*, 18(2), 157–159. <https://doi.org/10.1188/14.CJON.157-159>
- Bruera, E., & Hui, D. (2012). Conceptual models for integrating palliative care at cancer centers. *Journal of Palliative Medicine*, 15(11), 1261–1269. Retrieved from <https://ncbi.nlm.nih.gov/pmc/articles/pmc3533890>
- Dionne-Odom, J. N., Azuero, A., Lyons, K. D., Hull, J. G., Tosteson, T., Li, Z., ... Bakitas, M. A. (2015). Benefits of early versus delayed palliative care to informal family caregivers of patients with advanced cancer: Outcomes from the ENABLE III randomized controlled trial. *Journal of Clinical Oncology: Official Journal of the American Society of Clinical Oncology*, 33(13), 1446–1452. [doi:10.1200/JCO.2014.58.7824](https://doi.org/10.1200/JCO.2014.58.7824)
- Greene, S. M., Tuzzio, L., & Cherkin, D. (2012). A framework for making patient-centered care front and center. *The Permanente Journal*, 16(3), 49–53. Retrieved from <https://ncbi.nlm.nih.gov/pmc/articles/pmc3442762>
- Kheirbek, R., Fletcher, R. D., Bakitas, M., Fonarow, G. C., Parvataneni, S., Bearden, D. M., ... Ahmed, A. (2015). Discharge hospice referral and lower 30-day all-cause

- readmission in medicare beneficiaries hospitalized for heart failure. *Circulation-Heart Failure*, 8(4), 733–740. Retrieved from <http://circheartfailure.ahajournals.org/content/8/4/733>
- Lau, B. D., Aslakson, R. A., Wilson, R. F., Fawole, O. A., Apostol, C. C., Martinez, K. A., ... & Dy, S. E. M. (2014). Methods for improving the quality of palliative care delivery: a systematic review. *American Journal of Hospice and Palliative Medicine*®, 31(2), 202-210.
- Lee, K. C., Senglaub, S. S., Walling, A. M., Mosenthal, A. C., & Cooper, Z. (2019). Quality measures in surgical palliative care: Adapting existing palliative care measures to improve care for seriously ill surgical patients. *Annals of Surgery*, 269(4), 607-609.
- Mizuno, A., Shibata, T., & Oishi, S. (2019). The essence of palliative care is best viewed as the “problematization”. *Journal of Palliative Medicine*, 22(1), 6-6.
- Morrison, R. S., Penrod, J. D., Cassel, J. B., Caust-Ellenbogen, M., Spragens, L., & Meier, D. E. (2008). Cost Savings Associated With US Hospital Palliative Care Consultation Programs. *JAMA Internal Medicine*, 168(16), 1783–1790. Retrieved from <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/414449>
- Morrison, R. S. (2013). Models of palliative care delivery in the United States. *Current Opinion in Supportive and Palliative Care*, 7(2), 201.
- O'Connor, N. R., Moyer, M. E., Behr, M., & Casarett, D. J. (2015). The impact of inpatient palliative care consultations on 30-day hospital readmissions. *Journal of Palliative Medicine*, 18(11), 956-961.

- Penrod, J. D., Partha, D., Dellenbaugh, C., Burgess Jr, J. F., Zhu, C. W., Christiansen, C. L., ... & Morrison, R. S. (2010). Hospital-based palliative care consultation: effects on hospital cost. *Journal of Palliative Medicine*, 13(8), 973-979.
- Smith, S., Brick, A., O'Hara, S., & Normand, C. (2014). Evidence on the cost and cost-effectiveness of palliative care: A literature review. *Palliative Medicine*, 28(2), 130-150. Retrieved from <http://journals.sagepub.com/doi/abs/10.1177/0269216313493466>
- Smith, T. J., & Cassel, J. B. (2009). Cost and non-clinical outcomes of palliative care. *Journal of Pain and Symptom Management*, 38(1), 32-44.
- Stats Indiana: Indiana's public data utility. (n. d.). Retrieved from http://www.stats.indiana.edu/profiles/profiles.asp?scope_choice=a&county_changer=18057
- US Department of Health and Human Services. (2013). Modifications to the HIPAA privacy, security, enforcement, and breach notification rules under the health information technology for economic and clinical health act and the genetic information nondiscrimination act; other modifications to the HIPAA rules. *Federal Register*, 78(17), 5566-5702.
- Wang, L., Piet, L., Kenworthy, C. M., & Dy, S. M. (2015). Association between palliative case management and utilization of inpatient, intensive care unit, emergency department, and hospice in Medicaid beneficiaries. *American Journal of Hospice and Palliative Medicine®*, 32(2), 216-220.
- White, K. M., Dudley-Brown, S., Terhaar, M. (2016). *Translation of Evidence into Nursing and Health Care*. 2nd Edition, New York, NY: Springer Publishing.

- World Health Organization (n.d.). *WHO Definition of Palliative Care*. Retrieved from World Health Organization: <http://www.who.int/cancer/palliative/definition/en/>
- World Health Organization (2018). *WHO Poor Access to Palliative Care*. Retrieved from World Health Organization: <https://www.who.int/news-room/fact-sheets/detail/palliative-care/>
- Yohannes, A. M. (2007). Palliative care provision for patients with chronic obstructive pulmonary disease. *Health and Quality of Life Outcomes*, 5(1), 17–17. Retrieved from <https://ncbi.nlm.nih.gov/pmc/articles/pmc1852092>

Appendix A

SWOT Analysis

Strengths <ul style="list-style-type: none">-Required measured based by national data guidelines-Provide better quality care-Reduce readmissions rates-Cost savings for patient and organization	Weaknesses <ul style="list-style-type: none">-Education-Barriers among staff in implementing-Specialty staff unavailable-No current practice in place
Opportunities <ul style="list-style-type: none">-Better outcomes-Increased profits-Reduced deaths-Increased palliative care referrals	Threats <ul style="list-style-type: none">-Poorer outcomes-Reduced profits-Increased deaths prior to referral-Staff not engaged in process

Appendix B

IOWA Model

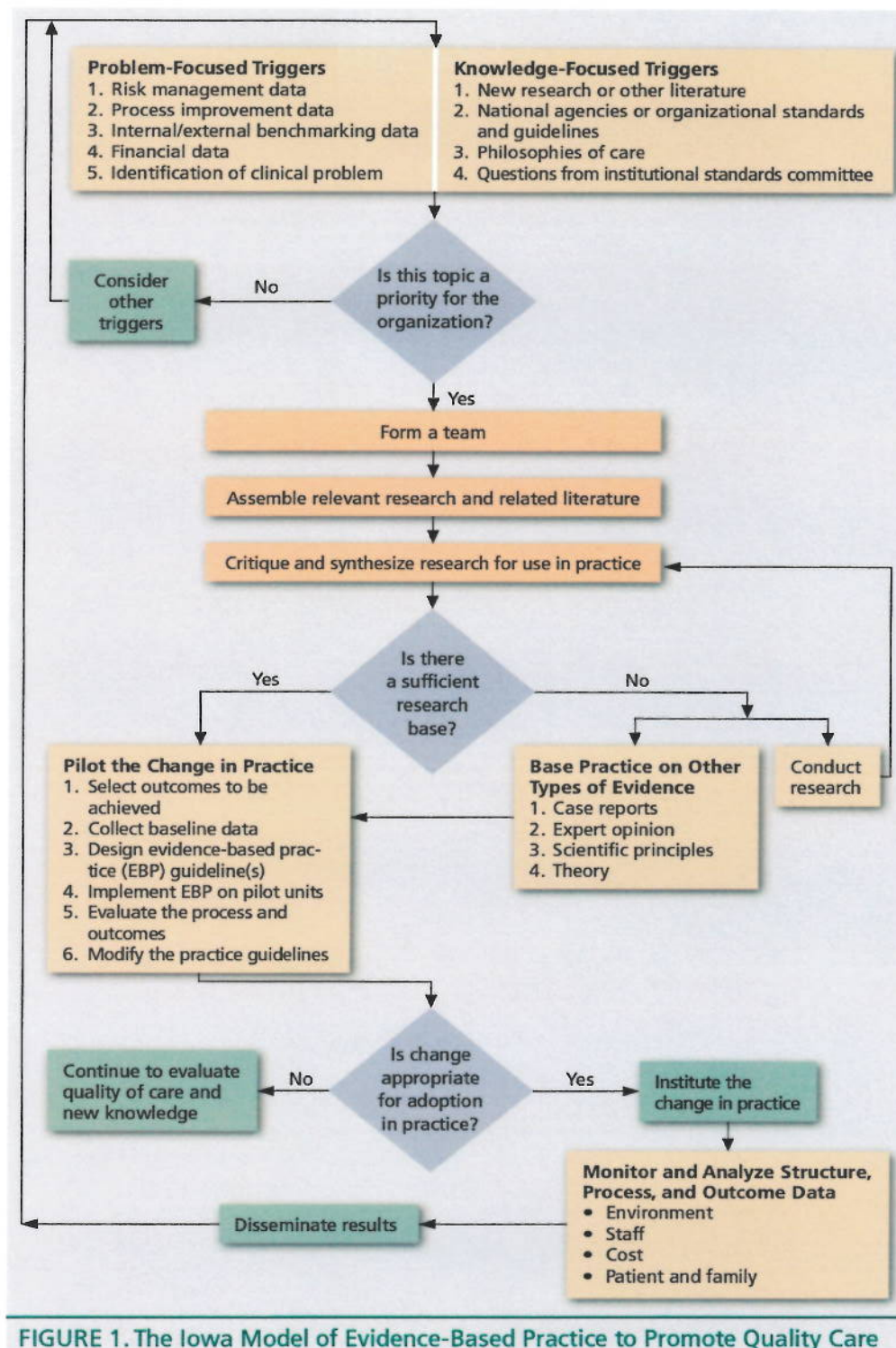


FIGURE 1. The Iowa Model of Evidence-Based Practice to Promote Quality Care

Appendix C

Education-Web-Based Training Test

Health System Assessment Questions

1. A patient is given 3 months to live with a terminal diagnosis. This patient best qualifies for:
 - a. Palliative Care
 - b. Hospice Care
 - c. Home Health Care
 - d. None of the above
2. Improving and maintaining a well quality of life is the goal of both Palliative and Hospice Care:
 - a. True
 - b. False
3. Which is not a part of Advance Care Planning?
 - a. Written Appointment of a Health Care Representative
 - b. Health Care Power of Attorney
 - c. Living Will Declaration
 - d. Psychiatric Advance Directive
 - e. Physician Order for Scope of Treatment
 - f. All of these are pieces of an advance directive
4. Curative treatment is an option under the umbrella of Palliative Care.
 - a. True
 - b. False
5. The goal of pain and symptom management in Palliative care is to be pain and symptom free.
 - a. True
 - b. False
6. You have just received a patient's diagnosis of breast cancer. What is an appropriate action by the nurse?
 - a. Tell the patient the diagnosis as it is their right to know.
 - b. Communicate the diagnosis and provide information to the patient on next steps.
 - c. Wait until the Physician/LIP has provided the diagnosis, then assess the patient's emotional, cognitive state.
 - d. Contact case management to discuss the patient's diagnosis.
7. In end-of-life care, autonomy, justice, and human dignity should be preserved.
 - a. True
 - b. False
8. Compassion fatigue is the inability to be physically or mentally present caused by overwork or stress.
 - a. True
 - b. False

Appendix D

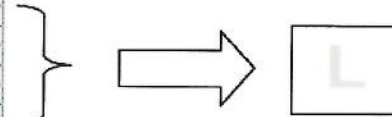
LACE Index Scoring

LACE Index Scoring Tool for Risk Assessment of Hospital Readmission

Step 1. Length of Stay

Length of stay (including day of admission and discharge): _____ days

Length of stay (days)	Score (circle as appropriate)
1	1
2	2
3	3
4-6	4
7-13	5
14 or more	7



Step 2. Acuity of Admission

Was the patient admitted to hospital via the emergency department?

If yes, enter "3" in Box A, otherwise enter "0" in Box A



Step 3. Comorbidities

Condition (definitions and notes on reverse)	Score (circle as appropriate)	<p>If the TOTAL score is between 0 and 3 enter the score into Box C. If the score is 4 or higher, enter 5 into Box C</p> <div style="border: 1px solid black; width: 50px; height: 50px; margin: 10px auto; text-align: center; line-height: 50px;">C</div>
Previous myocardial infarction	+1	
Cerebrovascular disease	+1	
Peripheral vascular disease	+1	
Diabetes without complications	+1	
Congestive heart failure	+2	
Diabetes with end organ damage	+2	
Chronic pulmonary disease	+2	
Mild liver or renal disease	+2	
Any tumor (including lymphoma or leukemia)	+2	
Dementia	+3	
Connective tissue disease	+3	
AIDS	+4	
Moderate or severe liver or renal disease	+4	
Metastatic solid tumor	+6	
TOTAL		

Step 4. Emergency department visits

How many times has the patient visited an emergency department in the six months prior to admission (not including the emergency department visit immediately preceding the current admission)? _____

Enter this number or 4 (whichever is smaller) in Box E



Add numbers in Box L, Box A, Box C, Box E to generate LACE score and enter into box below.

LACE Score Risk of Readmission: ≥ 10 High Risk

Appendix E

Project Practice Site Letter

June 25, 2018

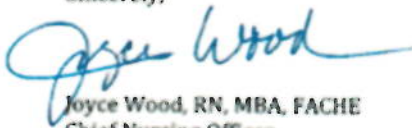
Karen L. Spear, Ph.D.
MARIAN UNIVERSITY
Evans Center 309
3200 Cold Spring Road
Indianapolis, IN 46222

Dear Karen L. Spear, Ph.D.,

This letter will serve as documentation, per IRB Protocol #B19-008, for the authorization of Shantrece Davis to collect and conduct research for her Doctor of Nursing Practice (DNP) project entitled, "Referring Palliative Care Patients-A Process Improvement Project" at our Riverview health site in Noblesville, IN.

All patient data collected and shared will be supervised and compliant with HIPPA regulations. Should you have any concerns or additional questions, please feel free to contact me.

Sincerely,



Joyce Wood, RN, MBA, FACHE
Chief Nursing Officer
Vice President Organizational Improvement

Appendix F

Palliative Care Data File

Date of Referral	Pt De- Identifier	Age (as of 6/26/19)	Referral Source	Agency	Did Patient Accept?	Race	Gender	ED Visits Since Referral	Admissions Since Referral	Admission In 6 Months Prior to Referral	ED Visits in 6 months Prior to Referral	Deceased, as of 6/25/19
4/9/2019	12344	83	IP CM	Paradigm	Hospice	Non-Hispanic	Male	0	0	3	2	No
4/15/2019	12353	87	IP CM	Paradigm	Yes	Non-Hispanic	Female	0	1	4	0	No
4/17/2019	12354	68	IP CM	Paradigm	Hospice	Non-Hispanic	Male	0	0	2	0	Yes
4/18/2019	12355	84	IP CM	Paradigm	Hospice	Non-Hispanic	Male	0	0	2	0	No
4/18/2019	12357	71	IP CM	NA	Declined	Non-Hispanic	Male	0	0	4	0	No
4/23/2019	12349	82	IP CM	Heartland	resume pal	Non-Hispanic	Female	0	0	3	0	No
4/23/2019	12350	74	IP CM	Paradigm	Yes	Non-Hispanic	Female	0	0	2	1	No
4/23/2019	12361	89	IP CM	NA	Declined	Non-Hispanic	Female	0	0	2	2	No
4/24/2019	12362	86	IP CM	Paradigm	Declined	Non-Hispanic	Female	0	0	2	0	Yes
4/24/2019	12363	73	IP CM	Paradigm	yes	Non-Hispanic	Male	1	1	7	0	No
4/24/2019	12364	79	IP CM	NA	Declined	Non-Hispanic	Male	0	0	3	0	No
4/25/2019	12356	82	IP CM	Paradigm	Hospice	Non-Hispanic	Female	0	0	5	0	No
4/25/2019	12356	66	IP CM	NA	Declined	Non-Hispanic	Female	0	0	2	0	No
5/2/2019	12367	83	IP CM	Paradigm	Declined	Non-Hispanic	Female	1	0	1	3	No
5/3/2019	12368	78	IP CM	Heartland	Yes	Non-Hispanic	Male	2	0	4	2	Yes
5/3/2019	12360	60	IP CM	Paradigm	Yes	Non-Hispanic	Female	0	2	6	5	No
5/5/2019	12371	87	IP CM	Heartland	Yes	Non-Hispanic	Male	1	0	1	0	No
5/6/2019	12372	64	IP CM	NA	Declined	Non-Hispanic	Male	0	0	3	0	No
5/9/2019	12374	52	IP CM	Paradigm	Yes	Non-Hispanic	Male	0	0	3	1	No
5/10/2019	12375	68	IP CM	Paradigm	Yes	Non-Hispanic	Male	1	0	2	1	No
5/28/2019	12376	92	IP CM	Paradigm	Hospice	Non-Hispanic	Female	0	0	1	1	No
6/3/2019	12377	75	IP CM	Heartland	Yes	Non-Hispanic	Female	0	0	3	1	No
											65	19

*Elected hospice 5/15/

Appendix G

Institutional Review Board (IRB) Determination of Approval Letter

MARIAN UNIVERSITY
Indianapolis*Institutional Review Board*

DATE: 7/1/2019

TO: Shantrece Davis

IRB Protocol #B19-008

TITLE: Referring Palliative Care Patients-A Process Improvement Project

SUBMISSION TYPE: IRB Application

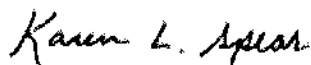
ACTION: Determination of Approval

DECISION DATE: 7/1/2019

Per submission of documentation from Riverview Hospital approving the collection of patient data per HIPPA regulations, this letter is record of IRB approval compliance.

The Institutional Review Board at Marian University has reviewed your protocol, and has determined the procedures you have proposed are appropriate and approved under the federal regulations. As such, there will be no further review of your protocol and you are cleared to proceed with your project. Your protocol will remain on file with the Marian University IRB as a matter of record.

It is the responsibility of the PI (and, if applicable, the faculty supervisor) to inform the IRB if the procedures presented in this protocol are to be modified or if problems related to human research participants arise in connection with this project. Any procedural modifications must be evaluated by the IRB before being implemented, as some modifications may change the review status of this project. Please contact Dr. Karen Spear at 317.955.6115 or kspear@marian.edu if you are unsure whether your proposed modification requires review. Proposed modifications should be addressed in writing to the IRB. Please reference the above IRB protocol number in any communications to the IRB regarding this project.



Karen L. Spear, Ph.D., Chair, Marian University Institutional Review Board

Appendix H

Patient Referral Results - Descriptive Bar Chart

