THE ATTITUDES OF NURSES INVOLVED IN STANDARDIZED INPATIENT COMFORT CARE: A PILOT STUDY

by

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of

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Family and Individual

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DEDICATION

I would like to dedicate this paper and project to my fiancé, Jason. Without your kind words of wisdom, help, and support, I would not be where I am. My graduate studies were made possible because of you, and I am forever grateful. You are my inspiration, and I love you beyond measure.

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ABSTRACT

This paper explores nurses' perceptions and attitudes utilizing a standard inpatient comfort-care order set in a critical-access hospital in Southwestern Montana. Comfort care is a subset of palliative care and has been defined as "an essential part of medical care at the end of life. It is care that helps or soothes a person who is dying. The goal is to prevent or relieve suffering as much as possible while respecting the dying person's wishes" (National Institute on Aging, 2012). With past research showing gaps in continuity of care for patients requiring palliative and comfort care, standardizing the care will give each patient nearing the end of their life, and their family, the opportunity for the best care. A pre- and post-trial-implementation qualitative survey was utilized with the nursing staff at this facility in order to identify areas of weakness with comfort care, and how these weaknesses could be addressed. Initial results showed that nurses felt that more education to both providers and nurses and standardizing care would lead to the most benefit for overall patient care. Providers at this facility worked together to build a standing order set utilizing The BEACON project from the Veterans Affairs (VA) department as well as the order set that was already in the electronic medical record system in order to build one order set that would work best for this facility. Providers and nurses were educated on how to use this order set, as well as the standards of care for nursing. Post-implementation nursing surveys showed that nurses were overall more satisfied with the care they were giving to patients near the end of life, and that they felt the order set was successful in setting the standard of care. Nurses also felt that, by receiving more education in the area of comfort care, this opened the lines of communication between staff members, thus improving patient care.

INTRODUCTION

Palliative care is specialized medical care for patients with serious or life-threatening illnesses. It focuses on providing patients with relief from the symptoms, pain, and the physical and social stresses of a serious illness. The goal is to improve quality of life for both the patient and the family. It is appropriate at any age and at any stage of an illness. It can be provided at the same time as disease treatment in order to help people live as well as possible while facing an illness (Center to Advance Palliative Care, 2016).

A large part of palliative care is caring for those who are near the end of life. Comfort care is a subset of palliative care and has been defined as "an essential part of medical care at the end of life. It is care that helps or soothes a person who is dying. The goal is to prevent or relieve suffering as much as possible while respecting the dying person's wishes" (National Institute on Aging, 2012).

Patients for whom these services are applicable are those who are diagnosed with a chronic illness that requires integrative medicine or counseling services with a multi-disciplinary approach from all aspects of hospital care, as well as those who approach end-of-life care from within the hospital, that require comfort care. This specialized care may also extend out into the community in the outpatient setting in the patient's home via home-health and hospice programs.

According to Barr (2014), by 2029 there will be 71 million Americans age 65 or older, and the last round of the Baby Boomer population will hit retirement age. This number is up from just 41 million in 2011 according to the Census Bureau. This will

drastically change healthcare for the next 30 years in ways that we cannot predict for the foreseeable future. Barr (2011) also goes on to discuss that the already scarce amount of geriatric providers and nurses may even decrease within the next few years with limited payer-source and reimbursement issues.

The U.S. Department of Health and Human Services (USDHHS) (2013), reports that, in the past, death was far less complicated and patients suffered from fewer chronic illnesses. Today, death can become a long, drawn-out process where chronic illness reaches a point where a cure can no longer be achieved. Due to management of chronic illness, far more patients now die in a hospital than at home. This led to a push for palliative and comfort-care medicine within hospitals as well as in the home setting (USDHHS, 2013).

The National Hospice and Palliative Care Organization (2013) reports that 1.5 to 1.6 million Americans utilized palliative-care services in 2013, with one quarter of them requiring inpatient services. Since the new millennium, inpatient palliative-care teams have seen a significant increase, growing over 130%.

Even with this increase, many members of the healthcare team lack the knowledge to effectively care for palliative-care patients (Rice & Betcher, 2010). Keeping the above statistics in mind, The Institute of Medicine (IOM) (2014) recognizes that the United States is falling short in palliative and comfort care, identifying lack of provider education in this specialty area. There are a lack of providers to effectively educate palliative-care patients and their families, and a lack of interdisciplinary teams when patients need multiple services with diagnosis of a new

illness. This has become evident in many critical-access facilities and in rural healthcare settings where there is a lack of team members with specialty education in this field.

Bushnaq and Abusuqair (2012), as well as the World Health Organization (WHO) (2015), identify that access to care may also inhibit the use of palliative and comfort care. The WHO states that, each year, an estimated 40 million people are in need of palliative care, with 78% of those individuals living in low- and middle-income countries.

Worldwide, only about 14% of people who need palliative care currently receive it. Overly restrictive regulations for morphine and other essential, controlled, palliative medicines inhibit access to adequate pain relief and palliative or comfort care. Lack of education and training in palliative care among health professionals is also a major barrier to improving access. Worldwide, the need for palliative care will continue to grow as a result of the rising burden of diseases and our aging population.

Background Knowledge

With an overall increase in patients that are requiring specialty services like palliative and comfort care; many members of the healthcare team lack the knowledge to effectively care for these patients (Rice & Betcher, 2010).

> What needs to be achieved are consistent efforts in terms of education, training, continuing medical education, research, evidence building, formulation of guidelines, accessibility to drugs, and establishment of national as well as international bodies dedicated to the cause of palliative care. (Bhatnagar, & Gupta, 2015, p. 95).

The Institute of Medicine (IOM, 2014) makes three observations with recommendations to improve palliative care:

- Palliative care is not an integral part of medical school and nursing school curriculum, which has led to a gap in care. They recommend palliative care become part of the curriculum, and become a part of the licensure examination for providers and nurses alike.
- The second issue at hand comes from a single provider making all of the decisions for the patient. The recommendation is to utilize all providers, nursing staff, social services, chaplain, etc., to use an interdisciplinary team approach to care for the patient as a whole.
- Providers as a whole are not educated on how to effectively talk to patients and their families about palliative care. Thus, when they are faced with this situation, they cannot effectively communicate, gain the trust of the patient, or educate the patient and their families on all of the options available. The IOM recommends that all who care for palliative-care patients receive the appropriate education in order to effectively communicate with the patient and their family.

While the average age of the patient in acute-care settings continues to rise, nurses, providers, and organizations as a whole will need to readdress how we will care for these patients. Research and background knowledge in this area (see Appendix B for evidence table) show us that it will be imperative for acute-care facilities to have an evidence-based, standing order set for comfort care in order to provide the best outcomes possible for patients, their families, the staff, and the organization.

The Centers for Medicare and Medicaid (2008) strongly support the use of

evidence-based protocols for patients admitted to the hospital to enhance the quality of care provided. According to the Institute for Safe Medication Practices (ISMP) (2010), Guidelines for Standard Order Sets have the potential to "enhance workflow with pertinent instructions that are easily understood, intuitively organized, and suitable for direct application to current information-management systems." They also have the ability to "integrate and coordinate care by communicating best practices through multiple disciplines, levels of care, and services" (ISMP, 2010, p.1).

Bailey et al. (2014) discuss the use of an electronic standard comfort-care order set that was utilized within the VA healthcare system. Using a chart abstraction tool, nursing data was mined from the last seven days of the patient's life about their end-of-life care (*n*=6,066 patient charts). Opioid orders for palliative-care patients increased from 61.8% pre-intervention to 72.8% post-intervention (p.009). This project is known as the BEACON project and, due to the success of this trial, this order set has been implemented at several VA hospitals and the University of Alabama School of Medicine.

A study completed by Rice and Betcher (2010) states that providers must be willing to have end-of-life discussions with patients long before all other resources are exhausted in order for a palliative-care service to be successful. Within the two years that Rice and Betcher (2010) implemented a palliative-care service at an acute-care facility, there was a reduction in deaths in the intensive care unit (ICU) from 65.7% to just 13.6%, which led to a cost reduction for the facility. The length of stay for patients identified as dying in the ICU decreased from 2.1 days to 1.3 days in just over a year. This study also suggested that the success of the palliative-care program would be dependent on the

palliative-care education received by the staff within the organization.

McCusker et al. (2013) published the guidelines for adult palliative care for the National Guideline Clearinghouse. According to McCusker et al. (2013), palliative care should begin early with a conversation between the provider and patient. The provider should assess the wants and needs of the patient, and then orders should be addressed and completed by an interdisciplinary healthcare team. The order set needs to address the physical, mental, social, spiritual, and ethical aspects of the patient. Prior to implementing an order set, the facility needs to assess the current system and how the new system will benefit both the facility and the patients, the training and education of the staff involved, and the current culture surrounding this area and how it will need to shift and change in order for implementation to be successful (McCusker et al., 2013).

Treece (2007) goes above and beyond when speaking to the fact that facilities should be using standardized order sets for end-of-life care. Treece (2007) speaks to the fact that all those who are going to be coming in contact with these patients and families should be involved in writing an order set. These order sets decreased the "provider variability and increased the quality and consistency of the orders written at the end-of-life." Treece (2007, p.836) goes on to say that standardization of order sets have been shown to improve patient outcomes, increase physician satisfaction, and improve interdisciplinary teamwork.

Walling et al. (2008) report that physicians who deal with end-of-life issues may not be comfortable directing a conversation with patients and families. This study utilized a standard-order-set protocol for patients near the end of life and it was utilized to

"improve patient comfort, and increase the staff knowledge, inexperience, and discomfort with end-of-life opiate administration" (p.858). Nurses and physicians were then required to fill out a survey each time they took care of a patient using this protocol. Upon reviewing the results, 87% of clinicians said they felt the protocol was a useful tool, but nurses and doctors alike were concerned that the opiate doses in this protocol weren't high enough for adequate pain control. Nurses also felt having this protocol was useful, but that many times it was initiated by providers too late in the patient stay (as providers could initiate it when they felt the time was right or that it was necessary for symptom management).

The American Hospital Association (AHA) (2007) recommends that facilities utilize a team approach to end-of-life care where educational brochures are utilized to educate patients and families to help resolve difficult end-of-life decisions. Our healthcare system should be "working to create a culture where looking at the end of life is not seen as giving up hope, but instead, redefining hope" (American Hospital Association, 2007). Fine, Davis, Muir, Schwind, and Haileab (2013) discuss the importance of inviting all parties to consult on patients early in this process. "Each specialty has its unique capabilities and skills, but each alone is insufficient to address the needs of patients with advanced illness" (Fine et al., 2013, p. 1277).

Yang, Ewing, and Booth (2011) also discuss the importance of using a team approach for patients requiring palliative care. Patients and family members in this study reported that they felt the palliative care team had three goals: symptom management, psychological support, and having a liaison. Having a team to support patients made them

feel a sense of security at a very vulnerable time in their life. DeMiglio and Williams (2012) report that a team concept may "improve the quality of life of patients and their families through pain and symptom management, and psychosocial, spiritual, and bereavement support" (p. 420).

Gardiner et al. (2012) respectfully state that palliative-care patients in acute-care facilities may not receive adequate care in the United Kingdom, and report difficulty with identifying patients near the end of life as well as implementation of what qualifies as "good" care for these patients. In a survey given to the nurses in this study: (1) they were asked to collect data from patient charts, (2) regarding consenting patients, a nurse and a member of the medical staff were interviewed and asked if they thought the patient in the case was applicable to palliative-care services, and (3) the patient was then asked to complete a demographic questionnaire that would address patients who may benefit from a palliative-care consult. Of the 514 patients in the sample, over one-third met one or more of the criteria for a consult from palliative care. Nurses and medical staff agreed more than 17.8% of the time on patients that needed this service. In conclusion, Gardiner et al. (2012) showed that nursing and staff alike view palliative care as a valuable resource to both patients and their families.

Mayer and Winters (2016) discuss the fact that nurses in critical-access facilities must be "expert generalists" (p.75). They also discuss the fact that nurses in the facilities may feel undue stress due to the fact that many friends and family members know these nurses and are aware of who is working when a patient expires. Mayer and Winters (2016) also identify that, due to the fact that there are limited monetary and human

resources at CAHs, we can no longer depend on specialized palliative-care teams, and that all healthcare providers are needed to provide palliative care in these areas.

Payne, Hawker, and Kerr et al. (2007) discuss the importance that community or critical-access facilities play in palliative and comfort care. Qualitative data collection from patients (*n*=18) and their family members (*n*=11) was collected based on whether or not they felt the care provided to them at the end of life was adequate. Overall, the results suggested that patients felt the care provided was more appropriate than in larger hospitals. Patients and family members reported more favorable scores about staff, facilities, and the atmosphere of the facility than their larger counterparts. This study suggests that critical-access facilities have the capacity to facilitate patients who are requiring end-of-life care; however these hospitals need to embrace and adjust for the time-consuming nature of this type of care.

Part of assessing the time constraint of comfort-care patients was addressed specifically by Johansson and Lindahl (2011) who discussed how stressful end-of-life care could be for nursing staff. This article brings forth a great point that hospital nurses must take care of more than one patient and, sometimes, patients who are near the end of their life take more physical and mental time for these nurses. It is important for hospitals to recognize this and adjust accordingly. In this study, eight medical/surgical nurses were interviewed via a qualitative survey using a narrative approach and were asked specifically about their experience with palliative-care patients in their workplace. None of these nurses has special training in palliative care. These nurses reported that they needed more time to spend with patients who are terminally ill, that they wanted to be an

active member in this process for their patients, and that they wanted to promote comfort.

Steers, Brereton, and Ingleton (2007) also discuss the importance of community hospitals and their role in palliative care in the United Kingdom. Their study reported community hospitals serve a great purpose to the elderly community that they serve when it comes to palliative care. They report that up to 30% of all deaths that occur on specialty units, like the ICU, could be eliminated by having a community hospital to serve these needs. This study showed that while many community hospitals may already possess the resources to manage palliative-care patients, the staff may still need further education in this area in order to improve outcomes.

Prem et al. (2012) also discuss the importance and lack of nursing education in palliative care. This study used a palliative-care knowledge test and tested (*n*=363) nurses on their knowledge about this content area. The test utilized a self-report questionnaire that had 20 items pertaining to palliative care, where the nurses had to indicate correct, incorrect, or unsure. The overall score of this test was 2.09 +/- 1.02 (34.83%), which indicates a poor understanding of the care of these patients and their families. This study only goes to show that further educating staff in this area will be very important for future patient outcomes. Pesut et al. (2014) completed a literature review and reported that, with diminishing studies about palliative-care education, this will need to be an area of focus for nursing education for the future.

Wilkie and Ezenwa (2012) and Grande and Todd (2000) discuss the importance of continued research into palliative and comfort care, as there are identified gaps. There are considerable ethical considerations when attempting a randomized controlled trial as

we must ensure that the standard of care still be met for these patients. With this being an extremely vulnerable population, studies need to be continued with focus on better pain management, the work of nurses in this area, continued education, and how to improve patient care.

Local Problem

The community where the hospital is located in southwestern Montana has an approximated population of 9,300 people, with the majority being retired adults. The population of adults 65 years of age or older in this community has grown from 13% in 2010 to 15% in 2013 (United States Census Bureau, 2015). Many of those in this community worked in the nearby mining towns in the mid-1900s. These hardworking men and women raised their families here, and these patients, along with their families, are requiring holistic palliative and comfort care in the later part of their lives.

The facility where this pilot study was implemented is a small, 25-bed, critical-access hospital. According to the Department of Health and Human Services (2016), in 1997, legislation passed the Balanced Budget Act (BBA) where currently participating rural hospitals could have more reimbursement and funding from the government due to the fact that the majority of their patients are covered by Medicare. Some of the major requirements to be considered a critical-access hospital (CAH) are as follows:

a) The facility must be in a designated rural area and at least 35 miles from another CAH. Rural areas are reassessed every two years, as many rural areas have become urban areas.

b) Maintain no more than 25 beds, which include swing-bed patients. Swing-bed patients are patients who require skilled nursing services past their inpatient acute stay.

c) Have 24/7 emergency department services with staff in facility or on-call with appropriate call-out times.

d) Have an average length of stay of no more than 96 hours in an acute-bed status. This does not include patients who are in swing-bed status.

The current system that was in place for comfort care at this facility is one that is provider-dependent. Patients who are determined to be candidates for comfort care are given this status and the current provider places an order using EPIC. EPIC is the name of the electronic-medical-record (EMR) system that has been used by this facility since April 2014. Providers place orders into EPIC independently based on what they feel the needs of the patient are. There are not standard medications, set vital signs, or policies for caring for the comfort-care patients at this facility. With that being said, each time a different provider is working, the medications and standards of care are different based on what that provider deems necessary. Thus the pain medication regimens can change daily and there is a lack of consistency in care.

When nurses and providers are hired at this facility, the training on how to take care of a comfort-care patient comes from experience of the other staff. Thus, if a patient expires and there is a non-experienced staff on that shift, the patient may not have the best outcome possible due to the staff's lack of education. Staff is also not well educated on how to discuss end-of-life care, pain control, or anxiety-related issues with patients or

their families. This skill is also one that must be learned from experience of the staff, or from other staff members. There is no training or education provided by the facility on this topic for the staff members. An Emergency Department provider from this facility reported to the project chair that employees at this facility learn about comfort care and how to take care of patients in this population from independent study since there is a lack of education provided by the facility to staff within this area.

An informal query of the nursing staff at this hospital identified several areas of weakness in palliative and comfort care. While nurses themselves feel comfortable with caring for patients at the end of their lives, they also report that they have not received formal education about approaching providers about medication orders for their patients. It was also stated by several nurses that treatment options are not thoroughly explained to patients and their families, and that palliative care is delayed and used as a last resort at this hospital due to the lack of ability of providers to recognize a dying patient and utilize appropriate resources. Nurses also felt that nurses and providers alike needed more education in this field and that many providers did not order adequate pain management or anxiolytic medications.

Now more than ever, this project and a standardized, acute comfort-care order set is needed at this facility. There has been a recent increase in comfort-care patients, with 34 patients requiring these services from September 2014 to September 2015. This is up from just 20 patients in comfort-care status the year before. There have also been a number of nursing and family concerns with the comfort-care orders that are placed for patients nearing the end of their lives. There have been identified cases where patients

were unable to achieve a manageable pain level prior to their death, leading to families in distress and dissatisfied nursing staff.

Study Question and Intent

This project focused on investigating whether a standardized comfort-care order set would improve the culture surrounding end-of-life care at a critical-access hospital in southwestern Montana. The goal of this project was to identify an evidence-based, standing comfort-care order set (see Appendix A) that would be implemented and piloted in a rural community hospital. The aim of utilizing this order set was to educate providers and nurses on the most up-to-date care for patients and their families at the end of their life, as well as implement the order set for the pilot study. The goals were: (1) to improve the culture surrounding comfort care at this facility and improve the overall patient care and (2) to increase the satisfaction of the nurses caring for patients near the end of life.

Theoretical Framework

Imogene King's middle-range Theory of Goal Attainment was the guiding nursing theory for the implementation of a comfort-care standing order set in the acute-care setting. According to Alligood and Tomey (2010), "middle range theories are more precise, with a focus on answering specific nursing practice questions" (p. 7). Alligood and Tomey (2010) also stated that middle-range theories "specify such factors as the age group of the patient, the family situation, the health condition, the location of the patient, and most important the action of the nurse" (p. 8).

King's middle-range Theory of Goal Attainment focuses on the interaction between the nurse and the patient, the most important interaction in acute palliative care. In the palliative-care setting, one of the most important aspects of care is the communication and the plan between the nurse and the patient. This can be utilized specifically when making a plan for pain-management goals with the patient and their family. "The goal of palliative care is to relieve the suffering of patients and their families by the comprehensive assessment and treatment of physical, psychosocial, and spiritual symptoms experienced by patients" (Rome, Luminais, Bourgeois, & Blaris, 2011). King's theory "focuses on the interpersonal system and the interactions that take place between the individuals, specifically in the nurse-patient relationship" (Alligood, 2014, p.265).

This pilot project continues to bring forth leadership skills in both the providers and nurses at this rural hospital. With the initial survey, nurses opened up about negative past experiences and how change could positively improve the process. Using King's theory and focusing on interpersonal relationships has given insight on project improvement, as well as opened up relationships between the nursing staff about this vulnerable aspect of nursing care during the end of life. Providers took the time to study the data supporting a standard order set and built one that would facilitate the needs of this hospital and its patients.

METHODS

The goal of this study was to determine the attitudes of the registered nurses at a critical-access facility regarding comfort care. The nursing staff at this critical-access facility identified that comfort-care standardization is an area that needs improvement. This study was completed utilizing a pre- and post-implementation qualitative survey, which gave the nurses an opportunity to express how they felt. An implemented standing comfort-care order set was utilized to care for acute-care patients near the end of their lives, with a goal of increasing nursing satisfaction within this specific area of patient care.

Design

This study was an observational study with a paired design utilizing a pre- and post-implementation Likert survey.

Sample

The sample of 17 registered nurses from a critical-access facility was utilized. All of the nurses who work on the medical/surgical floor at this facility were invited to participate. There were 14 females, and three males who took part in the pre-implementation survey; and 12 females and two males who took part in the post-implementation survey.

Inclusion and Exclusion Criteria

All male and female registered nurses who work on the medical/surgical floor at a southwestern Montana critical-access hospital were invited to participate in the pre-implementation survey. Those nurses who participated in the pre-implementation surveys were then invited to participate in the post-implementation survey. Nurses who did not complete the initial survey were not invited to complete the post-implementation survey.

Data Collection

The email addresses of the medical/surgical nurses were obtained from the project lead by asking the nurses if they wanted to participate in this project. The nurses were reached via e-mail for survey prior to the implementation of the order set to determine their attitudes about comfort care in this facility utilizing a combination of Likert and open-ended qualitative questions (see Appendix C). The survey was returned to a third party that kept the surveys anonymous. The third party removed any identifying information from the surveys and then passed them on to the project lead.

The nurses were then provided with a one-on-one educational session about how to utilize the order set with the project lead. These sessions varied from 20 to 45 minutes based on the need and questions posed by the nurse attending the session. The nurses were provided with printouts of the standing order set (see Appendix B) and a handout of "What are Comfort Care Orders? *A Guide for Relatives and Friends of Dying Patients*" (see Appendix D). The project lead went over both handouts in detail with the nurses, and

a pharmacist was available to answer any medication questions. Nurses were allowed to ask any questions or address any concerns at this educational session.

Implementation of a standing comfort-care order set was then put into place. Nurses were then surveyed post implantation to determine the nurses' attitudes about comfort care and if the standing order set changed the way comfort care is viewed at this facility. Post-implementation surveys were returned at a slower rate than the pre-implementation surveys, so the project lead provided five-dollar coffee cards to a local coffee shop for those nurses who filled out the survey. Post-implementation surveys were kept anonymous by the nurses returning them to a third party who removed any identifying information, and then were sent on to the project lead.

Standing Order Set

Information about two different order sets was brought forth by the project lead, and presented to two hospitalists who work on the medical/surgical floor at the facility. The first order set brought forth was the BEACON comfort-care order set. This is an order set that was studied and utilized by Veterans Affairs (VA). The BEACON trial was the largest researched order set in the United States with over 6,000 subjects studied at six different VA facilities. This trial resulted in better pain management, nausea management, and discussing "do not resuscitate" (DNR) orders with patients and their families (Bailey et al., 2014). This study was a randomized controlled trial (RCT) and had the most supporting evidence for implementation.

The second order set that was discussed was the adult comfort-care order set that

already existed within the EMR, EPIC. Providers were not previously using these order sets at this facility because they did not know it was accessible. After going through each individual section of this order set there were many similarities found between the EPIC order set and the BEACON order set. With the help of the facility's lead pharmacist and lead EPIC coordinator, we were able to mesh the two order sets to make one complete order set (see Appendix B).

Per the direction of the Director of Nurses at this facility, the providers can utilize this order set; but the nursing staff cannot place orders independently without contacting the provider. For example, if the patient cannot achieve pain control with the orders provided, the nurse will then contact the provider and discuss new or further orders based on the standing order set in order to help the patient achieve pain control. This leads to a team approach with the providers utilizing the order set and then the nurses assessing each patient to determine if more orders need to be placed throughout each shift.

Institutional Review Board and Participation Protection

This order set (see Appendix B), nursing survey (see Appendix C), and educational sheet for family members (see Appendix D), as well as project outline were all submitted to the Montana State University institutional review board (IRB) and considered exempt from the requirement of review. This project also went for review by the Medical Staff Committee at this facility and was granted approval for implementation. Members of the Medical Staff Committee included the Chief Executive Officer (CEO), the Chief Financial Officer (CFO), the Director of Nurses (DON), the

Vice President of Quality Control, the President of Pharmacy, and several physicians and nurse practitioners.

After finding out that the project was considered exempt from review, and with approval from the facility, the qualitative nursing survey was sent out to the nursing staff at this facility via e-mail. The survey that was utilized (see Appendix C) was written by the project lead. This survey was given to the medical/surgical nursing staff at the facility to determine their attitudes about the comfort care provided to patients, as well as their level of education with comfort care provided to them by the facility. A combination Likert scale and short-answer survey was sent to the nursing staff via e-mail. There was a consent cover letter in the e-mail explaining the study and that consent for participation in the project would be given if the recipient returned the pre-implementation survey. The cover letter also explained that the nurses would be receiving education about the order set and a second survey post-implementation to determine if their attitudes about comfort care had changed with the standing order set. A third party was utilized to remove the name of each nurse from the survey to keep them anonymous and then the information was sent back to the project lead for utilization.

Staff Education

Due to the fact that nurses at this facility felt like they had little-to-no experience or education provided to them about how to discuss end-of-life care or comfort care with patients and their families, the nurses were also provided with a handout titled “What are Comfort Care Orders? *A Guide for Relatives and Friends of Dying Patients*” (see

Appendix D). This sheet was found by the project lead while in a clinical rotation at a facility with an already successful palliative-care program. Their nurses found this sheet helpful when discussing what comfort care was with patients and families, as well as how this would affect their plan of care. The CEO and Human Resources Director granted permission for use of this sheet at this facility.

Each nurse was educated on the standing order set with a printed handout including the medications involved, how the order set will be used, how to enter orders in the absence of a provider, and how to utilize the informational sheet for family members whose loved one is dying (see Appendix D) via a focused one-on-one discussion led by this project lead. A pharmacist was also available to answer any medication questions that arose. There were 17 sessions held on seven separate days that were during work hours. The project lead met with nurses at this facility when they came in to work to avoid the nurses having to come in on their off days. Each nurse was provided with a copy of the order set as well as the informational sheet for family members. Buy-in from the nursing staff was obtained through these educational sessions where nurses asked questions and were able to address any issues that they felt this order set might bring forth.

After educating all of the nurses on the comfort-care order set, the EPIC coordinator made it available for use by the two physicians at this facility who agreed to trial it. Through an EPIC data-mining search, this order set was utilized on seven patients over the course of four months. The post-implementation surveys were then sent out via email in the same fashion as the pre-implementation surveys, where a third party was

utilized to remove the names from the surveys and keep them anonymous. The information was then sent to the project lead for utilization.

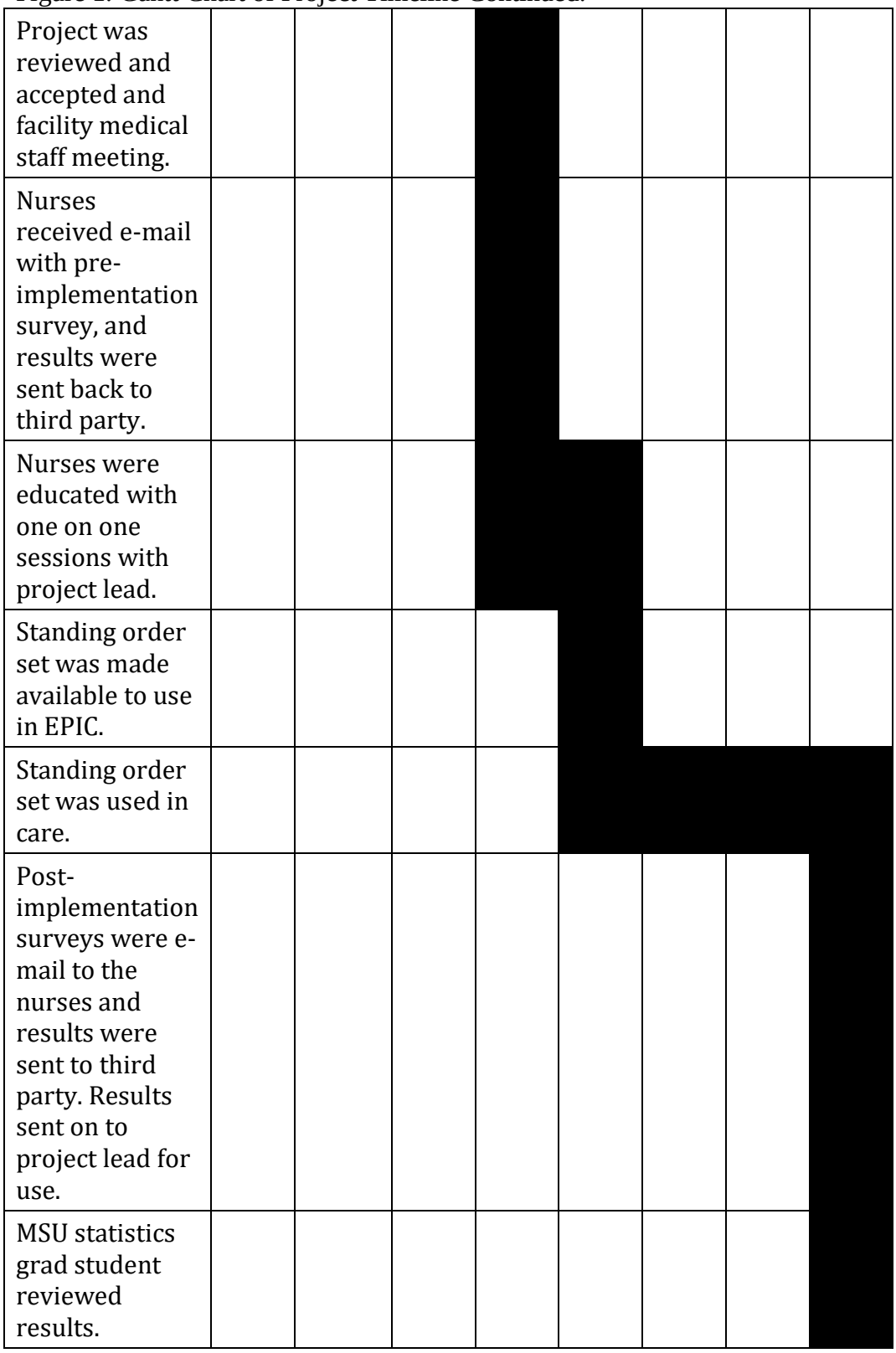
Project Timeline

A Gantt chart can be used in the clinical setting to show an amount of work that needs to be completed over a period of time (Nelson, Batalden, and Godfey, 2007). The following Gantt chart (Figure 1) was created to represent this project and how events were laid out.

Figure 1. Gantt Chart of Project Timeline.

	Feb 2016	March 2016	April 2016	May 2016	June 2016	July 2016	Aug. 2016	Sept. 2016
Discussed BEACON and EPIC order sets with hospitalists.								
Standing order set built, and placed in EPIC.								
Qualitative nursing survey written, and education with patient and family sheet obtained.								
IRB at MSU completed.								

Figure 1. Gantt Chart of Project Timeline Continued.



Microsystem Assessment

The Haddon Matrix is a tool that can be used to assess microsystems, as well as the environment in which they exist (Nelson, Batalden, Godfrey, & Lazar, 2007). The 3x3 algebraic matrix is a two-part breakdown of the current functioning microsystem and how it works, as well as what the microsystem would look like with a change or implementation to the system. Essentially, a Haddon Matrix is a visual field of a current process vs. what a change would do to the current process. The following (Figure 2) is a Haddon Matrix showing the current practice of comfort care at this facility involving the provider, patient and family, and the system vs. what standardizing comfort care would look like with successful implementation of an order set.

Figure 2. Haddon Matrix.

Current Practice	Provider	Patient and Family	System and Environment
Pre-event	Rural providers are not educated on evidence-based, inpatient palliative care. Most providers are family practice physicians who rotate to cover inpatient care, with one who is in the facility approximately 10 days per month. Only one of the family practice providers has a palliative care certification.	Patient and their families do not receive an inpatient palliative-care consult, thus lack the education about all of their options from providers.	Nurses and ancillary staff receive no formal training on how to take care of inpatient palliative-care patients and their families. Nurses must take it upon themselves to learn the medical management as well as the care of these families in such a sensitive time in their lives.

Figure 2. Haddon Matrix Continued.

Event	There is currently no evidence-based standing order set for providers to use upon admission, thus providers write orders on an individual belief system. Patients are not educated on what palliative-care options they have,	Due to the lack of an inpatient palliative-care consult in an acute event, usually pain, patients and their families go uneducated about all of their options for pain control. Many patients end up with lack of appropriate pain control, excessive nausea, or air hunger.	Staff, specifically nursing, have developed negative feelings about inpatient palliative care at the facility. They want to help these patients and their families feel that they have control in this stressful situation. Without orders for appropriate pain control, nausea, and air hunger this is not an achievable goal for nursing.
Post-event	If the patient expires on the dayshift the provider comes in to declare the time of death. If the hospitalist isn't in the building, the ED doctor, who the family may not know, comes in to pronounce.	Patients expire without adequate pain management, excess nausea, and with air hunger. The family sits in room for days and even weeks watching, as their loved one dies is agony. Family then goes to administration with concerns about providers and nurses. Families may feel uncomfortable with a physician who they do not know coming in to pronounce their loved one expired.	Nursing is left with the responsibility of caring for the patient post-mortem, caring for the family who may now be in distress, calling organ donation, and making arrangements for the funeral.

Figure 2. Haddon Matrix Continued.

Standardizing Comfort Care	Provider	Patient and Family	System and Environment
Pre-event	Two providers who have agreed to trial an inpatient palliative-care order set will be educated on how to use it, and order it within EPIC. Physicians will then be using the order set on any patient that is placed on comfort care.	Families of patients who have previously expired in this facility have expressed concerns that their loved one expired in pain and that it was hard to witness this process. This has been the driving force for change.	Nursing staff will come for educational meeting on the order set, which patients it will be used for, and when it is necessary to call the physicians.
Event	Patient is admitted or status is changed to comfort care after discussing options with the patient and family. Order set is used to order medications to manage pain control, nausea, and air hunger.	Patient and family are educated on their options for comfort care by the physicians involved in the trial. This allows them to open up to and express any concerns that they may have.	Nurses are made aware of the patient status change, and acknowledge and carry out all medication orders. Nurses call the providers when they need to for status updates, and if they need further medications. Nurses were educated that pain management should be at a tolerable level within 48 hours of becoming comfort care, preferably sooner, and now have medication orders to manage this.

Figure 2. Haddon Matrix Continued.

Post-event	Physicians involved in the patient's care come in to pronounce death to the family involved.	Family is at the bedside for the death and has no unanswered questions. They are able to be a part of the death and are then reassured, as the physician that has been providing care comes in to pronounce the patient expired.	Nurses still have the responsibility of caring for the patient and their family in the post mortem state, but have no negative feelings as the patient was comfortable throughout this process and there was open communication with the physician.

Data Analysis

Data from the obtained pre- and post-implementation surveys was hand-transferred from the e-mail responses to an Excel database. Descriptive, statistical analyses utilizing a one-sample t-test and percentages were then completed based on the survey responses utilizing the R Project for Statistical Counseling, which is software for statistical computing and graphics. Perceptions of the nurses had the following options for five Likert questions: "strongly disagree," "disagree," "neutral," "agree," and "strongly agree." There were also two, open-ended questions for the nurses to answer as they felt, that were categorized into themes based on similar responses.

OUTCOMES AND RESULTS

The purpose of this research was to determine the attitudes of nurses pre- and post-implementation of a standing order set for inpatient comfort care working at a critical-access facility in southwestern Montana. All of the nurses working in this facility on the medical/surgical floor were invited to participate.

Outcomes

The first question in the survey (see Appendix C) addressed how many continuing-education credits nurses had in the last two years. In the pre-implementation survey *(n=17)*, only 6% of nurses reported having completed 1-25% of their credits pertaining to comfort care. In the post-implementation study *(n=14)*, 42% of the nurses reported completing 1-25% of their continuing-educating credits in comfort care.

The second question in the survey (see Appendix C) addressed whether or not the nurses at this facility felt that this facility had an adequate comfort-care service. This was an open-ended question and answers were grouped based on similar answers. In the pre-implementation survey *(n=17)*, 88% of the nurses felt that the facility did not have an adequate comfort-care service, and mentioned that they thought standardization of care could improve patient care. Prior to implementation, nurses made statements such as "comfort care would be greatly improved [at this facility] with structure. It seems each comfort-care patient has different orders, such as, some of them only have a patient-controlled analgesia (PCA) for pain and no orders available for anti-anxiety. At times, there is no medication option available for secretions or other needs. Basically, it is

disorganized and a standard set of orders would be helpful to nursing staff." Another nurse stated, "There [are] no formal guidelines or protocol for comfort care/end-of-life care. Each doctor does comfort-care orders differently or asks the nurse what they want to do. Mostly, the doctors just have the nurses decide what the orders should be, leaving the nurses with no continuity or format."

Post implementation, this same question was asked to the nursing staff *(n=14),* with the same open-ended format. Seventy-four percent (74%) of the nursing staff reported that they felt this facility now had an adequate comfort-care service. The nurses answered with responses such as, "I feel the comfort-care service has benefited from having a standard order set. This has helped nursing staff provide education to families and have orders in place necessary to make patients comfortable." Another nurse stated, "I feel that the updated version of our comfort-care service better suits the needs of our patients and our patients' families. It's convenient to have a set of orders that we can refer to, to make sure our patients are receiving optimal comfort care."

Question five of the survey (see Appendix C) was an open-ended question that asked the nurses pre-implementation *(n=17),* whether or not they felt the facility provided adequate pain control to their comfort-care patients. The answers were grouped based on similar responses and 88% of the nursing staff reported that they felt patients did not receive adequate pain control. Nurses listed having different providers with different order sets and expectations for pain control as the top two issues for patients not achieving pain control. A nurse who had a personal encounter with the comfort-care service at this facility answered this particular question by saying, "I do not feel that [this

facility's] comfort-care patients received adequate pain control. I had a personal experience when a relative of mine was hospitalized. The ED doctor relayed to me and my family that my uncle was dying, refusing treatment, and would most likely not make it through the night. When we arrived on the medical floor, he was in respiratory distress, anxious, restless, and clearly uncomfortable. When I asked the hospitalist about giving him Ativan or Morphine to keep him comfortable, the hospitalist repeated, 'we don't want to suppress his respiratory drive; I believe he will pull out of this.' As an RN, I knew the signs of death and could recognize my uncle was clearly not going to 'pull out of this.' He had a pneumothorax, pleural effusion, and massive lung tumor; all of which he refused treatment for and had made a 'do not resuscitate' (DNR) and 'do not intubate' (DNI). After an amazing nurse became an advocate for my uncle, the ED provider overrode the hospitalist and ordered Ativan and Morphine. My Uncle was able to die comfortably four hours later." A second nurse responded to this question by stating, "It depends on who the hospitalist is. I would say, overall, that no; the patients do not receive adequate pain control. The frequency for administration varies with each provider's orders and what they consider to be adequate pain control."

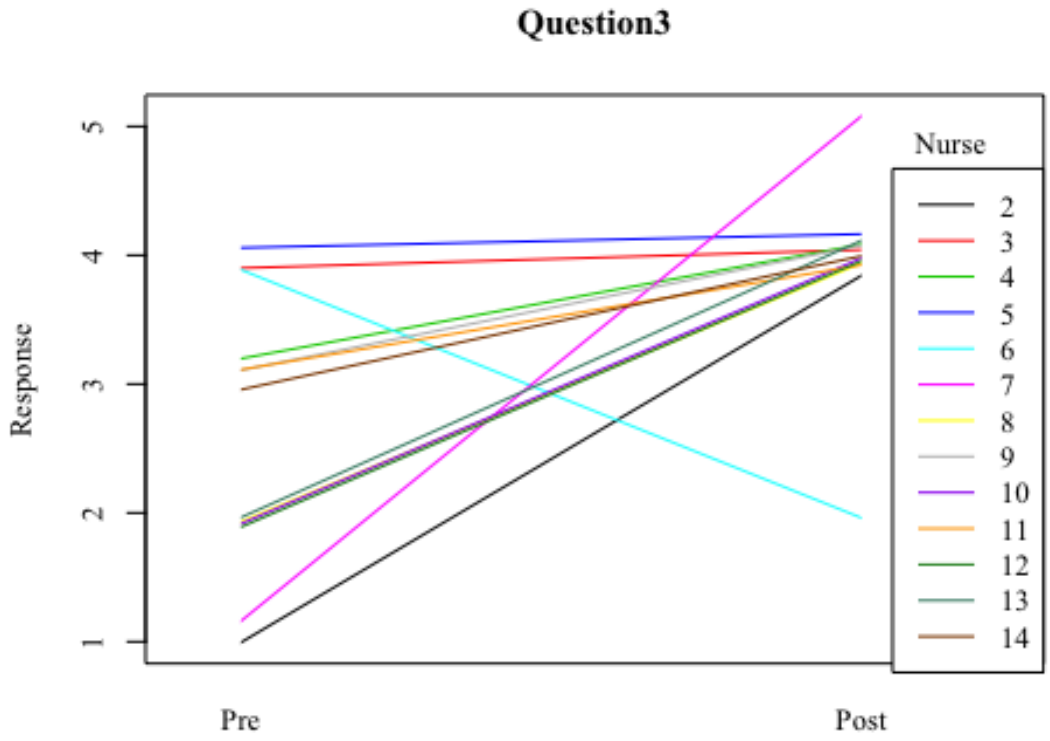
In the post-implementation survey this same question was posed to the nursing staff *(n=14)* in the same open-ended format. Responses were grouped into similar categories and 57% of the nursing staff now felt that comfort-care patients were receiving adequate pain control. Nurses continued to report that variation in providers seemed to be the biggest inhibitor to patients achieving pain control. A nurse responded to this question by stating, "Yes I do feel patients now achieve pain control. The new order set gives

different options that can be specific for each patient's level of pain." A second nurse responded by stating, "Yes, the new set of comfort-care orders provides a wider range of options to help keep the patient comfortable."

To determine the mean difference and value increase for the Likert survey questions, a paired-sample t-test was performed utilizing the R Project for Statistical Computing. These questions were numbers three, four, six, seven, and eight on the nursing survey. "A paired sample t-test is a statistical technique that is used to compare two population means in the case of two samples that are correlated. Paired sample t-test is used in 'before-after' studies, or when the samples are the matched pairs, or when it is a case-control study. A paired t-test is used to determine the overall difference from the before and after scores" (Statistical Solutions, 2016).

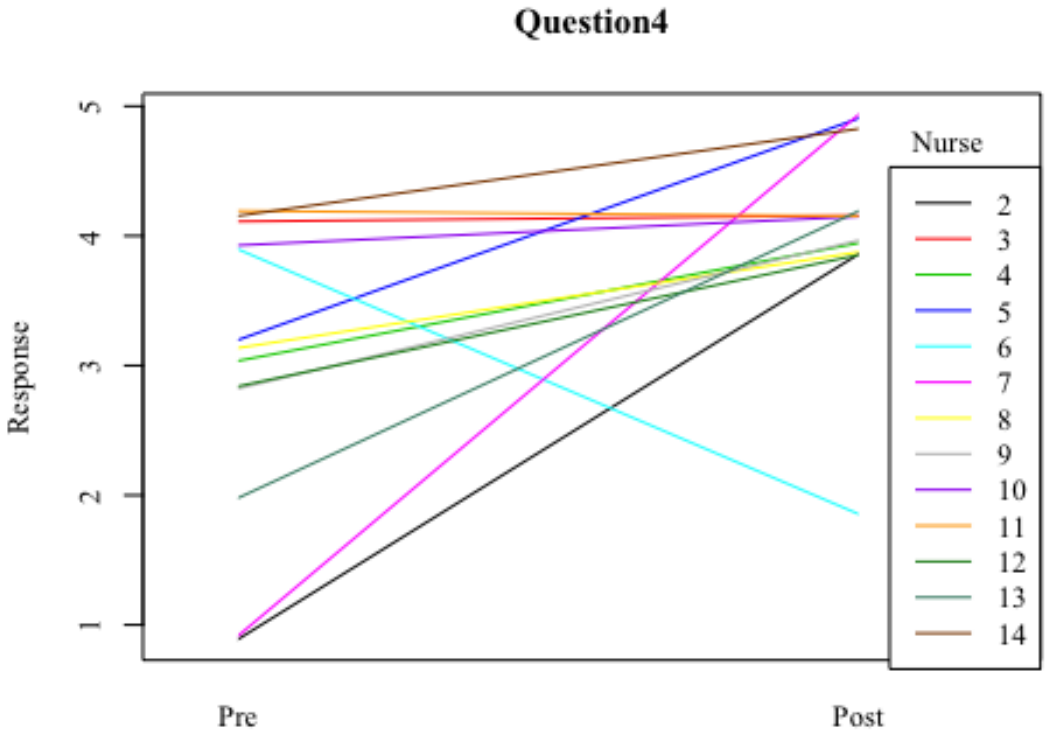
Question three of the pre-implementation survey (see Appendix C) asked nurses to rate their responses on a scale of one to five, where one was strongly disagree and five was strongly agree. Nurses were to rate the following statement: "I feel well-educated on how to adequately provide nursing care to inpatient comfort-care patients at this facility." The mean difference between the pre- and post-implementation Likert survey was 1.30. This represents a 1.30-point increase by the nurses at this facility who answered both the pre- and post-survey question *(n=14).* The pre- and post- results for the 14 nurses who filled out both the pre- and post-implementation surveys can be seen below in Figure 3.

Figure 3. Pre- and Post- Results for Question 3.



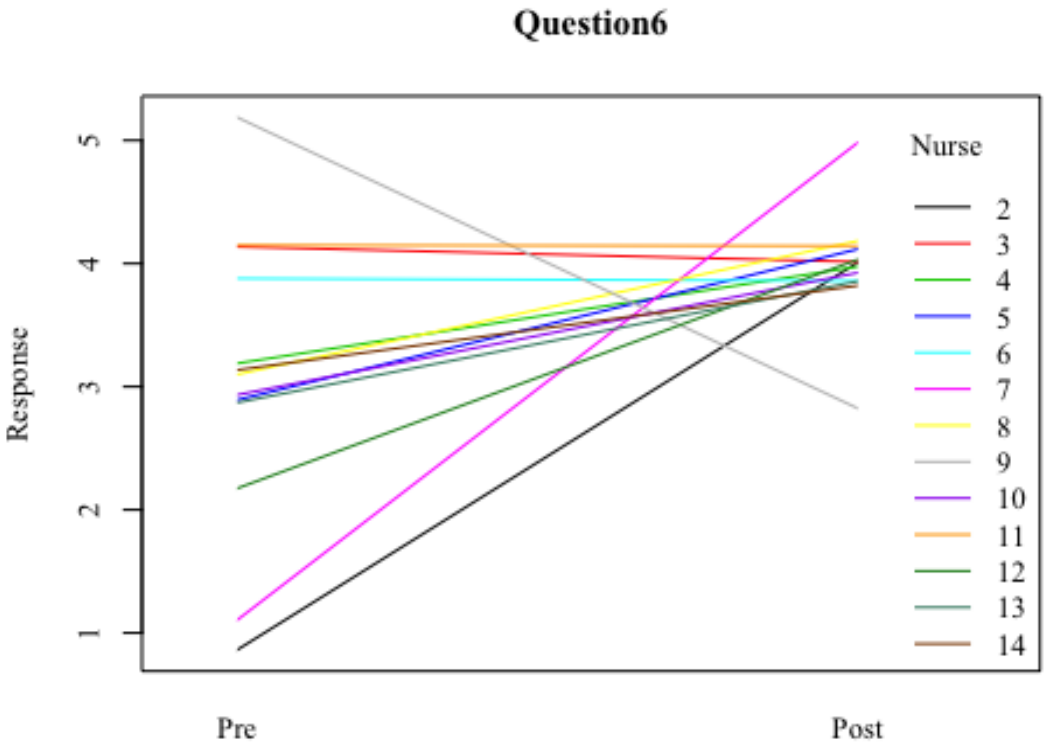
Question four of the pre-implementation survey (see Appendix C) asked nurses to rate their responses on a scale of one to five, where one was strongly disagree and five was strongly agree. Nurses were to rate the following statement: "I feel competent taking care of inpatient comfort-care patients at this facility." The mean difference between the pre- and post-implementation Likert survey was 1.70. This represents a 1.70-point increase by the nurses at this facility who answered both the pre- and post-survey question *(n=14)*. The pre- and post- results for the 14 nurses who filled out both the pre- and post-implementation surveys can be seen below in Figure 4.

Figure 4. Pre- and Post- Results for Question 4.



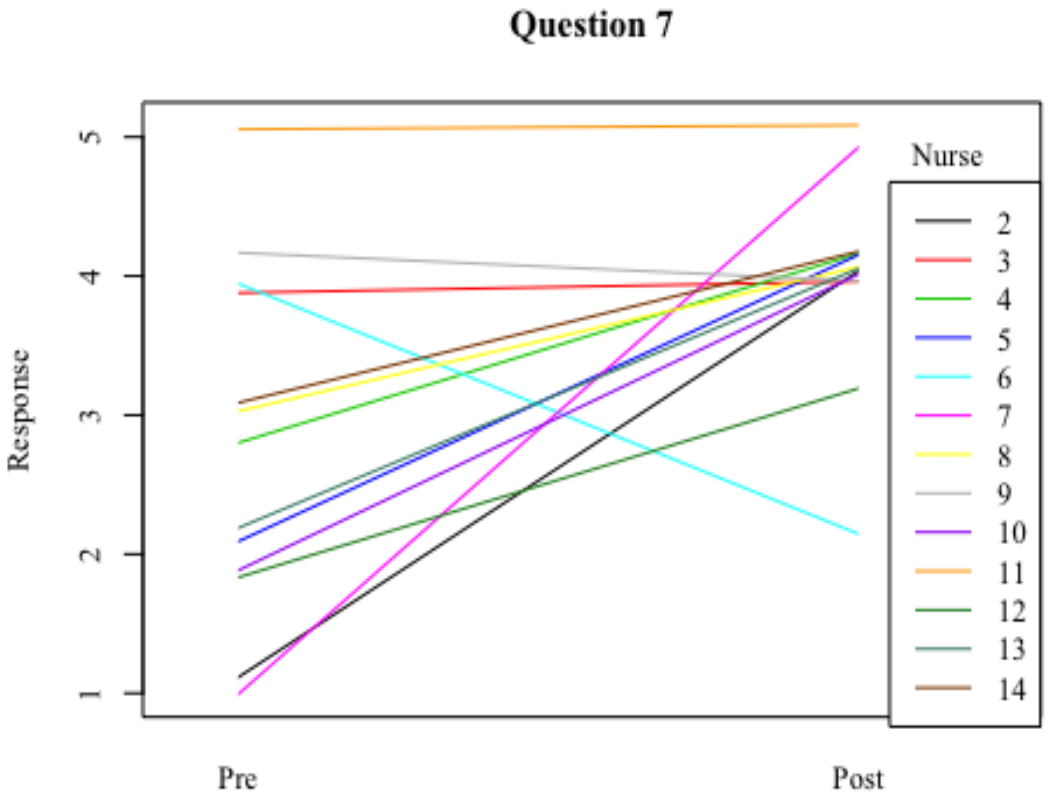
Question six of the pre-implementation survey (see Appendix C) asked nurses to rate their responses on a scale of one to five, where one was strongly disagree and five was strongly agree. Nurses were to rate the following statement: “I feel comfortable approaching providers at this facility about inpatient comfort-care medication orders." The mean difference between the pre- and post-implementation Likert survey was 1.00. This represents a 1.00-point increase by the nurses at this facility who answered both the pre- and post-survey question *(n=14)*. The pre- and post- results for the 14 nurses who filled out both the pre- and post-implementation surveys can be seen below in Figure 5.

Figure 5. Pre- and Post- Results for Question 6.



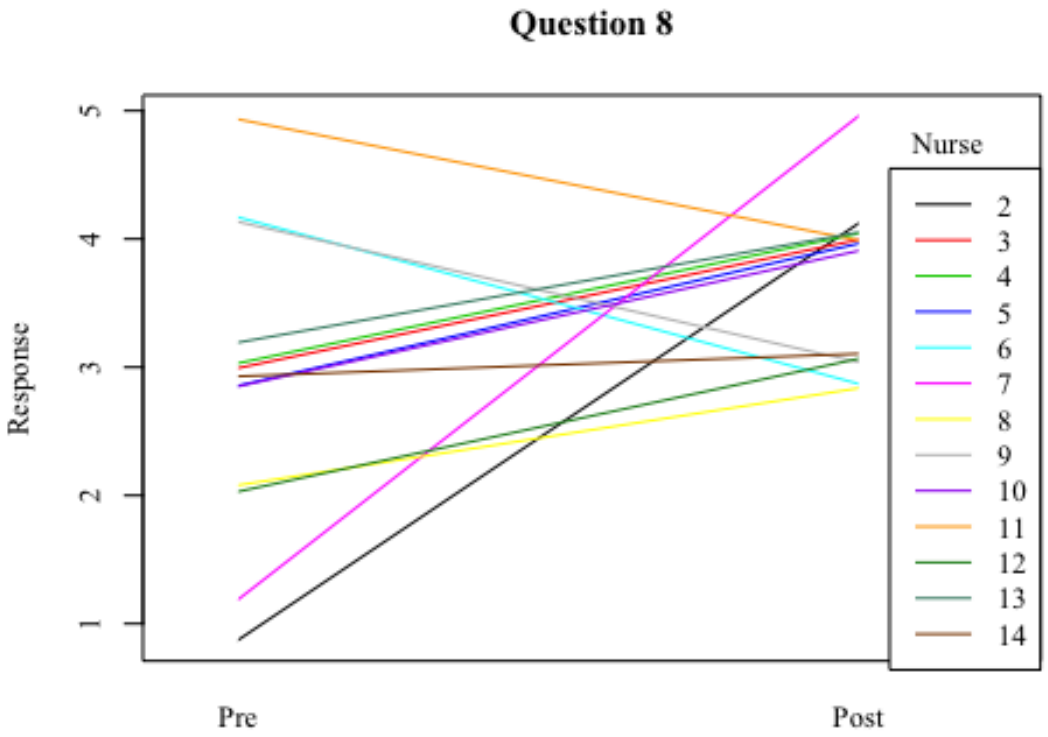
Question seven of the pre-implementation survey (see Appendix C) asked nurses to rate their responses on a scale of one to five, where one was strongly disagree and five was strongly agree. Nurses were to rate the following statement: "I feel satisfied with the comfort care that I provide to patients who are near the end of life, as a nurse." The mean difference between the pre- and post-implementation Likert survey was 1.15. This represents a 1.15-point increase to this question by the nurses at this facility who answered both the pre- and post-survey question *(n=14)*. The pre- and post- results for the 14 nurses who filled out both the pre- and post-implementation surveys can be seen below in Figure 6.

Figure 6. Pre- and Post- Results for Question 7.



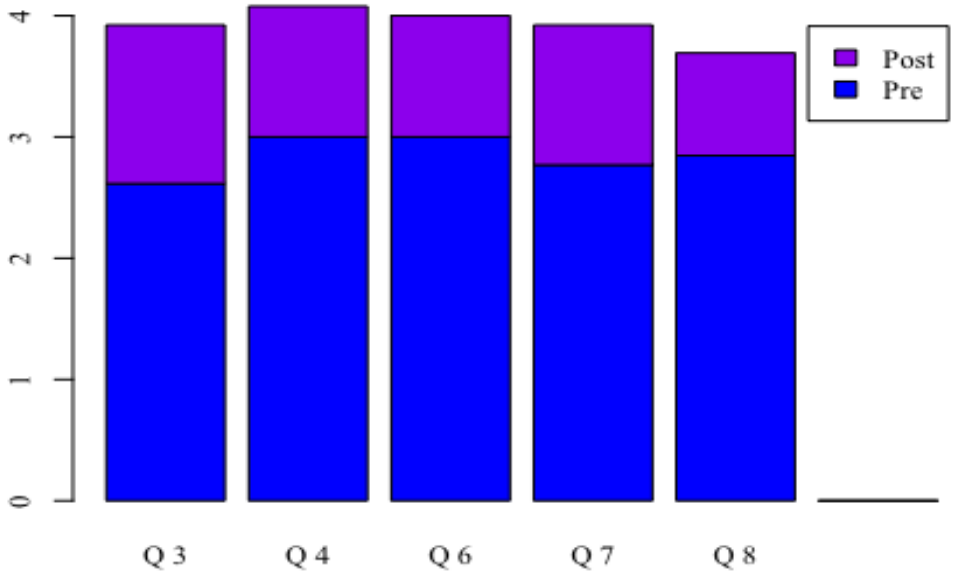
Question eight of the pre-implementation survey (see Appendix C) asked nurses to rate their responses on a scale of one to five, where one was strongly disagree and five was strongly agree. Nurses were to rate the following statement: "I feel satisfied with the overall care that patients receive near the end of their lives at this facility." The mean difference between the pre- and post-implementation Likert survey was 0.84. This represents a 0.84-point increase to this question by the nurses at this facility who answered both the pre- and post-survey question *(n=14).* The pre- and post- results for the 14 nurses who filled out both the pre- and post-implementation surveys can be seen below in Figure 7.

Figure 7. Pre and Post Results for Question 8.



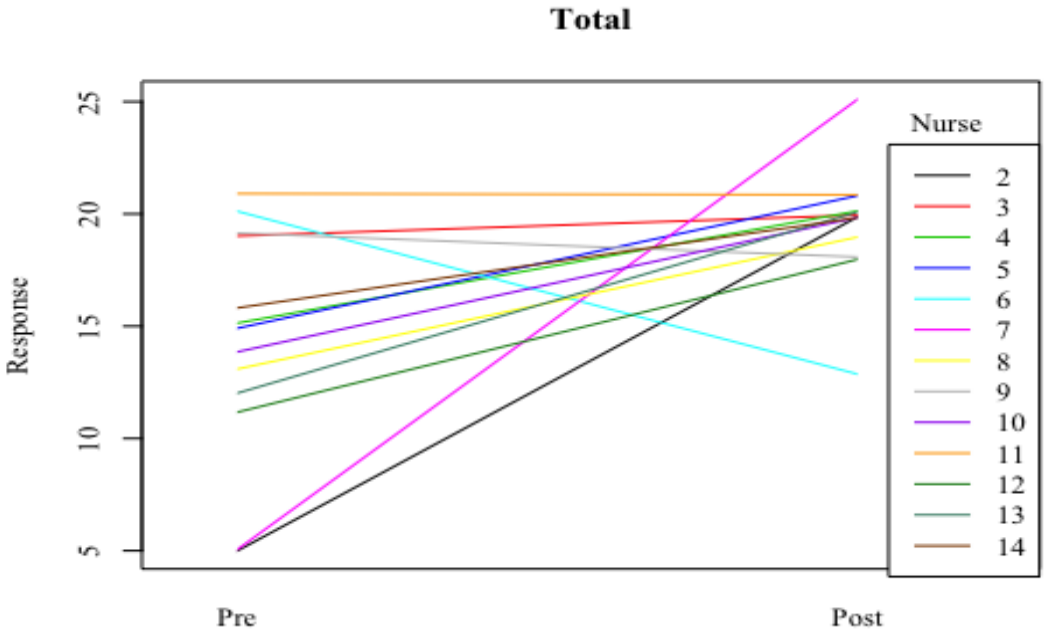
The overall point increases per individual Likert questions can be seen below in Figure 8.

Figure 8. Overall Point Value Increases per Individual Question.



To determine the overall point value increase for the Likert survey questions, a paired-sample t-test was also performed utilizing the R Project for Statistical Computing. The true mean difference between pre- and post-test total scores is estimated to be 5.38 with an associated 95% confidence interval of 1.25 to 9.51. This means that there was a significant overall increase of 5.38 points, p =.007. This can be seen in Figure 9 below. This was completed to gain an understating of the overall increase in attitudes and perceptions of the nursing staff.

Figure 9. Total for Likert Questions.



DISCUSSION

Introduction

This observational, descriptive study with a paired design utilizing a qualitative survey describes the perceptions of nurses at one critical-access facility in southwestern Montana. Initial data was collected from 17 nurses, 14 of whom were female and three of whom were male. Post-standing-order-set data was collected from 14 nurses, 12 of whom were female and two of whom were male. The goals of this research were: (1) to improve the culture surrounding comfort care at this facility and improve the overall patient care and (2) to increase the satisfaction of the nurses caring for patients near the end of life. The discussion of the results as related to the evidence, the relationship to Imogene King's middle-range Theory of Goal Attainment, and the limitations are discussed in this section.

Education

The results of the pre- and post-implementation survey fell in line with how the project lead thought they would. Education was addressed on the pre- and post-implementation survey (see Appendix C) in questions one and three. On the pre-implementation survey, only one nurse reported completing any continuing-education credits in comfort care. By the time the post-implementation survey was conducted, 50% of the nurses who returned the survey had completed credits in comfort care.

Initially, nurses at this facility expressed that they felt uneducated about how to

take care of inpatient comfort-care patients and also felt uncomfortable when discussing comfort care with patients' families. According to the IOM's (2014) recommendations, all healthcare providers should be utilized in decision-making for the patient, and all providers should be educated about comfort care. Nurses reported a 24% increase in comfort-care education with the implementation of a standing order set for palliative-care patients as seen in Figure 3.

The survey also addressed whether or not nurses felt competent when taking care of comfort-care patients. Figure 4, as seen above, shows the increase of 1.30 points from pre- to post-implementation scores. According to Walling et al. (2008), open communication about end-of-life care between providers, nurses, and patients is very important. Rice and Betcher (2010) stated that early conversations about end-of-life care can improve patient and family outcomes with this process. Nurses expressed that the use of educational tools (see Appendix D) to discuss comfort care increased their comfort level with providing care to comfort-care patients and their families.

Von Gunten (2005) reports that patients near the end of their lives experience unnecessary discomfort because hospital staff isn't educated enough about the needs of patients who are dying. This study makes a valid point that, in the medicine of palliative care, providers are learning by trial and error, and even sometimes by the trial and error of a coworker or fellow physician. Von Gunten (2005) also states that patients who are dying aren't candidates for research because of their heightened vulnerability. This makes studying change in medications or standards of care a very difficult task. Future studies for evidence-based practice, as well as the appropriate education for providers, is

something that needs to be continued well into the future.

There was a specific link noted in this project dealing with communication and education between the nurse and patient, nurse and family, nurse to nurse, and nurse to provider. The theoretical framework used to guide this project was Imogene King's middle-range Theory of Goal Attainment. Alligood and Tomey (2010) state that King's middle-range Theory of Goal Attainment focuses on the interaction between the nurse and the patient, which undoubtedly is the most important interaction in acute comfort care. However, the interaction between the provider and the patient and their family is also very important in determining what the patient wants for care near the end of their life. As seen above and through the results of this project, when nurses became more educated and had more resources and tools to utilize, communication became open with patients and their families, as well as with other nurses and providers. This can be seen in question six of the survey where nurses were asked about their comfort level with approaching providers about medications for comfort-care patients. There was a 1.00 point value increase from the pre- to the post-implementation scores by nurses who answered this question. With the lines of communication open between the nursing staff and providers, patient care will benefit.

Standing Order Set

Question two of the survey was an open-ended question where nurses were asked if they felt that this facility had an adequate comfort-care service. Prior to implementation of the standing order set, 88% of the nurses who participated in the survey did not feel

that the service was adequate. Many of the nurses felt that standardization of an order set would benefit the patients as well as the staff. According to McKusker et al. (2013), standing order sets need to involve and utilize all of the team members involved, and current practice vs. what change is going to be implemented needs to be addressed. Yang, Ewing, and Booth (2011) also discuss the importance of using a team approach for patients requiring comfort care. Post-implementation of the project, 74% of the nurses felt like the facility now had an adequate comfort-care service. Nurses attributed this change to having more consistent orders, as well as staff education, so that all were now on the same page for patient care.

Question five of the survey (see Appendix C) asked nurses to address whether or not they felt patients received adequate pain control. Prior to implementation, only 12% of the nurses felt that patients in comfort care received adequate pain control. Even though this is a very low number, it is consistent with what was expected. According to Von Gutten (2005), patients experience unnecessary discomfort near the end of life due to lack of education for providers about what medications to order. After providers and nurses were educated on the standing order set and the post-implementation survey was returned, 57% of the nurses reported that patients received adequate pain control; a 45% increase. This was one of the biggest increases and changes seen in this research.

Nursing Satisfaction

Questions seven and eight of the nursing survey (see Appendix C) asked specifically about nursing satisfaction with how nurses felt about the care they

themselves provide to comfort-care patients. As seen in data above, this was attributed to lack of education and standardization of care. It was no surprise to see that, post-implementation, this number was increased by 1.15 points as seen in Figure 6.

Interestingly, one of the most important questions of this project asked the nurses about satisfaction with the overall care that patients receive near the end of their lives at this facility. There was a 0.84-point increase in the response to this answer between the pre- and post-implementation surveys. This was the increase that was expected; however, as this percentage increase isn't as high as individual care, it shows that nurses feel that, while they themselves are giving better care, the overall care given by other nursing staff and providers is not as high. This was not an expected outcome of this project.

Recommendations

The results from this project suggest that education to staff, as well as to patients and their family members, opened up the lines of communication. In addition, implementing a comfort-care order set improved nurses' confidence in end-of-life care along with patient care.

Education

Steers, Brereton, and Ingleton (2007) discussed the importance of critical-access facilities that have the staff to take care of comfort-care patients, but that require further education in the area. In the initial nursing survey, only 54% of the nurses felt they were educated about how to care for comfort-care patients. Nurses made comments suggesting that they would like to be more educated in this area, and that standardizing the care in

this area would improve nursing as well as patient satisfaction. In the post-nursing survey, 78% of the nursing staff felt they were educated in this area, and comments were made that they felt standardizing the care improved patient care. They also stated that having education in the area, as well as tools to utilize, increased their comfort level with this area of practice. As a whole, if we could continue to educate providers, nurses, patients, and families about comfort care, this could continue to improve not only nursing satisfaction, but also patient care and satisfaction.

Communication

The pre-implementation nursing survey also displayed an overall sense of lack of communication between nursing and providers. The research and results from this project showed that, with an increase in education to staff, this also opened up the lines of communication. This was an unexpected finding for this project and one that would need continued research for future practice recommendations.

Nursing Satisfaction

Yang, Ewing, and Booth (2011) discussed the importance of utilizing a team approach when caring for patients near the end of their lives. This was something that was addressed within this project since utilizing the standing order set required more of a team approach than what was being done previously. Nurses reported an overall five-point increase in the Likert question portion of this survey, showing an increase in their satisfaction with the care the comfort-care patients receive near the end of life. One nurse stated that they "felt more like part of a team when taking care of comfort-care patients,"

and another felt "providers are easier to approach when I ask them about medication orders." A larger scale replication would need to be conducted to show similar results for practice, but this increase in satisfaction of the nursing staff was a predicted outcome of this project.

According to McCusker et al. (2013), palliative and comfort care should begin early with a conversation between the provider and patient. Nurses did continue to feel that providers at this facility need to have this conversation with patients sooner in this process, and one nurse stated, "I feel that pain control would be better controlled if providers would speak to patients sooner about what their needs are during the end of their lives."

Access to Care in a CAH

According to the Rural Health Information Hub (RHIH) (2014), "Access to healthcare services is critical for rural residents. Ideally, residents should be able to conveniently and confidently use services such as primary care, dental, behavioral health, emergency, and public health services" (p.1). According to Commins (2016), there are approximately 60 million individuals who live in rural America and only 2,000 hospitals available to treat these individuals each year. With such a limited number of healthcare facilities, it is not uncommon for patients in rural settings to travel hours for the care they need or to see a specialist. While 85 percent of United States' residents can reach a level-one trauma center within one hour, only 24 percent of individuals living in rural areas can reach this same level of care within one hour (National Conference of State Legislators, 2017). CAHs also lack the appropriate resources for palliative care and comfort-care

services, which leaves patients either seeking out other hospitals or facilities for these services outside of their community, or patients are admitted to their local CAH without the appropriate provider or services available.

According to de Chesnay and Anderson (2016), more often than not, nurses are the primary healthcare personnel in rural areas as there is a shortage of physicians, nurse practitioners, and physician assistants. This professional project brought forth tools and education to the nursing staff at a CAH in rural Montana, which overall improved the access to appropriate comfort care to the patients within this community. This facility now has the capacity and the education to utilize a standing comfort-care order set for those patients who are admitted for comfort care. These patients no longer have to seek out these services at a secondary facility outside of their own community.

Sharing the Results

After presenting the results of this professional project to the providers and nursing staff at the CAH in which it was implemented via printed copies of the data, the standing comfort-care order set has been fully implemented for use. It continues to be utilized by ordering providers when patients are being admitted to the comfort-care service. One new physician has joined the hospitalist group and he has also agreed to use this order set that was built into the EMR. Utilizing the standing comfort-care order set implemented at this facility through this professional project, future studies could collect data on patient satisfaction, provider satisfaction, and how family members perceive comfort care at this facility.

With the arrival of the new physician who is well-versed in comfort care, this student has been persistent in continuing the conversation about comfort care, utilizing his knowledge, with the nursing staff. This physician has educated the nursing staff about having end-of-life-care conversations early in the patient's stay so that the entire healthcare team knows what the wishes of the patient are during this vulnerable time. He has also been utilizing patient- and family-care conferences to help educate patients and their families on what the standing order set involves and how this can help ease pain and anxiety. Having this new physician, as well as a standing order set, has continued to open and expand the conversation about comfort care at this facility.

Limitations

Sample

One of the biggest limitations to this study was the small sample size of 17 nurses, as well as the return of the post-implementation surveys from only 14 of those nurses. This is likely not representative of all critical-accesses nurses across the spectrum. There was a shift in staff turnover of nightshift staff, so many of the initial nurses who turned in the survey were no longer employees or had moved into other departments for the post-implementation survey. The initial pre-implementation survey had a 100% response rate with a post-implantation result of 82%. Lastly, although all measures were taken to keep the surveys anonymous, some nurses may not have answered as honestly as they would have liked to as they are still employed by the facility.

Time

This study was conducted with a limited amount of time to use the standing order set. Through an EPIC data-mining search, this order set was utilized on seven patients over the course of four months. Both the pre- and post-implementation surveys were to be completed by a date set by the project lead, which may have inhibited return of the survey.

Location

This study was conducted in a small, rural, critical-access facility with a limited amount of staff and resources. Replication in a larger facility may be difficult, making this a limitation to the study.

Future Research

Sample

This study was completed at only one critical-access facility in southwestern Montana. Replication of this study at several other critical-access facilities with a larger sample size may be more representative of the overall nursing population.

Improved Methods

No incentive was given to fill out the initial survey and, with a 100% response rate, it is hard to determine anything that would improve this area. The return rate was lower due to staff moving from this area of practice, or taking another job within the facility. The staff was returning their surveys at a slower rate, so they were incentivized

with a five-dollar coffee card from a local coffee shop after filling out their surveys. This was sent to them via a third party. For improvement, the incentive could be offered earlier in the process in order to get more data collected.

In an area like comfort care, there was no way to determine how many patients would come into the facility requiring this type of care. As stated above, the order set was used for seven patients over the course of four months. Being able to utilize the order set for a longer period of time, with more patients, may have changed the data and allowed for the nurses to have more communication between each other about how they felt this was working for them. For replication, utilization of the standing order set for a longer period of time would be recommended.

Wilkie, and Ezenwa (2012) and Grande and Todd (2000) discuss the importance and lack of palliative- and comfort-care research taking place today. Grande and Todd (2000) and Von Gunten (2005) also discuss that this area of healthcare is made up of a significant amount of vulnerable patients, which makes it hard to conduct research within the field. Further research within this area will continue to be a need, and continue to be studied into the future as our population ages.

CONCLUSION

This project showed themes consistent with previous research in terms of further education to providers, nurses, staff, patients, and their families about palliative and comfort care. An unexpected link between further educating staff about comfort care and opening the lines of communication about patient care as suggested by Imogene King's middle-range Theory of Goal Attainment was also discovered. Overall, the project did show a significant improvement in satisfaction of nursing staff, as well as how they perceived the care that comfort-care patients received at a critical-access facility in southwestern Montana. However, further research with a larger sample size and longer time frame will need to be conducted for more widespread practice implication.

In order to continue these open lines of communication, as well as continue an upward trend in nurse and patient satisfaction, facilities should continue to educate their staff, as well as patients and their families, about comfort care at the end of life.

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APPENDICES

APPENDIX A

EVIDENCE TABLE

Author	Funding sources/ IRB	Design/ Method	Sample	Measure-ment	Interven-tions	Results	Limita-tions	Rationale	LOE
Bailey, F., Williams, B., Woodby, L., Goode, P., Redden, D., Houston, T.,…Burgin, K., (2014)	Research was supported by the Merit Review grant From the department of veteran affairs.	Multi-site implementation trial	N=6,066 patient charts were reviewed.	Using a chart abstraction tool, nursing data was mined from the last 7 days of the patient's life about their end of life care.	The Gold Standard Framework (GSF) was used to identify patients with palliative care needs.	Opioid orders for palliative care patients increased from 61.8% pre intervention to 72.8% post-intervention (p.009).	No limitations or conflicts of interest were identified.	This is a very recent study completed by one of the biggest healthcare institutions in the U.S., the VA. It was composed of a very large sample size across a span of years. It showed less reputable stats than the initial pilot project due to implementing in a	II

								bigger facility with more staff.	
Gardiner, C., Merryn, G., Seymour, J., Cobb, M., Noble, B., Bennett, M., & Ryan, t., (2012)	Funded by the National Institute of Health Research	Cross-sectional survey	514 inpatient medical patients	Two acute care facilities implemented the GSF to measure how many patients were requiring palliative care services.	N/A	Of the 514 patients only 36% met GSF criteria for palliative care.	Small study, competed in a short period of time. GSF tool was originally built for primary care, and has no use in acute care.	Large discrepancy between medical and nursing staff, and the GCS tool about what patients were palliative care eligible.	II

Grande, G., & Todd, C., (2000)	Funded by NHS: Executive Eastern Region R&D.	Descriptive study	Palliative care patients	N/A	Semi structured interviews were completed with nurses to determine their feelings about taking care of patients near the end-of-life.	N/A	No limitations noted.	This article provided information about why RCT's cannot be found within this area. Palliative care patients are a "vulnerable" population.	VII
Johansson, K., & Lindahl, B., (2011).	N/A	Descriptive qualitative, study	N= 8 nurses	Nurses were interviewed using the Ricoeur analysis, which has been used in palliative	None	Nurses felt strongly engaged with patients but lacked the quality time to spend with their patients in	Limitations are a very small sample size, and nurses at only two facilities were interview	This study set to determine the impof palliative care on nurses in med/surge vs hospice.	III

				care research prior to this study.		the inpatient setting. Nurses also felt stress as they had to move from room to room and deal with different patients after being with a dying patient.	ed.		
Institute of Medicine. (2014)	N/A	Back-ground article	N/A	N/A	N/A	N/A	N/A	Information about how critical access facilities can bridge the gap from large acute facility back to the patients own	VII

								community and hospital, as well as the gap in palliative care for patients in these rural areas.	
Mayer, D., & Winters, C., (2016).	N/A	Descriptive article	N/A	N/A		N/A	N/A	National Guideline Clearinghouse published these guidelines for adult palliative care, with best practice recommendations.	VII
McCusker, M., Ceronsky, L.,	The Institute for Clinical	Meta-analysis, with recommend	Not stated, number of	N/A	N/A	N/A	N/A	Recent study completed in Britian	I

Crone, C., Epstein, H., Greene, B., Halvorson, J.,…Setterlund L., (2013).	Systems Improvement (ICSI) provided the funding for this guideline	ations for practice.	articles unlisted					with similar patients and in a similar facility to the proposed project for this DNP project.	
Payne, S., Hawker, S., Kerr, C., Seamark, D., Roberts, H., Jarrett, N., & Smith, H., (2007).	N/A	Qualitative analysis	N=18 patients, and 11 family members.	Questions from interviews were coded and grouped into like answers.	N/A	Patients found that palliative care was adequate in community hospitals, but it was also noted that hospital staff must identify the time consuming nature of these	The unpredictable nature of patients near death, and the vulnerable nature of their family members at this time were listed as vulnerability, as well as	This a recent article that provides insight into why the palliative care education of nurses is diminishing.	III

						patients.	the small sample size.		
Pesut, B., McLeod, B., Sawatzky, R., Erbacker, L., Stajduhar, K., Chan, E., (2014)	N/A	Systematic Review	N=58 studies where nurses were educated on palliative care nursing.	N/A	N/A	Nursing education on palliative care in the United States is declining even though our elderly population is rising. There is also few EBP articles giving insight on how to	It was noted that data was collected for specific dates ranging from 2001-2011.	Article discusses and determines that nurses need continuing education about palliative and comfort care for the inpatient setting.	I

						conduct a reliable RCT on patients in palliative care.			
Prem, V., Karvanna, H., Kumar, S., Karthikbabu, S., Syed, N., Sisodia, V., & Jaykumar, S., (2012).	N/A	Quantitative, cross-sectional survey	N= 363 nurses	A self-reporting questionnaire with 20 items utilizing a correct, incorrect, or unsure answer scale was used.	Earlier end of life discussion, less days in the ICU/INT, avoidance of unnecessary tests and exams, improved pain management, decreased hospital stay (LOS), reduced	Results showed that nurses had limited education about pain control, opioid usage, and adverse drug events.	Study was conducted at only one facility and would need to be reproduced for generalizable results.	This is a recent article with a high LOE, and provides feedback about implementation of a palliative care service within acute care.	III

					hpsital charges, decreased repeat acute hospital admissions.				
Rice, E., & Betcher, D., (2010)	N/A	Descriptive study	Palliative care patients at Mayo Clinic	Days in the ICU/INT before the palliative care program vs. days in the ICU/INT post implementation of palliative care services.	N/A	A decrease in overall hospital charges, decreased days in the ICU/INT, and decreased LOS have been noted at the 2 year review of the services.	Service had only been up and running for two years. No long term numbers reported in the article.	This article is a high level of evidence with solid evidence that palliative care is not defined or utilized well in community hospitals in the UK.	III
Steers, J., Brereton, L., Ingleton,	N/A	Systemic Review	N=11 papers relevant to	All 11 papers provide descripti	A standing order set for	Little is known about how to provide	Review completed in the UK where	Study completed over several years with	I

C., (2007).			palliative care in community hospitals in the UK.	on of palliative care in community hospitals, two describe the role quality of care within the hospital, and three relate to the role played by professionals providing palliative care in the acute setting.	comfort care was utilized in patients in the ICU.	adequate palliative care services in the community hospital setting. Further study is needed.	community hospitals are utilized by a different population of patients than in the United States Healthcare system.	standing order sets, and after evaluation the order sets were revised to improve the experience of the staff.	
Treece, P., (2007).	N/A	Pre and post, descriptive study	An un-known number of nurses	Staff were questioned about their	N/A	After implementation clinicians were	Small study, with limited informati	This article discusses symptom management near the	VI

			and provides.	overall satisfaction with utilizing standard order sets, as well as which parts of the order set were most useful.		satisfied with the order set 98% of the time, and nurses were satisfied 84% of the time.	on supplied about how many staff members were involved.	end of life, and makes recommendations that more research dollars need to be spent in this area.	
Von Guten, C., (2008).	N/A	Descriptive study	N/A	N/A	An end-of-life symptom management order (ESMO) protocol was used on patients who were determined	To summarize the current evidence base about end of life interventions that improves symptom management.	N/A	Article discusses gaps in care for palliative care patients based on current research and literature.	VI

					comfort care.				
Walling, A., Brown-Saltzman, K., Barry, T., Quan, R., Wenger, N., (2008).	Supported by the UCLA Medical Center, and the Uni-Health Foundation	Randomized Control Trial	N= 180 nurses (91), and physicians (89).	Quantitative surveys given to nursing and physicians based on their experience with the palliative care protocol.	N/A	Eighty-seven percent of clinicians, and nurses found the ESMO protocol beneficial to patients.	Limitations listed as this study only represents one facility, and the use of the protocol may have been underused if missed by the pharmacy.	Study goal was to discuss patient and family member perspectives of palliative care in the acute hospital setting.	I
Wilkie, D., & Ezenwa, M., (2012).	Funded by the National Institute of Health, National Institute of Nursing	Background article	N/A	N/A	N/A	N/A	N/A		VII

	Research, and the National Heart, Lung, and Blood Institute.								
Yang, G., Ewing, G., & Booth, S., (2011).	Funded by the Addenbrookes Charitable Trust, and the Addenbrooke palliative care development fund.	Qualitative descriptive design	N= 12 patients, and 10 family members.	Semi-structured interviews were completed with patients and families after being discharged from the hospital about their experience with the palliative care team.		Patients and family memebers felt that the palliative care team made time for the patient and the family, and made them a priority in their day.	Limitations include small sample size, from one facility.		III

APPENDIX B

TRIAL COMFORT-CARE ORDER SET

When a patient is to be admitted into Comfort Care, the attending provider will choose the orders they want for the patient from the following order set. If the patient is having more symptoms, or the current medications aren't working adequately to manage their symptoms, the nurse will contact the doctor in order to obtain a new order. For example, if IV morphine every 2 hours isn't working to control the patient's pain, the nurse is to contact the doctor who will then order more/stronger medication if they feel it is appropriate. The nurse is not to place orders independently without contacting the provider.

Code Status
-No code

Vital Signs
-Vital signs, heart rate, respiratory rate, blood pressure, and temperature daily. Do not wake patient to obtain vitals.

Notify Physician
-Notification parameters can be entered here.

Respiratory Interventions
-Oxygen therapy PRN
-Albuterol 2.5mg/3ml nebulizer solution, 3ml inhaled, every four hours, PRN while awake
-Respiratory assessment – Pulse oximetry as needed, PRN

Activity
-Activity level: activity as tolerated

Nursing Interventions
-Comfort care
-Perform bladder scan PRN to assess for urinary retention.
-Insert indwelling urinary catheter PRN or when bladder scan is > 300mls.
-RN may discontinue lab tests, daily weights, subQ heparin, telemetry, and SCD's.
-RN may change form of medicine and route of administration.

Therapies Eval and Treat
-PT eval and treat, for comfort
-OT eval and treat, for comfort
-SLP (speech) eval and treat, for comfort
-RT eval and treat, for comfort
-Inpatient consult to social services

Social Work
-Inpatient consult to social work

Consult to Hospice
-Inpatient consult to hospice

Consult to Spiritual Care
-Inpatient consult to spiritual care

IV Insert
-Insert indwelling peripheral IV

IV fluids
-Sodium chloride 0.9% infusion at 10ml/hr TKO

PCA
-Morphine PCA per policy protocol
-Dilaudid 1mg/ml PCA
-Fentanyl 50mcg/ml PCA

For Severe Pain or Air Hunger
-Morphine (Roxanol) 20mg/ml concentrated liquid 5-20mg every one hour PRN for pain or severe air hunger. Give PO or sublingual, if unable to tolerate PO, give IV if ordered.
-Morphine injection 2-6mg every 2 hours PRN, for severe pain, air hunger, slow IV push, no faster than 2mg/minute. Use PO route first, if unable then use IV.
-Dilaudid 2mg/ml injection, 0.25-1mg every 2 hours PRN for severe pain, or air hunger, slow IV push no faster than 0.25mg/minute. If ineffective or not tolerated and unable to take oral opioid, contact MD.

Anxiety
-Ativan PO/IV
    -Ativan 1mg tablet every one hour PRN, anxiety
    -Ativan 2mg/ml liquid, give 1mg oral every one hour PRN, anxiety
    -Ativan injection 1mg, IV every one hour PRN, anxiety (use PO route first)

Delirium
-Haldol PO/IV
    -Haldol 1mg tablet, PO every one hour PRN, delirium
    -Haldol 2mg/ml liquid, give 1mg PO every one hour PRN, delirium
    -Haldol injection 1mg IV every one hour PRN, delirium

Seizures
-Ativan injection 2-4mg IV every 5 minutes, PRN, seizures

Hypnotics
-Ambien tablet 5mg PO, nightly, PRN

Acetaminophen
-Tylenol 500-1000mg PO Q6 hours PRN
-Tylenol suppository 650mg every four hours PRN for pain or fever if unable to tolerate oral.

Respiratory treatments/ Death Rattle
-Albuterol 2.5mg/3ml nebulizer solution, 3ml inhaled, every four hours, PRN wheezing
-Robitussin DM 100-10mg/5ml, 10-20ml every four hours PRN, cough
-Robinul injection 0.2mg IV every four hours PRN, secretions
-Atropine 1% ophthalmic solution, 2 drops given sublingual, every four hours, PRN secretions
-Scopolamine patch behind ear, every 3 days
-Yankauer suction to bedside for comfort, avoid deep suctioning.
-Cleanse mouth with toothetes every four hours, and instruct family on how to do this.

Mouth Care
-Magic Mouthwash 10ml, every four hours PRN, pain

GI Distress
-Maalox regular strength 200-200-20/5ml suspension, 30ml PO every four hours PRN, indigestion
-Protonix DR tablet, 40mg PO daily, PRN, gastric distress

Antiemetics
-Zofran IV/PO
    -Zofran ODT tablets, 4mg oral every 6 hours PRN, nausea, vomiting
    -Zofran injection, 4mg IV every 6 hours, PRN, nausea. Use PO route first
-Compazine tablet 10mg, PO, every 6 hours PRN nausea, and vomiting
-Reglan IV/PO
    -Reglan 10mg tablet PO every four hours PRN, nausea and vomiting
    -Reglan 5mg/ml injection, 10mg IV every four hours PRN, nausea and vomiting
- Phenergan 12.5-25mg IV every six hours as needed for nausea.

Bowel Care
-Docusate Sodium 100mg PO, BID, constipation, hold for loose stools
-Senna 8.6mg PO BID, if Docusate ineffective or not ordered, give BID until effective, then PRN. Hold for loose stools.
-Bisacodyl (Dulcolax) suppository 10mg rectal daily, PRN, if no BM in the prior 24 hours despite docusate and senna. Hold for loose stools.

Miscellaneous
-Polyvinyl alcohol (Liquitears) 1.4% ophthalmic solution, 1-2 drops both eyes, PRN, dry eyes
-Sodium chloride (Ocean) 0.65% nasal spray, 2 sprays each nares PRN, nasal dryness

-Lidocaine (Xylocaine) 2% jelly (Uro-jet), urethral, PRN, catheter maintenance.
-Nystatin 100,000U/ml, 5ml po QID x7 days.

Diet Orders
-Full liquid/general texture diet as tolerated, family may bring in food from home.
-Allow patient to sit up for meals as tolerated, staff assist in feedings.

APPENDIX C

NURSING SURVEY FOR INPATIENT COMFORT CARE

1. How many of your CEU's in the last year have pertained to comfort care?
A.) I have completed no CEU's pertaining to comfort care.
B) Approximately 1-25%
B.) Approximately 26-50%
C.) Approximately 51-75%
D.) Approximately 76-100%

2. Do you feel that the facility has an adequate inpatient comfort-care service? Please explain why, or why not.

3. Please rate the following statement by circling your response in the scale provided below where 1 is strongly disagree and 5 is strongly agree:

"I feel well educated on how to adequately provide nursing care to inpatient comfort-care patients at the facility."

Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**

4. Please rate the following statement by circling your response in the scale provided below where 1 is strongly disagree and 5 is strongly agree:

"I feel competent taking care of inpatient comfort-care patients at the facility."

Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**

5. Do you feel that palliative-care patients at the facility receive adequate pain control? Please explain why, or why not.

6. Please rate the following statement by circling your response in the scale provided below where 1 is strongly disagree and 5 is strongly agree:

"I feel comfortable approaching providers at the facility about inpatient comfort-care medication orders."

Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**

7.) Please rate the following statement by circling your response in the scale provided below where 1 is strongly disagree and 5 is strongly agree:

"I feel satisfied with the comfort care that I provide to patients who are near the end of life, as a nurse."

Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**

8.) Please rate the following statement by circling your response in the scale provided below where 1 is strongly disagree and 5 is strongly agree:

“I feel satisfied with the overall care that patients receive near the end of their lives at the facility.”

Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**

APPENDIX D

WHAT ARE COMFORT CARE ORDERS? A GUIDE FOR RELATIVES AND FRIENDS OF DYING PATIENTS

The provider is writing a special set of orders for your relative to make his/her last hours or days as comfortable and as peaceful as possible. The orders are meant not to prolong life, but to allow nature to take its course. Comfort-care orders will ensure a pain-free, quiet passage from this life in as dignified a manner as possible.

- We will give your loved one pain medications and anti-nausea medications if needed, through the IV route, through a shot, by mouth, or via a skin patch. Also, if breathing sounds moist and labored, we can give medications to decrease or dry up the secretions so breathing is less difficult. The morphine that is given for pain will also allow for people to breath with less effort and less struggle.
- We can also give medications for anxiety, restlessness, and confusion. These medications can be calming and allow for a more peaceful rest.
- We will position your relative as the patient and family desire to make him/her as comfortable as possible.
- We will no longer take vital signs such as blood pressure, temperature, pulse, or blood sugar readings. We will also discontinue heartrate monitoring and oxygen saturation monitoring to ensure the highest level of comfort.
- No lab tests, needle pokes (with the exception of an IV), and no medications unless needed for comfort.
- Your relative can eat and drink anything he/she can tolerate including items from home. It is OK if he/she doesn't want anything to eat or drink.
- If your relative can't drink fluids, we will moisten his/her mouth with dabs of water and keep lips from drying out with ointment. You can also do this if you wish. Eyes can also become dry, and we have special eye drops available if this happens.
- Too much fluid in a dying person's body can actually cause more discomfort. Lungs can fill up making breathing difficult and wet sounding. Uncomfortable swelling in the legs, arms, and torso can appear, and people may even throw up, making it necessary to pass a tube into their stomach.
- A visit from a pet may provide comfort to your relative.
- The relative's clergy or religious advocate may be contacted and come in at any time.
- Your physician may make a referral to our social services department for help in planning for discharge with hospice services if there is a possibility that your relative will leave the hospital.
- If you have ANY questions or concerns about our comfort-care orders, please don't hesitate to ask the providers and nurses caring for your relative. At this hospital we know this is a very difficult time for you and want to ease as much of the burden as we can.

Adapted from Sacred Heart Medical Center (What are Comfort Care Orders? A Guide for Relatives and Friends of Dying Patients, n.d.).

APPENDIX E

IRB

MONTANA STATE UNIVERSITY

INSTITUTIONAL REVIEW BOARD
For the Protection of Human Subjects
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MEMORANDUM

TO: Jamie Waldorf and Jennifer Sofie

FROM: Mark Quinn, Chair Mark Quinn CJ

DATE: April 20, 2016

RE: *"Inpatient Palliative Care: A Trial Study" [JW042016-EX]*

The above research, described in your submission of April 20, 2016, is exempt from the requirement of review by the Institutional Review Board in accordance with the Code of Federal regulations, Part 46, section 101. The specific paragraph which applies to your research is:

____ (b) (1) Research conducted in established or commonly accepted educational settings, involving normal educational practices such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

_X_ (b) (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

____ (b) (3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if: (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

____ (b) (4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available, or if the information is recorded by the investigator in such a manner that the subjects cannot be identified, directly or through identifiers linked to the subjects.

____ (b) (5) Research and demonstration projects, which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.

_____ (b) (6) Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed, or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the FDA, or approved by the EPA, or the Food Safety and Inspection Service of the USDA.

Although review by the Institutional Review Board is not required for the above research, the Committee will be glad to review it. If you wish a review and committee approval, please submit 3 copies of the usual application form and it will be processed by expedited review.