PALLIATIVE CARE USE IN THE RURAL PRIMARY CARE SETTING

by

Heather Dawn Johns

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

of

Doctor of Nursing Practice

in

Family and Individual Health

MONTANA STATE UNIVERSITY
Bozeman, Montana

April 2019

©COPYRIGHT

by

Heather Dawn Johns

2019

All Rights Reserved

DEDICATION

I dedicate this project to my mother-in-law, Mary. Although she is no longer with us, she always believed in my ability to accomplish this journey. Her dedication to the rural community and contributions as a nurse will always inspire me. I also dedicate this project to my husband and son for their support in my effort in pursuing a Doctorate of Nursing Practice degree.

ACKNOWLEDGMENTS

Research reported in this publication was supported by Institutional Development Awards (IDeA) from the National Institute of General Medical Sciences of the National Institutes of Health under Awards P20GM103474, 5U54GM104944, U54GM115371, and 5P20GM104417. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. Figures and graphs were prepared by the Montana State University Statistical Consulting and Research Services.

The Helen Jacobsen Lee Endowment for Rural Nursing Research provided funding for this project. The total funds granted were $800. Fund money supported the mailing list from WIM tracking, printing surveys, stamps, labels, printer ink for labels, return address stamp, envelopes, and post cards. The information obtained from this DNP Scholarly project contributes to the groundwork for further evidence-based practice projects focused on rural primary care provider and palliative care.

TABLE OF CONTENTS

1. INTRODUCTION 1

Introduction 1
Chronic Illness and Terminal Illness 1
Palliative Care 1
History of Palliative Care 2
Palliative Care Team 3
Primary Care Providers 4
Significance 5
Palliative Care Utilization 5
Rural Setting 6
Rural Nursing Theory 8
Primary Care Providers in Rural Settings 8
Primary Care Provider's Role in Palliative Care 9
Purpose of the Project 10

2. REVIEW OF THE EVIDENCE 11

Review of the Evidence 11
Importance of Palliative Care 11
Improving Patient Outcomes 11
Cost Reduction 13
Palliative Care Guidelines 14
Health and Rural Populations 14
Socioeconomic Problems 14
Health Literacy 15
Health Inequity 16
Role of Primary Care Provider in Palliative Care 16
Obstacles for Palliative Care in Rural Areas 17
Barriers to Palliative Care 17
Lack of Providers in Rural Areas 18
Discomfort in Communicating 19
Lack of Knowledge/Education 19
Rural Nursing Theory 21
Self-Reliance 21
Health Beliefs 21
Doctor of Nurse Practice Essentials 22

3. METHODS 24

Defining Rural 24

TABLE OF CONTENTS CONTINUED

Instrument 24
Sample Population 26
Timeline and Procedure 26
Data Analysis 27

4. RESULTS 28

Demographics 28
Knowledge 30
Comfort 36
Perceived Barriers 39
Open-Ended Questions 41

5. DISCUSSION 43

Discussion 43
Demographics 43
Knowledge 44
Comfort 45
Perceived Barriers 46
Additional Comments about Palliative Care 47
Project Limitations 48
Implications 49
Conclusion 50

REFERENCES CITED 52

APPENDICES 61

APPENDIX A: Survey Cover Letter 62
APPENDIX B: Survey 64
APPENDIX C: RUCC Codes with Definitions 71
APPENDIX D: Responses to Knowledge Questions by RUCC 75
APPENDIX E: Bar Chart of Answers to Q17 and 18 by RUCC 77
APPENDIX F: Responses to Comfort Questions by RUCC 79
APPENDIX G: Responses to Barrier Questions by RUCC 81

LIST OF TABLES

Table Page

1. The Essentials of Doctoral Education for Advanced Nursing Practice 23

2. Number and Percent of Counties and Respondents by RUCC. 30

3. Knowledge Responses (Questions 1-16), Shown as No. (%) 31

4. Distribution, Shown as No. (%) of Responses to Q17 and Q18, Combining All RUCCs....34

5. No. (%) of Respondents in Each RUCC Who Selected Each Possible Response to Q19, Combining All RCCs....36

6. Distribution, Shown as No. (%), of Responses to Each Comfort Question....37

7. Distribution, Shown as No. (%), of Responses to Each barrier Question (Q30-42)....39

LIST OF FIGURES

Figure Page

1. Bar Chart Showing the Number of Respondents within Each Combination of Demographics. 29

2. Diverging Bar Chart of the No. of Respondents Giving Each Possible Answer. 33

3. Bar Chart of the No. of Respondent's Answers to Q17 and Q18, Combining All RUCCs....35

4. Diverging Bar Chart of the No. of respondents Answers to Comfort Questions (Q20-29). 38

5. Diverging Bar Chart of the No. of Respondents to Barrier Questions (Q30-42).....41

ABSTRACT

Background: Palliative care is helpful to patients who are suffering from chronic or terminal illnesses. It can be initiated at any stage of the illness. Rural populations have an increased risk for not receiving palliative care and primary care providers have the ability to initiate palliative care services.

Purpose: A doctoral project was completed to assess rural providers' perceived barriers, knowledge of, and comfort level with palliative care.

Sample: Participants were rural primary care providers (n=138). Rural primary care providers were advanced care nurse practitioners(n=54), physicians assistants (n=30), and doctors of osteopathy/doctors of medicine (n=50).

Methods: A survey was used for this project to explore knowledge of, comfort in, and barriers to providing palliative care in rural Montana. The survey was adapted from the End-of-Life Professional Caregiver Survey, the Physician Knowledge, Attitude, and Experience with Advance Care Panning, and The End of Life Care Survey.

Results: Respondents generally felt comfortable with palliative care. Barriers documented included: lack of knowledge by healthcare professionals (54%), health care professionals' personal discomfort with palliative care (59%), and lack of understanding from patients and patents family about palliative care (80%). The results demonstrated that as the primary care providers were practicing in more rural areas, they felt their workplace did not provide resources.

Conclusions: The results from this project demonstrated rural primary care providers felt they encountered barriers to palliative care and had a perceived lack of resources. This project and other research have indicated that rural dwellers are at an increased risk for not receiving palliative care and has identified reasons that it is not being utilized.

CHAPTER ONE – INTRODUCTION

Introduction

Chronic Illness and Terminal Illness

Chronic illnesses, such as heart disease, stroke, cancer, diabetes, obesity and arthritis, are among the most common and costly disease processes in the United States (U.S). Chronic diseases represent 60% of all deaths world-wide (World Health Organization [WHO], 2017a). Chronic disease is a problem that is defined by the U.S. National Center for Health Statistics as a disease lasting three months or longer (National Health Council, 2016). A terminal illness is an irreversible disorder for which there is no cure and death is expected in the near future (American Cancer Society, 2017). Those suffering from chronic and terminal illnesses are at risk for many burdens; these may include debilitating symptoms, frequent hospital visits, depression, pain, and various life-limiting side effects.

Palliative Care

Palliative care (PC) is specialized medical care for people with serious, terminal or chronic illness that focuses on improving quality of life of individuals and their families. PC differs from hospice in that it can be initiated at any time during the patient's illness course, rather than when treatment is deemed no longer curative and the patient has less than 6 months to live (Center for Hospice Care, 2018; Tedder, Elliot, & Lewis, 2017). Active treatment for the individual can continue when PC is initiated (Center for Hospice Care, 2018). PC focuses on the prevention and relief of suffering through early

identification, assessment, and treatment of physical, psychosocial and spiritual pain (WHO, 2017b). PC utilizes a multidimensional approach to a) help relieve pain and depression, b) integrate psychological and spiritual aspects into the individual's life, c) provide support systems to both the person and family members, d) utilize resources to help manage the disease, and e) personalizes the plan of care to reflect the individual's wishes (WHO, 2017b). The positive outcomes with PC are management of pain and symptom burden; patient, family and provider satisfaction; and cost savings for the person and hospital (Armstrong, Jenigiri, Hutson, Wachs, & Lambe, 2012; Hannon, Swami, Rodin, Pope & Zimmerman, 2017). PC services typically utilize a specialized interdisciplinary team which consists of a palliative care physician, pharmacist, nursing staff, chaplain, social worker, dietician, and family members (WHO, 2017b).

History of Palliative Care: Modern end of life (EOL) care began in the 1950's (Loscalzo, 2008) and transformed in the 1960s by the work of Dr. Elisabeth Kubler-Ross. The term "palliative care" was first used in 1974. Palliative medicine was recognized as a specialty in 1990 by the WHO (UPMC Palliative and Supportive Institute, 2014) and in 1997 the U.S. Institute of Medicine (IOM) reported there were major deficiencies in EOL care in the U.S. (Loscalzo, 2009). *Clinical Practice Guidelines for Quality Palliative Care* was first released in 2004. The current 4rd edition was created in 2018 and was produced through a consensus process among the leading professional palliative care and hospice organizations (National Coalition for Hospice and Palliative Care, 2018). The nursing profession has embraced PC by establishing certification in PC for registered nurses (RN) in 1993 and for licensed practical nurses (LPN) in 2004 (Martinez, 2005).

Palliative Care Team

PC is a multidimensional approach implemented by an interdisciplinary team. The team often consists of the PC specialist, a PC nurse, social worker, chaplain, pharmacists, primary care provider (PCP), dietician, physical therapist, the patient and the patient family members (Palliative Doctors, 2017). The team is tailored to the patient's needs, wishes and desires to maintain optimal quality of life (Palliative Doctors, 2017). The team members varies based on the individual patient and what resources are currently available to them.

A PC specialist is a health professional that is specially trained in the symptoms, side effects and emotional problems that are experienced by patients with life limiting illness and (National Cancer Institute [NCI], 2010). To become a specialist in hospice and palliative care medicine, physicians must be certified in internal medicine or a subspecialty, complete formal training, and demonstrate clinical competence, and moral and ethical behavior (American Board of Internal Medicine [ABIM], 2017). The physician must also hold a valid, unrestricted and unchallenged license to practice medicine and pass the Hospice and Palliative Medicine Certification Examination (ABIM, 2017). As of 2016, there were 6,400 medical PC specialists in the US reported by the American Medical Association (AMA) (George Washington University Health Workforce Institute et al., 2017).

RNs are typically part of the PC team; however, there are some settings that accept LPNs. Specialized courses and certifications are available to prepare nurses for PC (Registered Nursing, 2017). The Hospice and Palliative Credentialing Center(HPCC)

offers the following certifications: Advanced Certified Hospice and Palliative Nurse, Certified Hospice and Palliative Nurse, Certified Hospice and Palliative Pediatric Nurse, Certified Hospice and Palliative Licensed Nurse, Certified Hospice and Palliative Nursing Assistant, Certified Hospice and Palliative Care Administrator and Certified in Perinatal Loss Care. Currently, the HPCC recognizes over 18,000 health care professionals who are certified in the above categories to provide hospice and PC services (Advancing Expert Care, 2017).

Primary Care Providers

A PCP oversees all of an individual's common medical problems and is involved in the individuals care over time (MedlinePlus, 2015). A PCP can be a doctor of medicine (MD), doctor of osteopathic medicine (DO), advanced practice registered nurse (APRN), or a physician's assistant (PA). PCPs have a wide range of responsibilities including disease prevention, health maintenance, health promotion, patient education, counseling, and diagnosis and treatment of both chronic and acute illnesses (American Academy of Family Physicians [AAFP], 2018). A PCP often collaborates with other health professionals and consults or refers individuals to other providers as necessary (AAFP, 2018). Patient advocacy, effective communication, and coordinating the use of the entire healthcare system to treat acute and chronic diseases are important roles of PCPs (AAFP, 2018).

Significance

Palliative Care Utilization

When PC is started in the early phases of the treatment plan, PC interventions have been linked to an increase in quality of life for both individuals and their family members (Assi et al, 2017). Hannon, Swami, Rodin, Pope and Zimmerman (2017) conducted a randomized controlled trial with interviews in a cancer setting and found that those who had early PC experienced prompt, personalized symptom management; holistic support; guidance in decision-making; and increased preparation for the future. These researchers demonstrated the important role of PC to improve quality of life and decrease health care costs. Literature about PC is available, however, literature including PC and PCPs in rural areas is limited.

In urban areas, PC is provided by multiple team members. Often, there are no PC teams available in rural areas. In many cases, rural PCP manage all aspect of care for persons with chronic and terminal illnesses (Agency for Healthcare Research and Quality [AHRQ], 2015). While most rural PCPs are not specialists in PC, they essentially are the sole PC team member. Lack of knowledge about PC among PCPs is a potential barrier to offering PC to individuals who may benefit from it (Snyder, Hazelett, Allen, & Radwany, 2012). Physicians' personal or professional lack of experience and knowledge about PC may be contributing to the absence of PC discussions and consultations with patients and their families (Snyder et al., 2012).

Rural Setting

There is no universally accepted definition of rural (United States Department of Agriculture [USDA], 2018). Researchers, policy makers, and economists define rural based on the purpose of their activity, e.g. grant writing or policy development. The U.S. federal government relies on definitions of "rural" from the U.S. Census Bureau, the Office of Management and Budget (OMB), and other agencies (Health Resources & Services Administration [HRSA], 2017). Since they are no unanimously accepted definitions of rural, it is widely recommended to use and clearly report one of the most common definitions.

For this project, rural was defined as all counties outside of metropolitan areas, which was defined as a core area containing a substantial population nucleus and together with adjacent communities have a high degree of economic and social integration (United States Census Bureau, 2018a). Nonmetropolitan counties include open countryside, rural towns (places with fewer than 2,500 people), and smaller urban areas with populations ranging from 2,500 to 49,999 that are not part of larger labor market areas (metropolitan areas). Urban and rural areas can be further classified based on the size of their urban area and non-metropolitan counties by degree of urbanization and adjacency to a metropolitan area (USDA, 2016).

There are approximately 60 million Americans that reside in rural areas (United States Census Bureau, 2018b). When compared to urban dwellers, rural persons are more likely to be uninsured (Centers for Disease Control and Prevention [CDC], 2017), travel further to access health care, have fewer health care visits, and are less likely to receive

recommended services (AHRQ, 2015). Rural residents are considered to be a vulnerable population and are at heightened risk for poor-quality and high-cost EOL care (IOM, 2014).

Rural residents are older, sicker, have higher smoking rates, higher obesity rates, and higher rates of hypertension than those living in urban areas (CDC, 2017). In 2012, the CDC reported that almost one-half of all adults had one or more chronic illnesses and 25% of adults had two or more chronic health conditions (CDC, 2016). In comparison, in 2011, 58% of Montanans reported at least one chronic illness and 33% reported having at least two chronic illnesses (Department of Public Health and Human Services [DPHHS], 2011).

Americans who reside in rural areas are more likely to die from heart disease, cancer, unintentional injuries, chronic respiratory disease, and stroke than those living in urban areas (CDC, 2017). Furthermore, the percentages of potentially preventable deaths in rural areas are higher than preventable deaths in urban areas (CDC, 2017). Rural residents often have poor health literacy skills, which are often associated with unhealthy behaviors, poor self-care management, decreased use of preventative services, frequent hospitalizations, and poor health outcomes (Baker et al., 2007).

Persons with chronic, life-limiting illnesses, whether urban or rural, must live with a myriad of symptoms. Often these symptoms include changes in psychological state, decline in functional status, and diminished spirituality (Busher & Rowser, 2015). For most patients and family caregivers, care that was personalized, supported the ability to live life with dignity and meaning, and hold on to hope, was most important (Rainsford

et al., 2017). For providers, it was important to establish presence, provide reassurance and honor patient choices (Rainsford et al., 2017).

Rural Nursing Theory

The Rural Nursing Theory (RNT) provided the theoretical foundation for this project. RNT is a descriptive, middle-ranged theory that describes rural nursing practice and the specific health care needs of rural persons (Long & Weinert, 1989). RNT highlights key traits specific to rural communities including isolation, long distances to services, lack of health care resources, and a paucity of specialty providers. According to RNT, rural nurses are expert generalists, which implies that they have the ability to care for a myriad of patients at any given time. Rural nurses experience role diffusion, professional isolation, and challenging accesses to continuing education. It can be argued, that the generalist concept can be applied to RNs, APRNs, MDs, DOs, and PAs (Christensen, 2017). The expert generalist model, role diffusion, and lack of health care specialists in rural settings support the importance of a diverse knowledge base for rural providers.

Primary Care Providers in Rural Settings

Only 9% of physicians practice in rural settings (AHRQ, 2015). In rural communities, most physicians are PCPs. PC services are known to be utilized less in rural healthcare settings (Fink, Oman, Youngwerth, & Bryant, 2013). Potential barriers that prevent PC from being utilized in rural areas include lack of access to PC resources, limited training and skills in PC, and inadequate knowledge about PC (Fink et al., 2013). A lack of knowledge of advanced directives, absence of PC training, and

misunderstanding of among physicians regarding what constitutes PC and hospice has led to underutilization of PC by rural PCPs (Snyder et al., 2012).

Many of the counties in Montana are considered rural and there is limited access to PC in rural areas (Bakitas et al., 2015). There are PC teams practicing in some of the larger, urban cities but persons living in the rural areas must travel to receive these services. Travel is often difficult for those who are chronically or terminally ill (AHRQ, 2015). Without PC specialists to refer to, rural PCP's find themselves responsible for the delivery of PC to their patients with chronic and terminal illness (National Guidelines, 2013).

Primary Care Provider's Role in Palliative Care

There are too few PC specialists to meet the current and future needs for rural persons (Parrish et al., 2015). The gap in providing PC services is expected to grow as the population ages and people live longer with chronic illness (Parrish et al., 2015). Several health care experts have recommended explicit integrations of PC into primary care to help fulfill unmet needs for the rural population (Fink et al., 2013; Parrish et al., 2015; Tedder et al., 2017). Many of the core principles promoted by PC are also promoted by primary care (Parrish et al., 2015). PC and primary care are similar in that the focus is on treating the whole person. Primary care and PC recognize that physical, psychological, spiritual, relationships, and social issues all impact health and well-being (Parrish et al., 2015).

PCPs are in the optimal position to initiate and address PC because patients often first look to their trusted PCP following a stressful diagnosis and when dealing with

anticipatory grief, bereavement, and advanced care planning (ACP) (Parrish et al., 2015). PCPs can help patients identify community resources and help facilitate early PC interventions (Parish et al., 2015). However, research has shown that there is a lack of PC in rural areas and that PCP's often do not initiate PC (Tedder et al., 2017). Provider shortages in rural areas, discomfort in initiating a conversation about PC, financial barriers for providers (Tedder et al., 2017)., and a lack of knowledge of PC contribute to the lack of PC (Snyder et al., 2017; Tedder et al., 2017). Every clinician should have a basic set of PC skills of communication, symptom control, and ACP (Bakitas et al., 2015)

Purpose of the Project

The purpose of this project was to assess rural PCPs' perceived barriers, knowledge of, and comfort level with PC. Rural PCPs are the focus of this project due to the paucity of research about their perceptions and the vulnerability and heightened risk for poor health outcomes in rural populations (CDC, 2017). The information gathered was utilized to develop a presentation and initiate a dialogue with Montana health care leaders and rural providers about the knowledge level, barriers and comfort of rural PCPs with PC. Increasing the PCP's knowledge and comfort in PC may expand the utilization and consequently improve the lives of those suffering from the burdens of chronic and terminal illnesses (Rural Health, 2015).

CHAPTER TWO – REVIEW OF THE EVIDENCE

Review of the Evidence

A literature review was conducted to assess the incidence of chronic illness and PC practice in rural communities. PCP knowledge, associated barriers to providing PC, and comfort with palliative care were explored. Databases included in the review of literature were CINAHL, PubMed, Cochrane, National Guideline Clearinghouse, UpToDate, and Medline (on Web of Science). Articles were found using the search terms: palliative care, primary care provider, palliative care knowledge, primary care barriers, primary care provider comfort, rural healthcare, chronic illness, chronic disease, palliative care education, provider knowledge, palliative care survey, Rural Nursing Theory, rural population, and palliative care guidelines.

Importance of Palliative Care

Improving Patient Outcomes

Persons with chronic or terminal illness experience physical, practical, social, financial and psychological burdens. With more people living longer with chronic illnesses, the population that could benefit from PC is increasing (Sandsdalen, Hov, Høye, Rystedt, & Wilde-Larsson, 2015). Researchers report that PC improves patient outcomes, including improved patient symptoms, improved quality of life, and increased patient and family satisfaction (Parrish et al., 2015). With the utilization of PC, goals of care were clearer and care planning improved (Parrish et al., 2015). Temel et al. (2010),

found that patients (n=107) with metastatic non-small-cell lung cancer who were assigned PC early in their treatment had significantly higher quality of life and mood scores than those assigned standard care.

Furthermore, in a study of 150 patients with non-small cell lung cancer, researchers found that early PC greatly improved life quality, mood, and pulmonary function (Zhuang, Ma, Wang, & Zhang, 2018). When PC was provided early in the disease course, Taylor, Bull, Zhong, Samsa, and Abernethy (2013) found the number of PC visits significantly improved patient functioning (0.008 change in the area under the curve per extra PC visit, $p = 0.01$) and quality of life. In a preintervention-postintervention study with 25 patients, Armstrong et al. (2012) found statistically significant improvement in pain and symptom burden scores of patients. In the study by Armstrong et al. (2012), the participants who were given PC interventions, 84% to 93% rated pain control, communication, and respect for treatment choices as “excellent” or “very good”.

Many ill individuals prefer supportive care but often they receive care that is inconsistent with their preference (Kim & Tarn, 2016). In a systematic review by Sandsdalen et al. (2015), researchers found that patients suffering from chronic illnesses wanted to maintain self-dignity and live as normal as possible. These individuals wanted quality of life, not quantity; they also wanted strong support from their care team and families. Individuals described wanting a good relationship with their healthcare provider and a chance to participate in health care decisions. Lastly, patients desired that they

received care that was consistent with their own choice and to have the options for help when they felt they needed it (Sandsdalen et al., 2015).

Cost Reduction

The financial burden with end-of-life care on both the patient and their families can be cumbersome, especially if the treatment is not within the patient's wishes. Taylor et al. (2013) found care costs were reduced when PC was offered in the early course of the illness. With PC, patients' use of more expensive health services such as, hospital admissions, intensive care unit stays, and use of emergency departments was reduced (Parrish et al., 2015). This decrease in use of expensive health services results in lower overall health care costs (Parrish et al., 2015). Armstrong et al. (2012) found health care costs were significantly higher before PC (M= 765 USD) than after PC (M= 532 USD).

Busher and Rowser (2015) found that by day 90 after PC was initiated, there were 122 fewer emergency department/hospital days ($P<.01$) with an estimated cost avoidance of $220,000. A literature review by Bakitas et al. (2015) analyzed 8 palliative care studies in which a profit was realized for all the rural hospitals and the program was cost effective for the communities. Researchers also found that PC may have a positive impact on household economics in both rural and urban settings by keeping family caregivers and the patient economically productive. Less time for travel and not having to take time off work was also an important finding.

Palliative Care Guideline

The national guideline for PC recommend early initiation of services for individuals with chronic and terminal illnesses and for all individuals who could benefit. Health care providers should complete a full review of the individual's PC needs, document goals for care, and stress the importance of recognizing, assessing and managing all physical and non-physical areas of suffering that are important to the patient. PC is compatible with all other medical treatments and if a PC team is not available, PCPs should begin early PC (National Coalition for Hospice and Palliative Care, 2018).

Health and Rural Populations

Rural dwellers are more likely to report their health as poor (Zahnd, Scaife, & Francis, 2009). Those residing in rural populations are known to have more obstacles to healthcare and chronic illnesses than those residing in urban areas (National Rural Health Association [NRHA], 2017). Healthcare disparities are a result of socioeconmic factors, health literacy in rural populations, and health inequity for rural dwellers (NRHA, 2017).

Socioecomonic Problems

Rural residents on average are poorer than those in urban areas. Poverty leads to decreased education, inability to pay hospital bills and lack of transportation to health care (NRHA, 2017). Per capita the income in rural areas is about $9,242 less than the average per capita income in the U.S (NRHA, 2017). Adults in Montana with an annual

household income of less than $25,000 have reported significantly higher occurrences of cardiovascular disease, diabetes, chronic obstructive pulmonary disease (COPD), asthma, arthritis, and hypertension (DPHHS, 2011). Rates of smoking in youth (26.6% compared to 19% in urban areas) and smokeless tobacco use in youth (6.7% compared to 2.1% in urban areas) continue to be significant problem among those residing in rural areas. Tobacco leads to more chronic illnesses such as chronic obstructive pulmunary disease (COPD) and cancer (NRHA, 2017). Lastly, higher rates of unemployment and having no insurances is also more likely in those residing in rural communities (NRHA, 2017).

Health Literacy

Health literacy is defined as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services to make appropriate health decisions" (DPHHS , 2000, Section 11-12). Rural dwellers demonstrate lower health literacy skills (Zahnd et al., 2009). The inability to fully understand diagnoses, medications, and self-care information has the potential to lead to poorer health outcomes and higher health care costs. Poor health literacy skills are associated with low use of preventative services, unhealthy behaviors, and poor self-care management (Baker et al., 2007). Frequent hospitalizations and high use of emergency rooms is also reported with those who have lower health literacy skills (Baker et al., 2007).

Health Inequity

Disadvantaged social groups experience worse health, or greater risks to health, than more advantaged social groups. This type of variance, known as health inequity, is prevalent in rural populations (Braveman, 2006). Health inequity in rural populations leads to higher risk of poor health, which, can lead to increased chronic illnesses. In Montana, more than one million of the 1.7 million residents live in rural areas (Rural Health Information Hub, 2018). Rural residents are known to have more occurances of diabetes and coronary heart disease that those in non-rural areas (NRHA, n.d.). Stroke, heart attack, coronary artery disease, diabetes, COPD, chronic kidney disease, asthma, arthritis, cancer, hypertension and high cholesterol are common disorders of the population living in Montana (DPHHS, 2011). Limited treatment choices, and inadequacy in rural health care delivery (Nichols, Sullivan, Ide, Shreffler-Grant, & Weinert, 2005) promotes health inequity rural populations. Older age, physical environments and social surroundings increase risks of health inequity (WHO, 2017a). Eighteen percent of the population in rural areas are aged 65 and older compared to the 12% in urban areas (NRHA, 2017). The increase in elderly and ill population continues to reinforce the need for PC in rural areas.

Role of Primary Care Providers in Palliative Care

It is estimated that a PCP is likely to care for at least three to six patients with terminal illnesses in one year (Pelayo Alvarez & Agra, 2006). The PCP often knows more about their patients than other specialists due to the long-standing patient-provider

relationship (Kim & Tarn, 2016). Given the lack of PC specialists in rural areas, PCPs can play a vital role in delivering PC (Bakitas et al., 2015; Fink et al., 2013).

Obstacles for Palliative Care in Rural Areas

Barriers to Palliative Care

Negative attitudes, shortage of time, staff shortages, the need for training, and receiving reimbursement were identified as barriers to PC (Leemans et al., 2015). Mousing, Timm, Lomborg, and Kirkland (2018) studied 10 professional caregivers who cared for persons with COPD. Interviews about PC were conducted with participants and nonawareness, vague understanding, and lack of knowledge of PC among providers were found to be barriers to implementation of PC. Organizational barriers such as lack of time and continuity in patient care, lack of opportunity to discuss PC, and lack of peer learning, were also identified as barriers. Caxaj, Schill, & Janke (2017) reviewed 48 articles and found that barriers to PC in rural areas included: environmental and contextual issues, institutional barriers, and interpersonal dynamics with client and clinician interactions. Fink et al. (2013) discovered that out of 374 health care workers the most common barriers identified were patient and family avoidance of issues around dying, lack or inadequacy of written PC policies, and lack of healthcare professional PC knowledge. A literature review utilizing 39 articles established that rural areas have barriers to providing PC that include lack of education, and lack of resources (Bakitas et al., 2015).

In a study of 332 hospitalists to explore confidence with and barriers to caring for patients with serious illnesses, 53% reported having concerns with patient's or family's understanding of prognosis and 63% believed their patients did not understand code status (Rosenberg et al., 2017). Not having the ability to communicate code status descriptions and prognosis led to decreased confidence for the hospitalists to communicate about serious illnesses with their patients. Only 59% of hospitalists were confident in responding to patients and families who had not accepted the seriousness of an illness and only 50% were confident in managing conflict. Barriers cited by the hospitalists included lack of time, other physicians' unrealistic prognostic expectations, limited institutional support, difficulty finding records of previous discussions with the patient, and lack of prior discussions in the outpatient setting. Although Rosenberg et al. were focused on hospitalists, it is reasonable to explore whether PCPs experience the same perceptions.

Lack of Providers in Rural Areas

There are fewer practicing PCPs in rural areas than in urban areas. In 2016, the average number of practicing PCPs in rural Montana was 70.2 per 100,000 residents (Skillman & Dahal, 2017). The number of urban PCPs was 83.6 per 100,000 residents. The rural areas were broken down into three areas; large rural, small rural, and isolated small rural. The number of practicing PCPs in the isolated small rural category was 35.9 per 100,000 residents. This lack of providers leads to more patients for the providers to see and therefore providers may not be able to address many important issues and may

lead them to leave out topics they are less comfortable with (Rural Health Information Hub, 2017).

Discomfort in Communicating

High-quality PC communication between patients and providers has been associated with improvements in patient and family satisfaction, improvements in quality of care, and decreased levels of intensity of care at the end of life (Brown et al., 2018). The inability to feel comfortable in communicating PC has been shown to be a barrier in providing PC (Tedder, Elliott, & Lewis, 2017). Snyder et al. (2012) found 97 % of providers (n=123) expressed comfort in discussing ACP and PC; however, they only discussed these options with 43% of the patients that were identified as having progressive, chronic life-limiting disease. Thirty five percent of providers did not feel comfortable communicating a prognosis to patients (Snyder et al., 2012). Statistically significant positive correlations were found between physician comfort in discussions and their likelihood of initiating the discussion. Providers who had a personal experience with PC were more likely to initiate PC with their patients (Snyder et al., 2012). Lastly, providers who had experienced a clinical situation with positive outcomes when following their patient's PC wishes had an increased likelihood for initiating PC (Snyder et al., 2012).

Lack of Knowledge/Education

A systematic review of 25 studies demonstrated that patients and families believed their PCP did not possess significant knowledge about the participants disease or

PC (Green, Knight, Gott, Barclay, & White, 2018). Snyder et al. (2012) found that physicians' personal or professional lack of experience and knowledge may be contributing to the absence of PC discussions and consultations. Twenty percent of physicians believed ACP should only take place when an individual has greater than 6 months to live and 29% believed PC and hospice are the same thing. Older and more experienced providers were more likely to discuss PC and advanced directives with individuals. Mousing et al. (2018) revealed there was a vague understanding of PC by professional caregivers (n=66). Alvarez & Agra (2006) performed a literature review that included 18 studies with 1653 physicians and suggests benefits to utilizing a multifaceted approach to PC education with PCPs.

Furthermore, Pelayo-Alvarez, Perez-Hoyos, and Agra-Varela (2013) explored clinical effectiveness of PC online training for PCPs and demonstrated that for PCPs who received online PC training (n=169) there were significant positive correlations with online PC education, and improved provider confidence with symptom management and communication in both the short and long term. In a systematic review by Bakitas et al. (2015), researchers determined that education programs improve attitude about care, improve PC utilization, and increase provider comfort with PC. Reymond, Charles, Israel, Read, and Treston (2005) found that PC workshops tailored to 149 PCPs revealed significant improvements in confidence with PC knowledge, substantial improvements in skills to providing PC, and management of patients requiring PC. A survey of 374 healthcare providers demonstrated that respondents (56%) wanted to learn more about PC and suggested that Webinars and online courses be used as strategies to promote learning

(Fink et al., 2013). This review of the literature has reinforced a lack of knowledge about PC amongst PCPs.

Rural Nursing Theory

RNT provides insight into the delivery of health care in rural settings and the traits and beliefs of the persons who live and work there (Long & Weinert, 1989). In rural communities, access to health care resources and providers has been a persistent problem (Shreffler-Grant, 2018) and promotes health inequity in this population. The lack of resources and delivery of healthcare across sparsely populated areas presents unique challenges for patients and rural PCPs alike (Lee & McDonagh, 2018). A PCPs understanding of rural traits and rural practice will facilitate the delivery of appropriate patient care (Long & Weinert, 1989). Accepting self-reliant traits and health beliefs in rural dwellers plays an important role for PCPs who care for this population.

Self-Reliance

Self-reliance, "the desire to do for oneself and care for oneself" (Long & Weinert, 1989, p. 119), is a key trait ascribed to rural persons. A related concept, decisional choice, is defined as making one's own decision and choices (Lee, Winters, Boland, Raph, & Buehler, 2013, p. 34). Rural PCP's need to acknowledge that having the ability to make their own decisions may be important to their patients.

Health Beliefs

Health beliefs will affect health-promotion activities, healthcare seeking

behaviors, and acceptance of preventive and treatment interventions (Long & Weinert, 1989). According to RNT, health is defined as the ability to work and to do what you want to do (Lee & McDonagh, 2013). Health needs are typically secondary to work needs in the rural population (Long & Weinert, 1989). Rural PCPs must understand the beliefs of their patient population and acknowledge that they may place more emphasis on their personal ideas of healthcare, focus strongly on their own jobs and work, and may not seek any healthcare until their work is entirely compromised. It is imperative to know that each encounter in the office setting is a vital opportunity to bring up important conversations, like PC, because the rural dweller may not return until it is absolutely necessary.

Doctor of Nurse Practice Essentials

Incorporated into the curriculum for the Doctor of Nursing Practice (DNP) degree are eight core competencies that must be present in programs conferring the DNP (American Association of Colleges of Nursing [AACN], 2006). The foundational competencies are core to all advanced nursing practice roles, including the four nationally-recognized APRN roles: nurse practitioners, clinical nurse specialists, nurse anesthetists, and nurse midwives (see Table 1) (AACN, 2006). Essentials I, II, and III guided this scholarly project.

Table 1.
The Essentials of Doctoral Education for Advanced Practice Nursing

I.	Scientific Underpinnings for Practice
II.	Organizational and Systems Leadership for Quality Improvement and Systems Thinking
III.	Clinical Scholarship and Analytical Methods for Evidence-Based Practice
IV.	Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care
V.	Health Care Policy for Advocacy in Health Care
VI.	Interprofessional Collaboration for Improving Patient and Population Health Outcomes
VII.	Clinical Prevention and Population Health for Improving the Nation's Health
VIII.	Advanced Nursing Practice

Careful thought and attention was placed on determining how PC enhances QOL and alleviates pain and suffering for individuals (Essential I) and how PC is delivered in rural settings (Essential II) (AACN, 2006). A literature review was guided by the analytical process of critically appraising existing literature and identifying gaps in evidence (Essential III).

CHAPTER THREE – METHODS

Defining Rural

For purposes of this project rural was defined as all counties outside of metropolitan areas (Coburn et al., 2007) and was further classified based on the 2013 Rural Urban Commuting Codes (RUCC) (USDA, 2016). RUCC is used to distinguish metropolitan counties by size of their urban areas and non-metropolitan counties by degree of urbanization and adjacency to a metropolitan area. All counties (and county equivalents) in the U.S. are grouped according to the OMB metropolitan or non-metropolitan designation and further divided into three metropolitan groups (codes 1-3) and six non-metropolitan groups (codes 4-9) (USDA, 2016). Codes 4-9 are considered rural areas.

Instrument

A survey was used for this DNP scholarly project to explore knowledge of, comfort in, and barriers to providing PC in rural Montana for PCPs. At the time of this project, there were no surveys that included knowledge, comfort, and barrier questions specifically aimed at PC, therefore, a survey was tailored to address these topics. The survey was adapted from three surveys that were used in previous research. The surveys included the End-of-Life Professional Caregiver Survey (Lazenby, Ercolano, Schulman-Green, & McCorkle, 2012), the Physician Knowledge, Attitude, and Experience with Advance Care Panning, Palliative Care and Hospice Survey (Snyder et al., 2012), and

The End of Life Care Survey (Ferrell, Virani, & Grant, 1999). Permission was granted from the authors to use and adapt each of these surveys for the this project.

The End-of-Life Professional Caregiver Survey was developed to assess palliative and EOL care-specific educational needs for multidisciplinary professions (Lazenby et al., 2012). The survey consists of 28 questions and proven internally reliable and psychometrically valid (Lazenby et a., 2012). The Physician Knowledge, Attitude and Experience with Advance Care Planning, Palliative Care and Hospice Survey was a 30 question survey to investigate PCPs professional and personal experience with PC and how that might affect comfort and utilization. There was no psychometric data reported for this survey. The 30 question End-of-Life Care Survey was originally created to assess the needs, confidence, and education of clinical nurses in end-of-life care (Ferrell et al.,1999). Psychometric data was not reported for the Physician Knowledge, Attitude and Experience with Advance Care Planning, Palliative Care and Hospice Survey or the End-of-Life Care Survey.

The final survey, which included some questions from each of the three surveys mentioned above, consisted of 50 questions. The survey was divided into four parts, 1) 19 questions to assess PCPs general knowledge and personal use of PC in practice, of which 16 questions were “Y” (yes) and “N” (no); participants were required to circle the correct response for question 17 and 18; and question 19 required participants to circle all that applied, 2) 10 questions designed to assess comfort with PC using a 5 point Likert scale ranging from 1 “strongly disagree” to 5 “strongly agree”, 3) 13 questions to assess perceived barriers to PC using the same Likert scale, and 4) seven questions were used to

gather demographic data about the participant. Questions included: “license type”, “national/board certification type”, “type of practice”, “gender”, “how long have you been practicing”, “do you have a particular sub-specialization”, and “zip code for current practice location”. The survey concluded with one open ended question that asked “Is there anything else you would like to share with me about providing palliative care to your patients? Please write your comments below.” The survey cover page is included in Appendix A and the survey can be found in Appendix B.

Sample Population

Providers were chosen from Wyoming, Idaho, Montana (WIM) Tracking, a health workforce research oganization (WIM Tracking, n.d.) that provides health workforce data to organizations, state agencies, health care analysts, researchers, and others. Montana health care providers eligible to participate in this project included MDs, DOs, PAs, and APRNs that practiced primary care in counties with RUCC codes 4-9. MDs and DOs were combined when analyzing data. Internal medicine providers who practiced primary care also were included (USDA, 2016). Each county included in the project and its respective code, with definitions, can be found in Appendix C.

Timline and Procedure

The Montana State University Institutional Review Board deemed this project exempt from human subjects review in March 2018. The doctoral student mailed 370 paper copies of the survey along with pre-stamped and addressed return envelopes to eligible participants in May 2018. The surveys were labled with a number that

corresponded to the provider's name on an excel spreadsheet which was used to track the providers that participated. Three weeks after the initial distribution of the survey, a reminder post card was sent thanking the providers and asking them to complete the survey if they had not already done so. The surveys were returned directly to the doctoral student for analysis. Results were entered into the program Qualtrics for data analysis immediately upon receipt. The results were stored in a password protected account on Qualtrics and the papers surveys were placed in a safe box at the doctoral student's home. The data will be kept in the secure safe box for three years and shredded May 2022.

Data Analysis

Doctoral students from Statistical Consulting and Research Services at Montana State University assisted with data analysis. The Qualtrics software program was used for data entry, descriptive statistics, and graphical analysis. Figures were prepared by MSU Statistical Consulting and Research Services. The graphs are included throughout the results section and in Appendix D-G.

CHAPTER FOUR – RESULTS

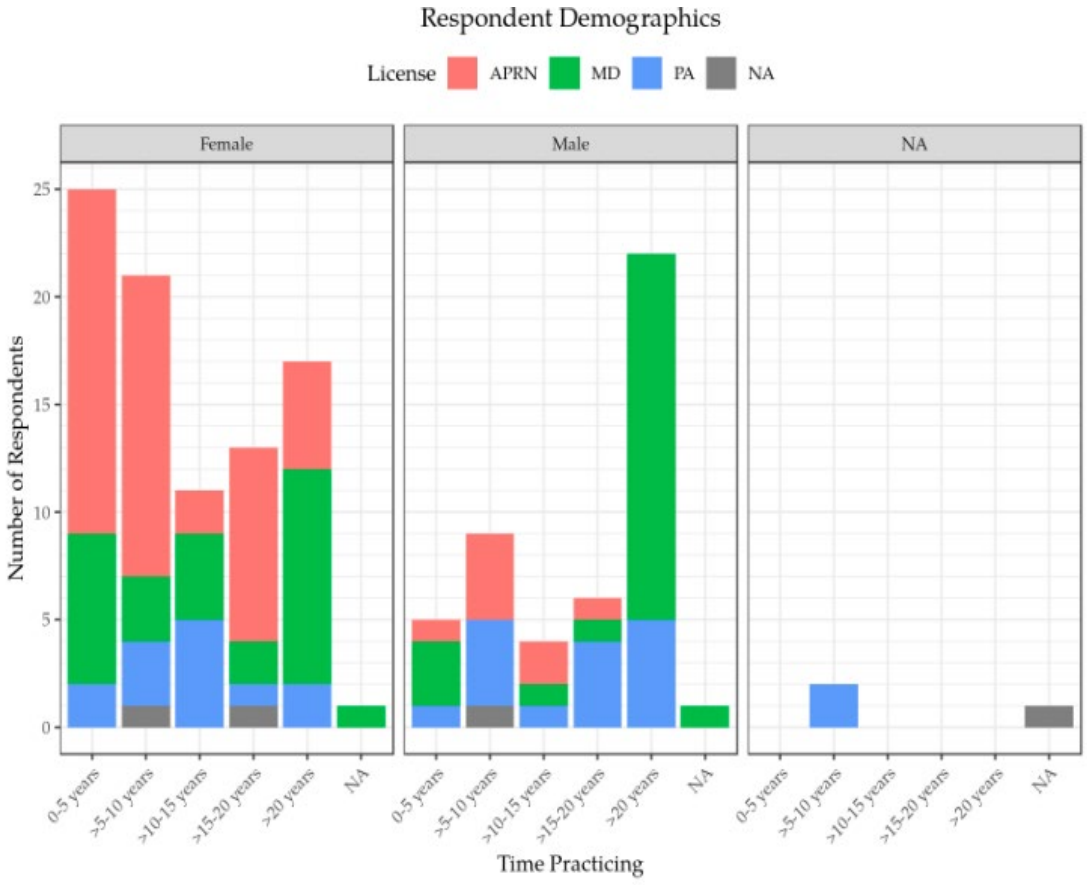
Demographics

A total of 370 surveys were distributed to PCPs in RUCC codes 4-9. Six surveys were returned unanswered. Three weeks after the initial distribution of the survey 236 reminder post cards were sent to providers that had not returned the survey. Twelve surveys were collected after the reminder post cards were sent. A total of 143 responses with an initial response rate of 39%. Analysis of the respondents revealed five unusable surveys. Three respondents reported that they were located in Carbon county and one reported being in Missoula county. These counties are in RUCC category 3 so these responses were omitted from the analysis. Another respondent reported being an obstetrics and gynecology provider and not a PCP, so this respondent was also omitted. One hundred thirty eight surveys were used for analysis with a response rate of 37%. The survey had two open ended questions asking about "National/Board Certification Type" and "Type of Practice". These questions yielded a large variety of responses, therefore, the results were unable to be categorized and analyzed.

Most respondents were female (n=88, 64%); 47 were male, and three respondents did not indicate their sex. When looking at the different types of providers, PAs accounted for 22% (n=30), MDs 36% (n=50), APRNs 39% (n=54), and four respondents (0.03%) did not indicate license type. The number of years of practice were sorted into five categories 0-5 years, 5-10 years, >10-15 years, >15-20 years, and > 20 years. The extrapolated data demonstrated that PAs years in practice varied from under 5 years to

greater than 20. There was higher number of female APRN participants (n=46) than male APRNs (n=8). As the time in practice increased, the number of APRN participants decreased: 0-5 years (n= 16 females, n=1 male), APRNs practicing >5-10 years (n=14 females, n= 4 males), APRNs practicing >10-15 years (n=2 females, n=2 male), APRNs practicing >15-20 years (n=9 females, n=1 males), and APRNs practicing > 20 years (n=5 females, n=0 males). The MD participants were commonly males who had practiced > 20 years (n= 17, 12%). There were 10 female MDs who had been practicing > 20 years. Figure 1 depicts the number of respondents, time practicing and the licensure type.

Figure 1: Bar Chart Showing the Number of Respondents within Each Combination of Demographics



The zip code was sorted into RUCC codes and used to categorize data. There were zero respondents in RUCC code 4 and 5. The number of participants in the remaining RUCC codes were: RUCC code 7 had the highest distribution of participants (n=56, 41%), followed by RUCC 9 (n=34, 24.6%). The overall distribution of participants demonstrated the majority worked in the most rural counties in the state. Table 2 contains the results of the number and percent of counties with the number and percent of respondents categorized by RUCC codes.

Table 2
Number and Percent of Counties and Respondents by RUCC.

RUCC	Number of Counties	Percent of Counties	Number of Respondents	Percent of Respondents
6	3	7.9	25	18.1
7	13	34.2	56	40.6
8	7	18.4	23	16.7
9	15	39.5	34	24.6

Knowledge

Results reported included the number of respondents and percentage to each question and was further categorized by RUCC codes. Percentages were rounded to the nearest tenth. The first three questions directly tested knowledge and generally, participants were accurate with an average of 92% answering correctly if PC and hospice are the same. When asked if hospice is a form of PC,

but not all PC is hospice, 94% of the respondents answered correctly. Lastly, 93% of respondents correctly answered “no” to the statement that PC is appropriate for patients only when they have less than 6 months to live.

Respondents had variable familiarity with PC principles and national guidelines. Those answering “No” ranged from 44% (RUCC 9) to 64% (RUCC 6) and answering “Yes” ranged from 32% (RUCC 6) to 52 % (RUCC 8). When asked about having personal resources to help meet provider needs when working with PC patients and families (Q9) the results ranged from 36% (RUCC 6) to 61% (RUCC 8) answering “Yes”. Respondents had mixed results with feeling like their workplace provided resources to support them when they want to initiate PC (Q10). Twenty four percent of respondents in RUCC 6, 39% in RUCC 7, 35% in RUCC 8, and 56% in RUCC 9 responded “no”.

Table 3 below provides results on knowledge and personal use of PC in practice for questions 1-16. The results combine all RUCC codes. The column titled “NA” represents those who did not answer.

Table 3.
Knowledge Responses (Questions 1-16), Shown as No. (%)

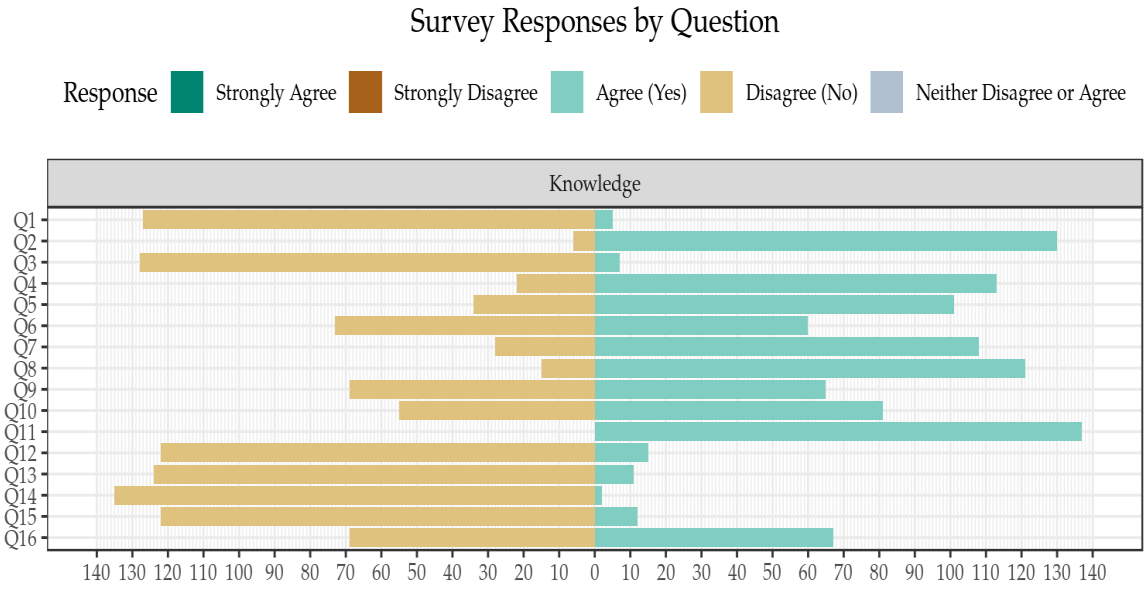
Question	No	Yes	NA
Q1: Palliative care and hospice are virtually the same.	127 (92.0)	5 (3.6)	6 (4.3)
Q2: Hospice is a form of palliative care, but not all palliative care is hospice	6 (4.3)	130 (94.2)	2 (1.4)
Q3: Palliative care is appropriate for patients only when they have less than 6 months to live.	128 (92.8)	7 (5.1)	3 (2.2)
Q4: I know how to use non-drug therapies/alternative treatments in management of patients’ symptoms.	22 (15.9)	113 (81.9)	3 (2.2)

Table 3 Continued

Q5 I know when patients are appropriate for referral to palliative care.	34 (24.6)	101 (73.2)	3 (2.2)
Q6: I am familiar with palliative care principles and national guidelines.	73 (52.9)	60 (43.5)	5 (3.6)
Q7: I am effective at helping patients and families navigate the health care system	28 (20.3)	108 (78.3)	2 (1.4)
Q8: I am effective at helping to maintain continuity across care settings.	15 (10.9)	121 (87.7)	2 (1.4)
Q9: I have personal resources to help meet my needs when working with palliative care patients and families.	69 (50.0)	65 (47.1)	4 (2.9)
Q10: My workplace provides resources to support me when I want to initiate palliative care.	55 (39.9)	81 (58.7)	2 (1.4)
Q11: Knowing a patient's wishes regarding their care is important for primary care providers.	0 (0.0)	137 (99.3)	1 (0.7)
Q12: It takes too much of my time to discuss advance care planning with a patient	122 (88.4)	15 (10.9)	1 (0.7)
Q13: Advance care planning is too difficult of a subject for patients and their family members to discuss.	124 (89.9)	11 (8.0)	3 (2.2)
Q14: It is the patient who should initiate discussions about advance care planning.	135 (97.8)	2 (1.4)	1 (0.7)
Q15: Advance care wishes are rarely honored.	122 (88.4)	12 (8.7)	4 (2.9)
Q16: Do you personally have advanced directives?	69 (50.0)	67 (48.6)	2 (1.4)

Figure 2 below demonstrates the number of respondents to each answer for questions 1-16. The diverging bar chart demonstrates the overall responses to each question, after aggregating over the different RUCCs. The diverging bar chart shows the frequency of responses. The selection choices for the questions 1-16 were either "Yes" or "No".

Figure 2. Diverging Bar Chart of the No. of Respondents Giving Each Possible Answer



Respondents in RUCC 9 did respond less (6%) frequently to > 50%-100% than those in RUCC 6 (24%) ,7 (29%), & 8 (30%) when asked how many of their patients had progressive, chronic life limiting diseases. Overall, the majority of respondents (45%) felt that their patients with progressive, chronic life limiting disease was 0-25%. Participants (31%) felt that they cared for >25-50% of patients with progressive, chronic life limiting diseases Nineteen percent of providers cared for >50-75% of patients with progressive, chronic life limited diseases and 4% had > 75-100% of patients with these conditions. The next question required participants to choose the percentage out of those patients with progressive chronic life-limiting disease that they initiated the conversation about AD. Forty three percent of participants discussed AD less than 50% of the time.

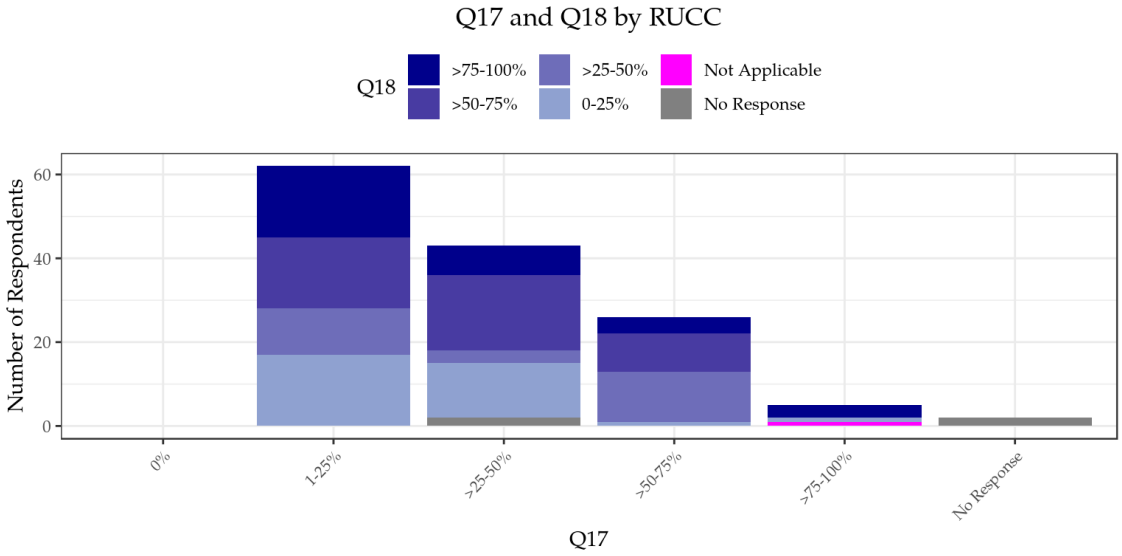
Table 4 shows the distribution of responses to question 17 (percent of patients with chronic disease) and 18 (percent of those patients with whom the provider has discussed advanced directives with). The responses demonstrates the combined RUCCs.

Table 4
Distribution, Shown as No. (%) of Responses to Q17 and Q18, Combining All RUCCs

Question	0%/Not Applicable	0-25%	>25-50%	>50-75%	>75-100%	No Response
Q17	0 (0.0)	62 (44.9)	43 (31.2)	26 (18.8)	5 (3.6)	2 (1.4)
Q18	1 (0.7)	32 (23.2)	26 (18.8)	44 (31.9)	31 (22.5)	4 (2.9)

Figure 3 demonstrates a bar chart of the number of respondents with each possible response to question 17 (percent of patients with chronic disease) and 18 (percent of those patients with whom the provider has discussed advanced directives with). The bar chart demonstrates the answers with combined RUCC data.

Figure 3. Bar Chart of the No. of Respondent's Answers to Q17 and Q18, Combining All RUCCs.



Respondents were asked who they believed was primarily responsible for initiating ACP discussions and were asked to circle all that applied. Attorneys was the least selected answer in all RUCC codes. The most selected answer in all RUCC codes was primary providers (97%). Patient was chosen between 60% (RUCC 6) and 80% (RUCC 7) of the time; patient families 60% (RUCC 6) and 75% (RUCC 7). Social workers were selected between 52% (RUCC 6) and 64% (RUCC 7) of the time. PC consultants was selected between 40% (RUCC 6) and 63 % (RUCC 7) of the time. There was no association with rurality for any of these categories.

Table 5 provides results on the number and percent of respondents in all RUCCs who selected each possible response to question 19, " Who do you believe is primarily responsible for initiating advanced care planning discussions?". The answers are displayed with all RUCCs combined.

Table 5
No. (%) of Respondents in Each RUCC Who Selected Each Possible Response to Q19, Combining All RUCCs.

Responsibility	Selected	Did Not Select
Attorneys	38 (27.5)	100 (72.5)
Primary Providers	133 (96.4)	5 (3.6)
Social Workers	79 (57.2)	59 (42.8)
Palliative Care Consultants	74 (53.6)	64 (46.4)
Patient	98 (71.0)	40 (29.0)
Patient Families	94 (68.1)	44 (31.9)

For additional responses to knowledge questions delineated by individual RUCC codes refer to Appendix D. See Appendix E for graphical representation of the response between each RUCC code for question 17 and 18.

Comfort

To assess comfort with PC, a 5-point Likert scale ranging from 1 “strongly disagree” to 5 “strongly agree was used. This section included 10 questions. Table 6 below provides results on questions 20-29. The column “NA” represents the participants who did not answer. Respondents generally felt comfortable with PC, with 44% to 100% of respondents in each RUCC answering "Agree" or "Strongly Agree" to each comfort question. The other categories that participants felt the least comfortable with were comfort in dealing with ethical issues related to EOL/hospice/palliative care (7%) and

comfort addressing spiritual issues with patients and their families (7%). There was no clear relationship between comfort and rurality.

Table 6
Distribution, Shown as No. (%), of Responses to Each Comfort Question

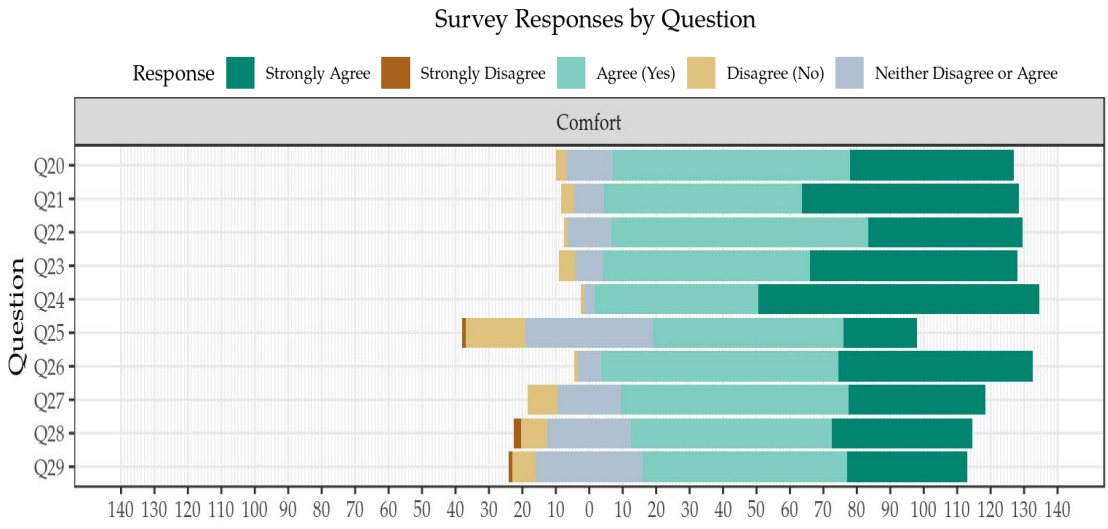
Question	Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree	NA
Q20: I am comfortable communicating a poor prognosis to patients and their family.	0 (0.0)	3 (2.2)	14 (10.1)	71 (51.4)	49 (35.5)	1 (0.7)
Q21: I am comfortable having advance care planning discussions in general with my patients.	0 (0.0)	4 (2.9)	9 (6.5)	59 (42.8)	65 (47.1)	1 (0.7)
Q22: I am able to set goals for care with patients and families.	0 (0.0)	1 (0.7)	13 (9.4)	77 (55.8)	46 (33.3)	1 (0.7)
Q23: I am comfortable talking to patients and families about personal choice and self-determination.	0 (0.0)	5 (3.6)	8 (5.8)	62 (44.9)	62 (44.9)	1 (0.7)
Q24: I am comfortable talking with other health care professionals about the care of chronically ill patients.	0 (0.0)	1 (0.7)	3 (2.2)	49 (35.5)	84 (60.9)	1 (0.7)
Q25: I am comfortable helping to resolve difficult family conflicts about palliative care and end-of-life care.	1 (0.7)	18 (13.0)	38 (27.5)	57 (41.3)	22 (15.9)	2 (1.4)
Q26: I am able to address patients' and family members' fears of getting addicted to pain medications.	0 (0.0)	1 (0.7)	7 (5.1)	71 (51.4)	58 (42.0)	1 (0.7)

Table 6 Continued

Question	Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree	NA
Q27: I am comfortable dealing with ethical issues related to end-of-life/hospice/palliative care.	0 (0.0)	9 (6.5)	19 (13.8)	68 (49.3)	41 (29.7)	1 (0.7)
Q28: I am comfortable addressing spiritual issues with patients and their families.	2 (1.4)	8 (5.8)	25 (18.1)	60 (43.5)	42 (30.4)	1 (0.7)
Q29: I am comfortable dealing with patients' and families' religious and cultural perspectives.	1 (0.7)	7 (5.1)	32 (23.2)	61 (44.2)	36 (26.1)	1 (0.7)

Figure 4 below shows number of respondents to each answer with combined RUCCs. The diverging bar chart displays the frequency of the respondents answers to each possible answer to questions 20-29.

Figure 4: Diverging Bar Chart of the No. of Respondents Answers to Comfort Questions (Q20-29)



For further representation of responses to each comfort question, refer to Appendix F, which demonstrates PC comfort delineated by individual RUCC codes.

Perceived Barriers

Perceived barriers to PC was assessed with the 5-point Likert scale and 13 questions were included. The most commonly documented barrier by respondents was the lack of understanding from patients and patients families about PC (80% answered "Agree" or "Strongly Agree"). Other commonly documented barriers (answers "Agree" or "Strongly Agree") were patients avoidance of discussing PC (72%,) family members avoidance of discussing PC (77%,) patients'/families' fear of addiction to pain medications (51%), and lack of continuity of care across settings (70%). Table 7 below demonstrates results on questions 30-42. The column "NA" represents those respondents who did not answer.

Table 7
Distribution, Shown as No. (%), of Responses to Each Barrier Question (Q30-42)

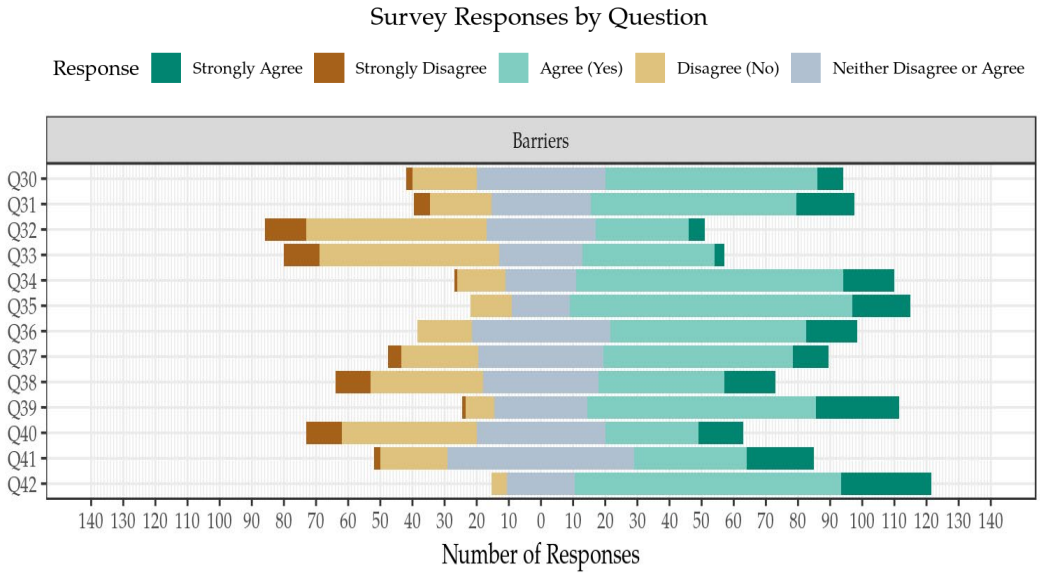
Question	Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree	NA
Q30: Lack of knowledge by health care professionals.	2 (1.4)	20 (14.5)	40 (29.0)	66 (47.8)	8 (5.8)	2 (1.4)
Q31: Health care professionals' personal discomfort with palliative care and end-of-life discussions.	5 (3.6)	19 (13.8)	31 (22.5)	64 (46.4)	18 (13.0)	1 (0.7)
Q32: Avoidance of chronically ill patients by health care professionals.	13 (9.4)	56 (40.6)	34 (24.6)	29 (21.0)	5 (3.6)	1 (0.7)

Table 7 Continued

Question	Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree	NA
Q33: Health care professionals fear of causing addiction by administering pain medications.	11 (8.0)	56 (40.6)	26 (18.8)	41 (29.7)	3 (2.2)	1 (0.7)
Q34: Patients' avoidance of discussing palliative care.	1 (0.7)	15 (10.9)	22 (15.9)	83 (60.1)	16 (11.6)	1 (0.7
Q35: Family members' avoidance of discussing palliative care.	0 (0.0)	13 (9.4)	18 (13.0)	88 (63.8)	18 (13.0)	1 (0.7)
Q36: Cultural factors influencing the acceptance of palliative care.	0 (0.0)	17 (12.3)	43 (31.2)	61 (44.2)	16 (11.6)	1 (0.7)
Q37: Patients'/families' fear of addiction to pain medications.	4 (2.9)	24 (17.4)	39 (28.3)	59 (42.8)	11 (8.0)	1 (0.7)
Q38: Legal restrictions placed on health care professionals in prescribing pain medications.	11 (8.0)	35 (25.4)	36 (26.1)	39 (28.3)	16 (11.6)	1 (0.7)
Q39: Lack of continuity of care across settings.	1 (0.7)	9 (6.5)	29 (21.0)	71 (51.4)	26 (18.8)	2 (1.4)
Q40: Lack of support from management.	11 (8.0)	42 (30.4)	40 (29.0)	29 (21.0)	14 (10.1)	2 (1.4)
Q41: Lack of reimbursement for providing palliative care.	2 (1.4)	21 (15.2)	58 (42.0)	35 (25.4)	21 (15.2)	1 (0.7)
Q42: Lack of understanding from patients and families about palliative care.	0 (0.0)	5 (3.6)	21 (15.2)	83 (60.1)	28 (20.3)	1(0.7)

Figure 5 below shows the number of respondents to each possible answer. The diverging bar chart depicts the frequency of each possible answer to questions 30-42. Results are displayed with combined RUCC codes.

Figure 5. Diverging Bar Chart of the No. of Respondents to Barrier Questions (Q30-42).



For supplementary responses to barrier questions presented by individual RUCC codes see Appendix G.

Open-Ended Question

Twenty seven percent of the participants responded to question 50. The most common theme noted by the participants was that lack of resources and access was an issue. Participants wrote, “Lack of time, resources”…“Limited access to rural home services for palliative care”…“Limited resources for end-stage dementia/AD”… “We don't have palliative or hospice care in Glacier County-Cut Bank”…“lack of resources in rural Montana makes it hard"…“Lack of resources in rural areas”…” Access is limited in small communities”…” I practice in a rural setting that doesn’t have a great access to palliative care, so any info you can provide would be great”… “Small community-

Pretty good formal hospice, but palliative care specific options are otherwise quite limited"… "Largest barrier is lack of resources in our rural community"… "In rural medicine there are very few resources for palliative/hospice care. Much of it falls on the families. Patients have to drive at least 2 hours for some palliative treatments".

Other providers (n=4) felt that education was lacking for both providers and patients. Statements included: "More didactic/education needs on palliative care to community and health care practitioners"… "I'm only as comfortable about palliative care b/c I have worked on it"…. "There's not enough teaching of it"… "General lack of public knowledge about death and dying is a barrier." Three respondents noted that lack of time was a barrier for them. Others mentioned barriers were patient's unacceptance of their disease, insurance, and lack of funding. One participant felt that "APRNS's deserve full practice authority to certify, order, and manage Home Health, palliative, Hospice Care". Participants (n=4) responded that they wished they had a hospice or PC program available to them and stated that they understood the importance of having PC available.

CHAPTER FIVE – DISCUSSION

Discussion

Demographics

As mentioned earlier, many of the providers had been practicing for greater than 20 years. Specific age was not asked in this survey, however, one can make some inference that the longer someone has been practicing, the older they may be. According to Rural Health Information Hub (2014), there were more older physicians practicing in rural areas than metropolitan areas. Furthermore, 19% of rural PAs are aged 55 or older, compared to urban PAs (13%). As previously mentioned, there is already a lack of providers in rural areas (Rural Health Information Hub, 2014). These participants are most likely nearing retirement and the need for more providers is necessary. With the lack of providers, it is crucial that the ones who are practicing in primary care are knowledgeable in all areas, including PC.

The results showed the number of practicing APRNs has increased over the last 10 years. Buerhaus, DesRoches, Dittus, and Donelan (2015) conducted a national postal mail survey of 467 primary care APRNs and 505 primary care physicians and found that primary care APRNs are more likely than physicians to practice in rural areas, provide care in a wider range of community settings and treat more vulnerable populations. Results demonstrated that primary care APRNs can be expected to continue to increase in numbers (Buerhaus et al., 2015). The increase in APRNs practicing in rural areas

demonstrates the importance of providing them with education and knowledge to provide PC.

Knowledge

Overall, the respondents were knowledgeable about the three basic questions asked, with an average of 93% being correct. The results did not demonstrate any relationship between rurality and knowledge. The questions asked in this survey were not the same as those in other studies (Pelayo-Alvares et al., 2013; Snyder et al., 2012; Tedder et al., 2017) however, the results of this project were not consistent in showing that there is a lack of knowledge with PC.

Familiarity to palliative care principles and national guidelines were variable. Only 44% of the participants answered that they are familiar with PC principles and national guidelines. Having personal resources to help meet provider needs when working with PC patients and families had an average of 47% of respondents answering "yes". Only 58% of participants felt that their workplace provided resources to support them when they wanted to initiate PC, and the results demonstrated that as the PCPs were practicing in more rural areas, they felt their workplace did not provide resources. The lack of resources in rural areas is supported in the literature (Caxaj et al., 2017: Tedder et al.,2017; Robinson et al.,2009).

The participants of the survey were asked about percentage of patients they care for with progressive, chronic life-limiting disease and there was no clear correlation with rurality, however, respondents in RUCC 9 did respond less frequently to > 50%-100% than those in the other RUCCs. Interestingly, majority of participants declared that 0-25%

of their patients had progressive, chronic life limiting diseases. Participants were then asked to choose the percentage out of those patients with progressive chronic life-limiting disease that they initiated the conversation about AD. There was no relationship with rurality, but it was discovered the conversation about AD was not initiated frequently.

When asked who the participants felt was primarily responsible for initiating ACP discussions, the most frequently selected answers was "primary providers" and there was no association between rurality. Participants feeling that initiating ACP is their responsibility is similar to the findings of Snyder et al. (2012). Researchers found that on average, PCPs discuss ACP with just 43% of patients with chronic life-limiting illnesses and only 61% of patients who are terminally ill. The results of this survey demonstrate that most PCPs feel it is their job to discuss ACP, however, only 23% of respondents actually have initiated a conversation about ADs 75-100% of the time and 54% did not initiate it >50% of the time.

Comfort

In general, respondents felt comfortable with PC. These results are similar to another study that demonstrated 97.5% of primary care physicians expressed comfort in discussing ACP (Snyder et al., 2012). The category that participants were least comfortable with was helping to resolve difficult family conflicts about PC and EOL (14%, "strongly disagree" or "disagree"). Comfort in dealing with ethical issues related to EOL/hospice/PC and comfort addressing spiritual issues were the other two most frequently documented categories, however, it is important to note that they were each chosen only 7% of the time. Participants generally felt comfortable with communicating

poor prognoses, setting goals of care, collaborating with other health care professionals, and having ACP discussions. Findings of the comfort section demonstrate that, overall, most of the respondents answered that they feel comfortable with PC, which is not consistent with other studies (Snyder et al., 2012; Tedder et al., 2017).

Perceived Barriers

Overall, PCP attitudes regarding barriers demonstrates that they agreed or strongly agreed that barriers are present with PC in rural areas. Participants from RUCC 9 responded that they "Agreed or "Strongly Agreed" to the barriers slightly more often than those in RUCC 6. For example when asked about support from management, the respondents in RUCC 9 (47%) responded "Agree" or "Strongly Agree," compared to the 12% in RUCC 6. The respondents living in more rural areas felt that management did not support them with trying to initiate PC, which could be associated with the data above that demonstrated that those is more rural areas did not feel they had the resources to provide PC by their workplace.

Participants responded that the most common barrier was the lack of understanding from patients and patients families about PC. Snyder et al. (2012) also found that physicians felt lack of patient/patient family receptivity was a barrier to PC. Tedder et al. (2017) also reported that patient's fear, misinterpretation of PC, and rural culture is a barrier to the ability for PCP to provide PC.

The barrier of health care professional's personal discomfort with PC and EOL discussions was documented 59% of the time. Snyder et al. (2012) also reported in their literature review that there is a lack of comfort with communication about PC. Patients

and family members avoidance of PC was a frequently documented barrier. Lack of continuity across care was also a perceived barrier by participant. Lastly, 51% of participants felt that patients'/families' fear of addiction to pain medications were a barrier.

Fifty four percent of participants felt that lack of knowledge by healthcare professionals was a barrier, while 29% of the respondents neither agreed or disagreed. Majority of the participants felt comfortable with PC, but many acknowledged that lack of knowledge was a barrier. The question does not ask if they perceive this lack in knowledge of themselves or if it is a lack of knowledge by others. Lack of provider knowledge as a barrier to PC is consistent with the literature (Fink et al., 2013; Snyder et al., 2012; Tedder et al., 2017).

Interestingly, 41% of respondents felt that lack of reimbursement for providing PC was a barrier. Improving knowledge in understanding how reimbursement for PC works could also increase the utilization of PC. Avoidance of chronically ill patients by health care providers and health care professionals fear of causing addiction by administering pain medications were not frequently document barriers.

Additional Comments about Palliative Care

Comments from the open-ended question about PC demonstrated that PCPs acknowledged the importance of PC and identified many different limitations to it being performed. As mentioned earlier, providers generally felt that there was a lack of resources, time, and education. It was also reported that they felt their patients had a lack of understanding of PC. Many of those who wrote an additional comment expressed the

desire for having a PC service. These results support the findings of other studies (Snyder et al., 2012; Fink et al., 2013; Tedder, Elliot, & Lewis, 2017).

Project Limitations

Some questions from the parent studies were altered to fit the purpose, which could change the validity and reliability of those questions. Participants were asked to put their time in practice into categories, such as 0-5 years, >5-10 years, > 10-15 years…etc., however, these categories are not discrete groups and may have caused misinterpretation and participants to choose the incorrect category. Another possible limitation is the data collection process. Some providers may have wished to answer the survey online, instead of utilizing physical mail. Email addresses were not available for this project, therefore, the paper and pencil method was used. The PCPs may have thought they did not have the time to get the survey back in the mail. There were a few surveys returned with the notice that the provider was no longer practicing at that office. If providers had recently moved, this could have limited the amount of responses.

The timing of sending out the surveys may have limited the amount of responses. Sending the survey at the beginning of summer could have limited the response rate, since providers may have been going on vacations or working less. Lastly, due to feasibility and time constraints, the DNP student did not explore all the different ways that the data could have been analyzed. The data could have possibly been categorized by provider type, which may have shown a correlation between how the different provider types answered the questions.

Implications

This project provides an assessment of rural PCPs knowledge of, personal use of, comfort with, and perceived barriers to PC utilization. The findings of this project fill an important gap in the literature as minimal studies have examined rural PCPs and PC. The project provides evidence that is pertinent rural populations, who are at risk for chronic, and terminal illnesses and may benefit from PC services initiated by PCPs.

Rural PCP are critical to the initiation of PC and are vital in practicing with a palliative approach (Shad et al., 2013). PCPs utilization is important due to the lack of PC specialists in rural areas (AHRQ, 2015; Parrish et al., 2015). The national PC guideline (2018) also supports the need for PCPs to begin early planning with PC and states that individuals with chronic and terminal illnesses and all individuals should receive PC if deemed of benefit. Studies have shown that when PC is initiated early in the treatment course, patient's quality of life improved and health care costs are reduced (Armstrong et al., 2012; Assi et al., 2017; Busher & Rowser, 2015; Hannon et al., 2017; Parrish et al., 2015; Sandsdalen et al., 2015; Taylor et al., 2013; Zhuang et al., 2018) .This project helps rural PCPs and administrators gain insight into the value of initiating PC and the barriers to providing PC.

Future evidence-based projects and research needs to be conducted to help understand how to better educate rural PCPs and their community members about PC services. More evidence should be collected to learn the best strategies to improve PCPs comfort with PC. Projects and research should also be conducted to determine how to best overcome the barriers with PC that were identified for rural PCPs. Effort should be

made to improve PC utilization to improve the lives of rural community dwellers. Rural community members are more self-reliant and will not always seek this type of care (Long & Weinert, 1989), thus, PCPs must be active in initiating PC discussions and be able to overcome the barriers.

Conclusion

The results from this project demonstrated a perceived lack of resources and barriers to rural PC. Studies have demonstrated the benefits of PC (Assi et al., 2017; Busher & Rowser, 2015; Hannon et al., 2017; Parrish et al., 2015; Taylor et al., 2013; Temel et al., 2010; Zhuang et al., 2018). This project and other research studies have indicated that rural dwellers are at an increased risk for not receiving PC and has identified reasons that it is not being utilized (Fink et al., 2013; Snyder et al., 2012; Tedder et al., 2017). It is important to identify new and inventive ways to overcome these barriers to increase access to PC in rural communities by utilizing PCPs.

One way to overcome lack of comfort and knowledge of PC would be to add PC content to the college curriculum for medical health care providers (MD). When reviewing U.S. medical school curriculum, Horowitz, Gramling, and Quill (2014) found uneven approaches to PC education and recommended that basic PC competencies should be determined and integrated into medical school. There is broad support to add PC and EOL training in medical schools because modest support has resulted in improved knowledge and attitudes, even though required experiences are rare (Morrison, Thompson, & Gill, 2012). APRNS are essential to quality PC, however, many APRNS

lack PC education and training (Dahlin et al., 2017). The End-Of-Life Nursing Education Consortium (ELNEC) created an APRN curriculum that has been shown to improve APRNS knowledge (Dahlin et al., 2017).

Another suggestion would be to initiate an educational program for current PCPs about PC. Literature has demonstrated that educational programs increased provider confidence with PC, improved PC utilization, and increased provider comfort with PC (Bakitas et al., 2015; Pelayo-Alvarez et al., 2013; Reymond et al., 2005).

It is important to know the resources needed for delivery of effective PC in rural settings. Having a conversation with PCPs practicing at rural hospitals and clinics will help to identify deficits specific to each workplace.

Furthermore, having a discussion with administrators of rural primary care organizations about lack of resources may open a dialogue to find ways to overcome the shortage of resources. It is important for administrators to know what resources are missing in order to help PCPs deliver PC.

REFERENCES CITED

Advancing Expert Care. (2017). *Certification.* Retrieved from https://advancingexpertcare.org/HPNA/Certification/HPCC/CertificationWeb/Certification.aspx?hkey=993a4764-2575-4c2e-ac38-203812fc7a0f

Agency for Healthcare Research and Quality. (2015). *2014 National healthcare quality and disparities report: Chart book on rural healthcare.* Retrieved from https://www.ahrq.gov/sites/default/files/wysiwyg/research/findings/nhqrdr/2014chartbooks/ruralhealth/2014nhqdr-ruralhealth.pdf

Alvarez, M. P. & Agra, Y. (2006). Systematic review of educational interventions in palliative care for primary care physicians. *Palliative Medicine*, *20*(7), 673-683. doi: 10.1177/0269216306071797

American Academy of Family Physicians. (2018). *Primary Care.* Retrieved from https://www.aafp.org/about/policies/all/primary-care.html

American Association of Colleges of Nursing. (2006). *The essentials of doctoral education for advanced nursing practice.* Retrieved from https://www.aacnnursing.org/Portals/42/Publications/DNPEssentials.pdf

American Board of Internal Medicine. (2017). *Hospice and palliative medicine policies.* Retrieved from http://www.abim.org/certification/policies/internal-medicine-subspecialty-policies/hospice-palliative-medicine.aspx

American Cancer Society. (2017). *Frequently asked questions*. Retrieved from https://www.cancer.org/treatment/finding-and-paying-for-treatment/understanding-financial-and-legal-matters/advance-directives/faqs.html

Armstrong, B., Jenigiri, B., Hutson, S., Wachs, P., & Lambe, C. (2012). The Impact of a Palliative Care Program in a Rural Appalachian Community Hospital. *American Journal of Hospice & Palliative Medicine*, *30*(4), 380-387. doi: 10.1177/1049909112458720

Assi, T., Rassy, E., Ibrahaim, T., Moussa, T., Tohme, A., Karak, F., Farhat, F., Faddoul, S., Ghosn, M., & Kattan, J. (2017). The role of palliative care in the last month of life in elderly cancer patients. *Supportive Care in Cancer*, *25*(2), 599-605. doi: 10.1007/s00520-016-3444-3

Baker, D. W., Wolf, M. S., Feinglass, J., Thompson, J. A., Gazmararian, J. A., & Huang, J. (2007). Health literacy and mortality among elderly persons. *Archives of Internal Medicine, 167*(14), 1503-1509. doi: 10.1001/archinte.167.14.1503

Bakitas, M., Elk, R., Astin, M., Ceronsky, L., Clifford, K., Dionne-Odom, N., Emanuel, L., Fink, R., Kvale, E., Levkoff, S., Ritchie, C., & Smith, T. (2016). Systematic review of palliative care in the rural setting. *Cancer Control, 22*(4), 450-464. doi: 10.1177/107327481502200411

Beernaert, K., Deliens, L., De Vleminck, A., Devroey, R., Pardon, K., Van den Block, L., & Cohen, J. (2016). Is there a need for early palliative care in patients with life-limiting illnesses? Interview study with patients about experienced care needs from diagnosis onward. *American Journal of Hospice and Palliative Medicine, 33*(5), 489-497. doi: 10.1177/1049909115577352

Braveman, P. (2006). Health disparities and health equity: Concepts and measurements. *Annual Review Public Health, 27*, 167-195. doi: 10.1146/annurev.publhealth.27.021405.102103

Brown, C.E., Anthony, B.L., Ford, D.W., Kross, E.K., Downey, L.D., Shannon, S.E., Curtis, J.R., & Engelberg, R.A. (2018). Self-assessment scores improve after simulation-based palliative care communication skill workshops. *American Journal of Hospice & Palliative Medicine, 35*(1), 45-51. doi: 10.1177/1049909116681972

Buerhaus, P.I., DesRoches, C.M., Dittus, R., & Donelan, K. (2015). Practice characteristics of primary care nurse practitioners and physicians. *Nursing Outlook, 63*(2), 144-153. doi: https://doi-org.proxybz.lib.montana.edu:3443/10.1016/j.outlook.2014.08.008

Busher, L. & Rowser, M. (2015). Symptom management of chronic illness in the adult outpatient setting. *Journal of Hospice & Palliative Nursing, 17*(4), 285-290. doi: 10.1097/NJH.0000000000000124

Caxaj, C.S., Schill, K., Janke, R. (2017). Priorities and challenges for palliative approach to care for rural indigenous populations: A scoping review. *Health and Social Care in the Community, 26*(3), 329-336. doi: 10.1111/hsc.12469

Centers for Disease Control and Prevention. (2016). *Chronic disease overview*. Retrieved from https://www.cdc.gov/chronicdisease/overview/

Centers for Disease Control and Prevention. (2017). *Rural Americans at higher risk of death from five leading causes.* Retrieved from https://www.cdc.gov/media/releases/2017/p0112-rural-death-risk.html

Center for Hospice Care. (2018). *Hospice & palliative care.* Retrieved from https://www.hospicesect.org/hospice-and-palliative-care

Center to Advanced Palliative Care. (2017). *What is palliative care*. Retrieved from https://getpalliativecare.org/whatis/

Chafey, K., Sullivan, T., & Shannon, A. (1998). Self-reliance: Characteristics of their own autonomy by elderly rural women. In H. J. Lee (Ed.), Conceptual basis for rural nursing (pp. 156–177). New York, NY: Springer Publishing.

Christensen, K.L. (2017). Advance care planning in rural Montana: Exploring the nurse's role (Doctoral dissertation). Retrieved from https://scholarworks.montana.edu/xmlui/bitstream/handle/1/12761/ChristensenK0517.pdf?sequence=4&isAllowed=y

Coburn, A.F., Mackinney, A.C., McBride, T.D., Mueller, K.J., Slifkin, R.T., & Wakefield, M.K. (2007). Choosing rural definitions: Implications for health policy. *Rural Policy Research Institute Health Panel.* Retrieved from http://www.rupri.org/Forms/RuralDefinitionsBrief.pdf

Dahlin, C.M., Coyne, P.J., Paice, J., Malloy, P., Thaxton, C.A., & Haskamp, A. (2017). ELNEC-APRN: Meeting the needs of advanced practice nurses through education. *Journal of Hospice & Palliative Nursing, 19*(3), 261-265. doi: 10.1097/NJH.0000000000000340

Department of Public Health and Human Services. (2011). *Montana Chronic Disease Plan.* Retrieved from https://dphhs.mt.gov/Portals/85/publichealth/documents/Overall/MontanaChronicDiseasePlan.pdf

Ferrell, B. R., Virani, R., & Grant, M. (1999). Analysis of end-of-life content in nursing textbooks. Oncology Nursing Forum, 26(5), 869–876 Retrieved from http://prc.coh.org/pdf/Instruments.pdf

Fink, R.M., Oman, K.S., Youngwerth, J., & Bryant, L.L. (2013). A palliative care needs assessment of rural hospital. *Journal of Palliative Medicine, 16*(6), 638-644. Doi:10.1089/jpm.2012.0574

George Washington University Health Workforce Institute, Salsberg, E., Mehfoud, N., Quigley, L., Lupu, D., & GW School of Nursing. (2017). Palliative medicine physicians, 2016. Retrieved from http://aahpm.org/uploads/AAHPM17_WorkforceStudy_July_2017_Profile_Final.pdf

Hannon, B., Swami, N., Rodin, G., Pope, A., & Zimmerman, C. (2017) Experiences of patients and caregivers with early palliative care: A qualitative study. *Palliative Medicine, 31*(1), 72–81. doi: 10.1177/0269216316649126

Health Resources and Services Administration. (2017). *Defining rural population.* Retrieved from https://www.hrsa.gov/rural-health/about-us/definition/index.html

Horowitz, R., Gramling, R., & Quill, T. (2014). Palliative care education in US medical schools. *Medical Education, 48*(1), 59-66. doi: 10.1111/medu.12292

Kim, S.L. & Tarn, D.M. (2016). Effect of primary care involvement on end-of-life care outcomes: A systematic review. *Journal of American Geriatrics Society*, *64*(10), 1968-1974. doi: 10.1111/jgs.14315

Lazenby, M., Ercolano, E., Schulman-Green, D., & McCorkle, R. (2012). Validity of the end-of-life professional caregiver survey to assess for multidisciplinary educational needs. *Journal of Palliative Medicine, 15*(4), 427-431. doi: 10.1089/jpm.2011.0246

Lee, H., Winters, C. A., Boland, R. L., Raph, S. J., & Buehler, J. A. (2013). An Analysis of Key Concepts for Rural Nursing. In C. A. Winters (Ed.), *Rural Nursing: Concepts, Theory, and Practice, Fourth Edition* (4th ed.). New York, NY: Springer Publishing Company.

Leemans, K., Van den Block, L., Stichele, R.V., Francke, A.L., Deliens, L., & Cohen, J. (2015). How to implement quality indicators successfully in palliative care services: Perceptions of team members about facilitators of and barriers to implementation. *Support Care Cancer, 23*(12), 3503-3511. doi: 10.1007/s00520-015-2687-8

Long, K. A., & Weinert, C. (1989). Rural nursing: Developing the theory base. *Scholarly Inquiry for Nursing Practice: An International Journal , 3*(2), 113-127.

Loscalzo, M.J. (2008). Palliative care: An historical perspective. *American Society of Hematology: The Education Program, 2008*(1), 465, doi:10.1182/asheducation-20081.465

Martinez, J. (2005). HPNA news: Hospice and palliative care specialty certification for LPNS and LVNS. *Home Healthcare Now, 23*(2), 121-122. Retrieved from https://www.nursingcenter.com/journalarticle?Article_ID=571452&Journal_ID=2695880&Issue_ID=571420

MedlinePlus. (2015). *Choosing a primary care provider.* Retrieved from https://medlineplus.gov/ency/article/001939.htm

Morrison, L.J., Thompson, B.M., & Gill, A.C. (2012). A required third-year medical student palliatice care curriculum impacts knowledge and attitudes. *Journal of Palliative Medicine, 15*(7), 784-789. doi: 10.1089/jpm.2011.0482

Mousing, C.A., Timm, H., Lomborg, K., & Kirkevold, M. (2018) Barriers to palliative care in people with chronic obstructive pulmonary disease in home care: A qualitative study of the perspective of professional caregivers. *Journal of Clinical Nursing, 27*(3-4), p 650-660. doi: 10.1111/jocn.13973

National Cancer Institute. (2010). *Palliative care in cancer.* Retrieved from https://www.cancer.gov/about-cancer/advanced-cancer/care-choices/palliative-care-fact-sheet

National Coalition for Hospice and Palliative Care. (2018). *Clinical practice guidelines for quality palliative care.* Retrieved from https://www.nationalcoalitionhpc.org/wp-content/uploads/2018/10/NCHPC-NCPGuidelines_4thED_web_FINAL.pdf

National Guideline, C. (2013). *Palliative care for adults.* Retrieved from https://www.guideline.gov/summaries/summary/47629/palliative-care-for-adults?q=palliative+care

National Health Council. (2016). *About chronic conditions.* Retrieved from http://www.nationalhealthcouncil.org/newsroom/about-chronic-conditions

National Rural Health Association. (2017). *About rural healthcare.* Retrieved from https://www.ruralhealthweb.org/about-nrha/about-rural-health-care

Nichols, E., Sullivan, T., Ide, B., Shreffler-Grant, J., & Weinert, C. (2005). Health care choices: Complementary therapy, chronic illness, and older rural dwellers. *Journal of Holistic Nursing,* 23(4), 381-384. doi: 10.1177/0898010105281088

Palliative Doctors. (2017). *A team approach to hospice and palliative care.* Retrieved from http://palliativedoctors.org/team/team-approach

Parrish, M., Kinderman, A., & Rabow, M. (2015). Weaving palliative care into primary care: A guide for community health centers. Retreived from https://www.chcf.org/wp-content/uploads/2017/12/PDF-WeavingPalliativeCarePrimaryCare.pdf

Pelayo Alvarez, M., & Agra, Y. (2006). Systematic review of educational interventions in palliative care for primary care physicians. *Palliative medicine, 20*(6), 673-683. doi:10.1177/0269216306071794

Pelayo-Alvarez, M., Perez-Hoyos, S., & Agra-Varela, Y. (2013). Clinical Effectiveness of Online Training in Palliative Care of Primary Care Physicians. *Journal of Palliative Medicine, 16*(10), 1188- 1196. doi: 10.1089/jpm.2013.0005

Rainsford, S., MacLeod, R., Glasgow, N., Phillips, C., Wiles, R., & Wilson, D. (2017) Rural end-of-life care from the experiences and perspectives of patients and family caregivers: A systematic literature review. *Palliative Medicine, 31*(10), 895-912. doi: 10.1177/0269216316685234

Registered Nursing. (2017). *Palliative care nurse.* Retrieved from http://www.registerednursing.org/specialty/palliative-care-nurse/

Reymond, L., Charles, M., Israel, F., Read, T., & Treston, P. (2005). A strategy to increase the palliative care capacity of rural primary health care providers. *The Australian Journal of Rural Health, 13*(3), 156-161. doi: 10.1111/j.1440-1854.2005.00687.x

Robinson, C.A., Pesut, B., Bottorff, J.L., Mowry, A., Broughton, S., & Fyles, G. (2009). Rural palliative care: A comprehensive review. *Journal of Palliative Medicine, 12*(3), 253-258. doi 10.1089=jpm.2008.0228

Rosenberg, L.B., Greenwald, J., Caponi, B., Doshi, A., Epstein, H., Frank, J.,…Anderson, W.G. (2017). Confidence with and barriers to serious illness communication: A national survey of hospitalist. *Journal of Palliative Medicine, 20*(9), 1013- 1019. doi: 10.1089/jpm.2016.0515

Rural Health Information Hub. (2014). *Rural healthcare workforce.* Retrieved from https://www.ruralhealthinfo.org/topics/health-care-workforce

Rural Health Information Hub. (2015). *Rural Hospice and Palliative Care*. Retrieved from https://www.ruralhealthinfo.org/topics/hospice-and-palliative-care

Sandsdalen, T., Hov, R., Høye, S., Rystedt, I., & Wilde-Larsson, B. (2015). Patients' preferences in palliative care: A systematic mixed studies review. *Palliative Care, 29*(5), 399–419. doi: 10.1177/0269216314557882

Shadd, J.D., Burge, F., Stajduhar, K.I., Cohen, S.R., Kelley, M.L., Pesut, B. (2013). Defining and measuring a palliative approach in primary care. *Canadian Family Physician, 59*(11), 1149-1150. Retrieved from http://www.cfp.ca/content/59/11/1149.long

Skillman, S.M. & Dahal, A. Montana's physician workforce in 2017. (2017). Center for Health Workforce Studies, University of Washington. Retrieved from http://depts.washington.edu/fammed/chws/wp-content/uploads/sites/5/2017/04/montana-physician-workforce-in-2016.pdf

Snyder, S., Hazelett, S., Allen, K., & Radwany, S. (2012). Physician knowledge, attitude, and experience with advance care planning, palliative care, and hospice: Results of a primary care survey. *American Journal of Hospice & Palliative Medicine, 30*(5), 418-424. doi: 10.1177/1049909112452467

Taylor, D., Bull, J., Zhong, X., Samsa, G., & Abernethy, A. (2013). The Effect of Palliative Care on Patient Functioning. *Journal of Palliative Medicine, 16*(10), 1227-1231. doi: 10.1089/jpm.2013.0040

Tedder, T., Elliott, L., & Lewis, K. (2017). Analysis of common barriers to rural patients utilizing hospice and palliative care services: An integrated literature review. *Journal of the American Association of Nurse Practitioners, 29*(6), 356-362. doi:10.1002/2327-6924.12475

Temel, J.S., Greer, J.A., Muzikansky, A., Gallagher, E.R., Admane, S., Jackson, V.A.,…Lynch, T.J. (2010). Early palliative care for patients with metastatic non-small-cell lung cancer. *New England Journal of Medicine, (363)*8, 733-742. Retrieved from https://www.nejm.org/doi/pdf/10.1056/NEJMoa1000678

United States Census Bureau. (2018a) *Metropolitan and micropolitan.* Retreived from https://www.census.gov/programs-surveys/metro-micro/about.html

United States Census Bureau. (2018). *What is rural america?* Retrieved from https://www.census.gov/library/stories/2017/08/rural-america.html

United States Department of Agriculture (2016). *Rural-urban continuum codes.* Retrieved from https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/

United States Department of Agriculture (2018). *Overview*. Retrieved from https://www.ers.usda.gov/topics/rural-economy-population/rural-classifications/

UPMC Palliative and Supportive Institute. (2014). *Palliative care, yesterday and today.* Retrieved from https://www.upmc.com/-/media/upmc/services/palliative-and-supportive-institute/resources/documents/psi-history-palliative-care.pdf?la=en&hash=D274963350CAD0BCAF51FA18139184D84F569A9E

U.S. Department of Health and Human Services. (2000). Healthy people 2010, section 11-2: Health communication objective. Retrieved from https://www.healthypeople.gov

Wyoming Idaho Montana Tracking (n.d.). *The story behind WIM.* Retrieved from https://wimtracking.org/about-wim-tracking/

World Health Organization (2017a). *Chronic diseases and health promotion*. Retrieved from http://www.who.int/chp/en/

World Health Organization (2017b). *WHO Definition of Palliative Care.* Retrieved from http://www.who.int/cancer/palliative/definition/en/

Zahnd, W. E., Scaife, S. L., & Francis, M. L. (2009). Health literacy skills in rural and urban populations. *American Journal of Health Behaviors, 33*(5), 550-557. doi: 10.5993/AJHB.33.5.8

Zhuang, H., Ma, Y., Wang, L., & Zhang, H. (2018). Effect of early palliative care on quality of life in patients non-small-cell lung cancer. *Current Oncology, 25*(1), 54-58. doi:10.3747/co.25.3639

APPENDICES

APPENDIX A

SURVEY COVER LETTER

MONTANA STATE UNIVERSITY
College of NURSING

Main Campus
Sherrick Hall
P.O. Box 173560
Bozeman, MT 59717-3560
Tel 406-994-3783
Fax 406-994-6020

Billings Campus
1500 University Drive
MSU-Billings Campus, Box 574
Billings, MT 59101
Tel 406-657-2912
Fax 406-657-1715

Great Falls Campus
400 15th Ave. South, Suite 106
Great Falls, MT 59405
Tel 406-771-4450
Fax 406-771-4449

Missoula Campus
32 Campus Drive #7416
Missoula, MT 59812-7416
Tel 406-243-6515
Fax 406-243-5745

Kalispell Site
210 Sunny View Lane, Suite 5
Kalispell, MT 59901
Tel 406-751-6967
Fax 406-257-3415

Mountains & Minds

Palliative Care Survey

Dear Provider,

I am a student in the Doctorate of Nursing Practice, Family Nurse Practitioner program at Montana State University (MSU). My scholarship is focused on the delivery of palliative care in Montana. Please accept this invitation to participate in a survey designed to explore primary care providers' knowledge, beliefs, and comfort with palliative care, and the barriers to the delivery of palliative care in Montana. The results from this survey will help me better understand the issues effecting palliative care services.

Your name was chosen from the Health Workforce Research and Data Services (WIM Tracking) database. Your participation involves completing the enclosed survey and mailing it back to me using the envelope provided. Survey questions have been adapted from several validated surveys. It should take approximately 15-20 minutes to complete the survey. The returned completed survey will serve as consent to participate. The information you share will be reported without identifying you.

While I would be most grateful for your help, your participation is voluntary. If you choose not to complete the survey, please return it unanswered to me so that I can remove you from follow up reminders.

The study received human subject committee approval from MSU and funding from The Helen J. Lee Endowment. If you have questions, do not hesitate to contact me at heather.d.johns@gmail.com or my primary advisor, Dr. Charlene Winters at winters@montana.edu. Additionally, if you have any concerns about your participation, please call or write Dr. Mark Quinn, Chair, MSU Institutional Review Board at 406-994-6783 or mquinn@montana.edu.

Thank you in advance for your time.
Heather Johns, BSN, RN
Nurse practitioner student
MSU College of Nursing
1-406-289-0740
heather.d.johns@gmail.com

APPENDIX B

SURVEY

Palliative Care Survey

The following 19 questions will assess knowledge and personal use of palliative care.
Please circle your responses: Y= Yes; N= No

1. Palliative care and hospice are virtually the same. Y N

2. Hospice is a form of palliative care, but not all palliative care is hospice. Y N

3. Palliative care is appropriate for patients only when they have less than 6 months to live. Y N

(Q. 1-3 adapted from Snyder, Hazelett, Allen, & Radwany, 2012)

4. I know how to use non-drug therapies/alternative treatments in the management of patients' symptoms. Y N

5. I know when patients are appropriate for referral to palliative care. Y N

6. I am familiar with palliative care principles and national guidelines. Y N

7. I am effective at helping patients and families navigate the health care system. Y N

8. I am effective at helping to maintain continuity across care settings. Y N

9. I have personal resources to help meet my needs when working with palliative care patients and families. Y N

10. My workplace provides resources to support me when I want to initiate palliative care. Y N

(Q. 4-10 adapted from Lazenby, Ercolano, Schulman-Green, & McCorkle, 2012)

11. Knowing a patient's wishes regarding their care is important for primary care providers. Y N

12. It takes too much of my time to discuss advance care planning with a patient. Y N

13. Advance care planning is too difficult of a subject for patients and their family members to discuss.
Y N

14. It is the patient who should initiate discussions about advance care planning. Y N

15. Advance care wishes are rarely honored. Y N

16. Do you personally have advanced directives? Y N

Please circle the correct response.

17. About what percentage of the patients in your care have a progressive, chronic life-limiting disease?
    0% 1-25% >25-50% >50-75% >75-100%

18. Of your patients that have progressive, chronic life-limiting disease, about what percentage have you initiated a conversation about advanced directives?
    N/A 0-25% >25-50% >50-75% >75-100%

19. Who do you believe is primarily responsible for initiating advance care planning discussions? Circle all that apply.

a. attorneys
b. primary providers
c. social workers
d. palliative care consultants
e. patient
f. patient's family

(Q. 11-19 adapted from Snyder, Hazelett, Allen, & Radwany, 2012)

Continued on next page.

The following 10 questions assess comfort with palliative care.
Please circle your response.

To what extent do you agree or disagree with the following statements:	Strongly Disagree	Disagree	Neither Disagree Or Agree	Agree	Strongly Agree
20. I am comfortable communicating a poor prognosis to patients and their family.	1	2	3	4	5
21. I am comfortable having advance care planning discussions in general with my patients.	1	2	3	4	5
22. I am able to set goals of care with patients and families.	1	2	3	4	5
23. I am comfortable talking to patients and families about personal choice and self-determination.	1	2	3	4	5
24. I am comfortable talking with other health care professionals about the care of chronically ill patients.	1	2	3	4	5
25. I am comfortable helping to resolve difficult family conflicts about palliative care and end-of-life care.	1	2	3	4	5
26. I am able to address patients' and family members' fears of getting addicted to pain medications.	1	2	3	4	5
27. I am comfortable dealing with ethical issues related to end-of-	1	2	3	4	5

life/hospice/palliative care.					
28. I am comfortable addressing spiritual issues with patients and their families.	1	2	3	4	5
29. I am comfortable dealing with patients' and families' religious and cultural perspectives.	1	2	3	4	5

(Q. 20-29 adapted from Lazenby, Ercolano, Schulman-Green, & McCorkle, 2012)

The following 13 questions ask about your perceived barriers to palliative care. Please circle your response.

To what extent do you agree or disagree with the following statements:	Strongly Disagree	Disagree	Neither Disagree Or Agree	Agree	Strongly Agree
30. Lack of knowledge by health care professionals.	1	2	3	4	5
31. Health care professionals' personal discomfort with palliative care and end-of-life discussions.	1	2	3	4	5
32. Avoidance of chronically ill patients by health care professionals.	1	2	3	4	5
33. Health care professionals fear of causing addiction by administering pain medications.	1	2	3	4	5
34. Patients' avoidance of	1	2	3	4	5

discussing palliative care.					
35. Family members' avoidance of discussing palliative care.	1	2	3	4	5
36. Cultural factors influencing the acceptance of palliative care.	1	2	3	4	5
37. Patients'/families' fear of addiction to pain medications.	1	2	3	4	5
38. Legal restrictions placed on health care professionals in prescribing pain medications.	1	2	3	4	5
39. Lack of continuity of care across settings.	1	2	3	4	5
40. Lack of support from management.	1	2	3	4	5
41. Lack of reimbursement for providing palliative care.	1	2	3	4	5
42. Lack of understanding from patients and families about palliative care.	1	2	3	4	5

(Q. 30-42 adapted from Ferrel, Virani, & Grant, 1999)

About You

Please tell me about yourself.

43. Your license type: (MD, PA, APRN)_____

44. National/Board Certification type:_____

45. Type of practice: _____

46. Gender: _____ Male _____ Female _____ Other/Prefer To Not Say

47. How long have you been practicing? 0-5 yrs >5-10 yrs >10-15 yrs

>15-20 yrs >20 yrs

48. Do you have a particular sub-specialization? ___Yes ___ No

If yes, sub-specialty:_____

49. Zip Code for your current practice location: _____

50. Is there anything else you would like to share with me about providing palliative care to your patients? Please write your comments below.

Thank you! Please mail your completed survey to me in the envelope provided.

References:

Lazenby, M., Ercolano, E., Schulman-Green, D., & McCorkle, R. (2012). Validity of the end-of-life professional caregiver survey to assess for multidisciplinary education needs. *Journal of Palliative Medicine,* 15 (4), 427-431. doi: 10.1089/jpm.2011.0246.

Snyder, S., Hazelett, S., Allen, K., & Radwany, S. (2012). Physician knowledge, attitude, and experience with advance care planning, palliative care, and hospice: Results of a primary care survey. *American Journal of Hospice & Palliative Medicine,* 30(5), 418-424. doi: 10.1177/1049909112452467

Ferrell, B. R., Virani, R., & Grant, M. (1999). Analysis of end-of-life content in nursing textbooks. Oncology Nursing Forum, 26(5), 869–876. Retrieved from http://prc.coh.org/pdf/Instruments.pdf

APPENDIX C

RUCC CODES WITH DEFINITIONS

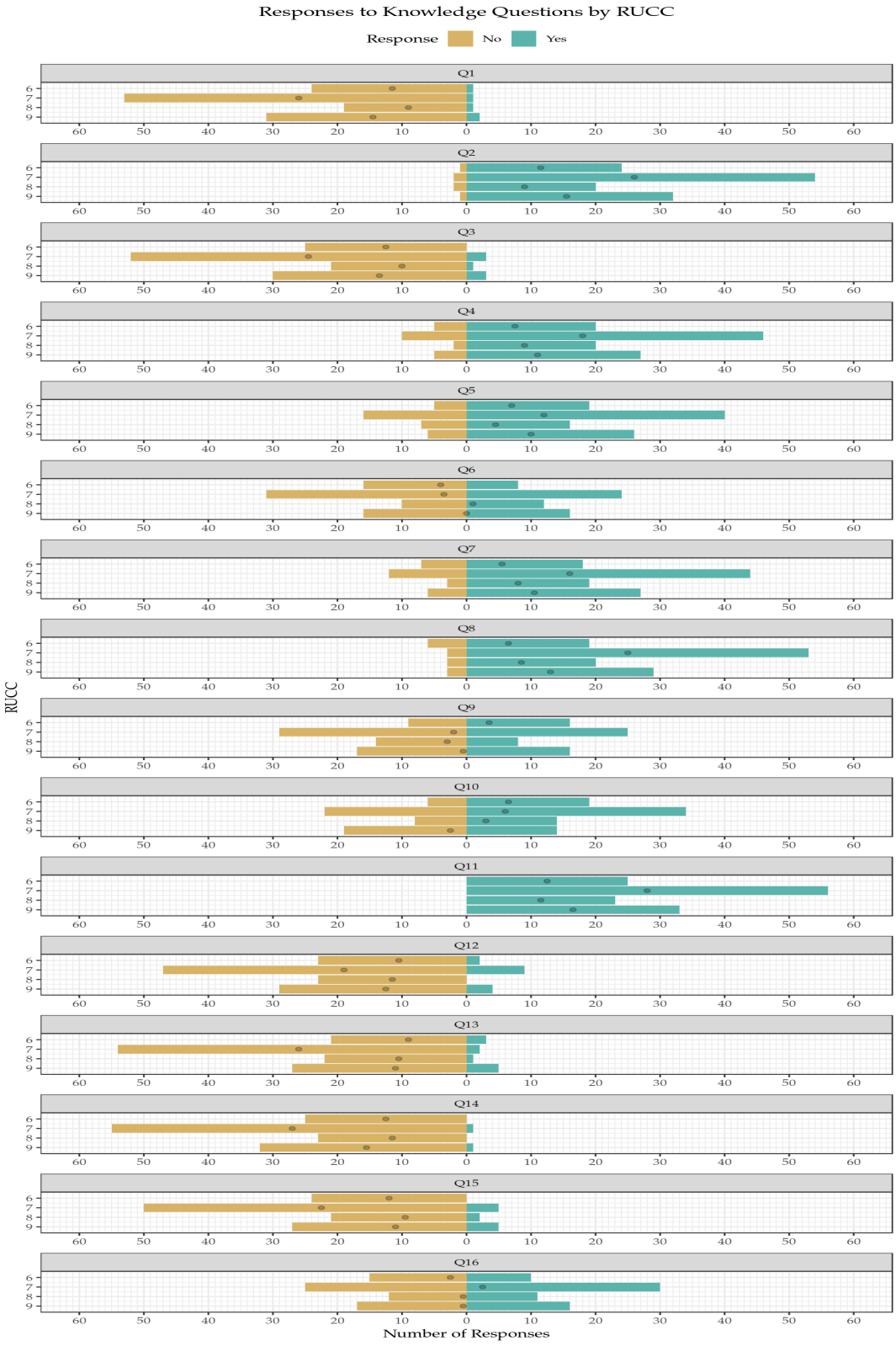
RUCC Codes with Definitions			
County Name	**Population**	**RUCC**	**Description**
Beaverhead County	9,246	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
Big Horn County	12,865	6	Nonmetro - Urban population of 2,500 to 19,999, adjacent to a metro area
Blaine County	6,491	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Broadwater County	5,612	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Carter County	1,160	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Chouteau County	5,813	8	Nonmetro - Completely rural or less than 2,500 urban population, adjacent to a metro area
Custer County	11,699	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
Daniels County	1,751	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Dawson County	8,966	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
Deer Lodge County	9,298	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
Fallon County	2,890	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Fergus County	11,586	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
Flathead County	90,928	5	Nonmetro - Urban population of 20,000 or more, not adjacent to a metro area
Gallatin County	89,513	5	Nonmetro - Urban population of 20,000 or more, not adjacent to a metro area
Garfield County	1,206	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Glacier County	13,399	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
Granite County	3,079	8	Nonmetro - Completely rural or less than 2,500 urban population, adjacent to a metro area
Hill County	16,096	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
Jefferson County	11,406	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Judith Basin County	2,072	8	Nonmetro - Completely rural or less than 2,500 urban population, adjacent to a metro area
Lake County	28,746	6	Nonmetro - Urban population of 2,500 to 19,999, adjacent to a metro area
Lewis and Clark County	63,395	5	Nonmetro - Urban population of 20,000 or more, not adjacent to a metro area
Liberty County	2,339	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Lincoln County	19,687	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area

RUCC Codes with Definitions			
County Name	**Population**	**RUCC**	**Description**
McCone County	1,734	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Madison County	7,691	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Meagher County	1,891	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Mineral County	4,223	8	Nonmetro - Completely rural or less than 2,500 urban population, adjacent to a metro area
Musselshell County	4,538	8	Nonmetro - Completely rural or less than 2,500 urban population, adjacent to a metro area
Park County	15,636	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
Petroleum County	494	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Phillips County	4,253	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Pondera County	6,153	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
Powder River County	1,743	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Powell County	7,027	6	Nonmetro - Urban population of 2,500 to 19,999, adjacent to a metro area
Prairie County	1,179	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Ravalli County	40,212	6	Nonmetro - Urban population of 2,500 to 19,999, adjacent to a metro area
Richland County	9,746	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
Roosevelt County	10,425	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
Rosebud County	9,233	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Sanders County	11,413	8	Nonmetro - Completely rural or less than 2,500 urban population, adjacent to a metro area
Sheridan County	3,384	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Silver Bow County	34,200	5	Nonmetro - Urban population of 20,000 or more, not adjacent to a metro area
Stillwater County	9,117	8	Nonmetro - Completely rural or less than 2,500 urban population, adjacent to a metro area
Sweet Grass County	3,651	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Teton County	6,073	8	Nonmetro - Completely rural or less than 2,500 urban population, adjacent to a metro area
Toole County	5,324	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
Treasure County	718	8	Nonmetro - Completely rural or less than 2,500 urban population, adjacent to a metro area

RUCC Codes with Definitions			
County Name	**Population**	**RUCC**	**Description**
Valley County	7,369	7	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
Wheatland County	2,168	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area
Wibaux County	1,017	9	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area

APPENDIX D

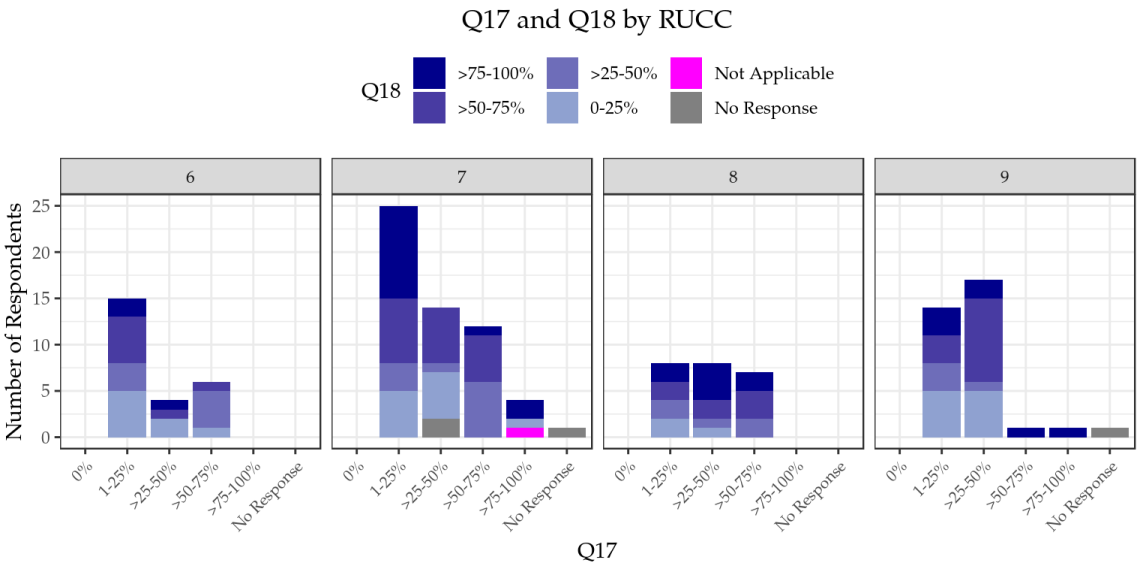
RESPONSES TO KNOWLEDGE QUESTIONS BY RUCC


Responses to Knowledge Questions by RUCC
Response
No
Yes
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
Q11
Q12
Q13
Q14
Q15
Q16
RUCC
6
7
8
9
60
50
40
30
20
10
0
Number of Responses

APPENDIX E

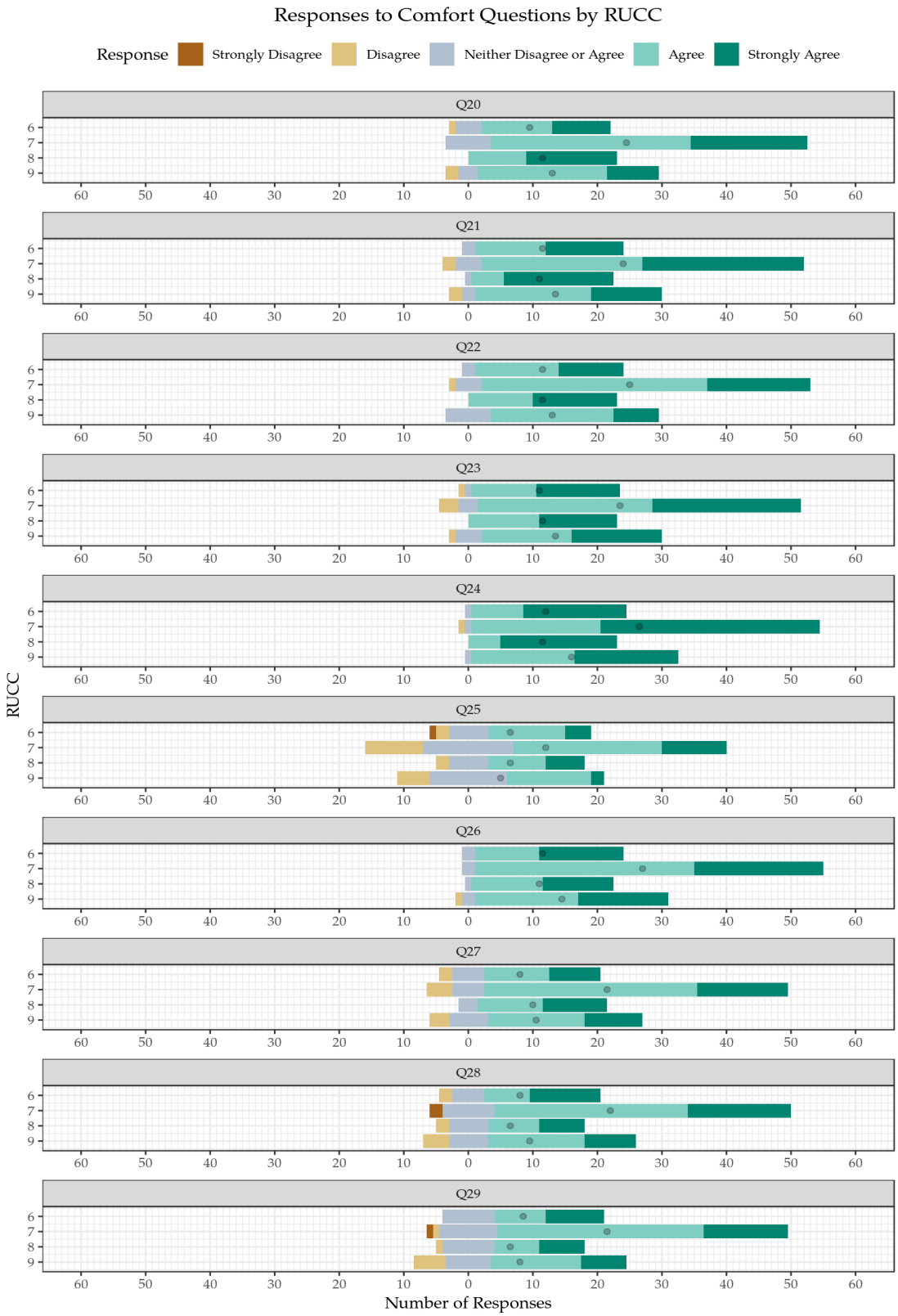
BAR CHART OF ANSWERS TO Q17 AND 18 BY RUCC

Bar chart of the no. of respondents giving each possible response to Q17 (% of patients with chronic disease) and Q18 (% of those patients with whom the provider has discussed advanced directives) by RUCC.



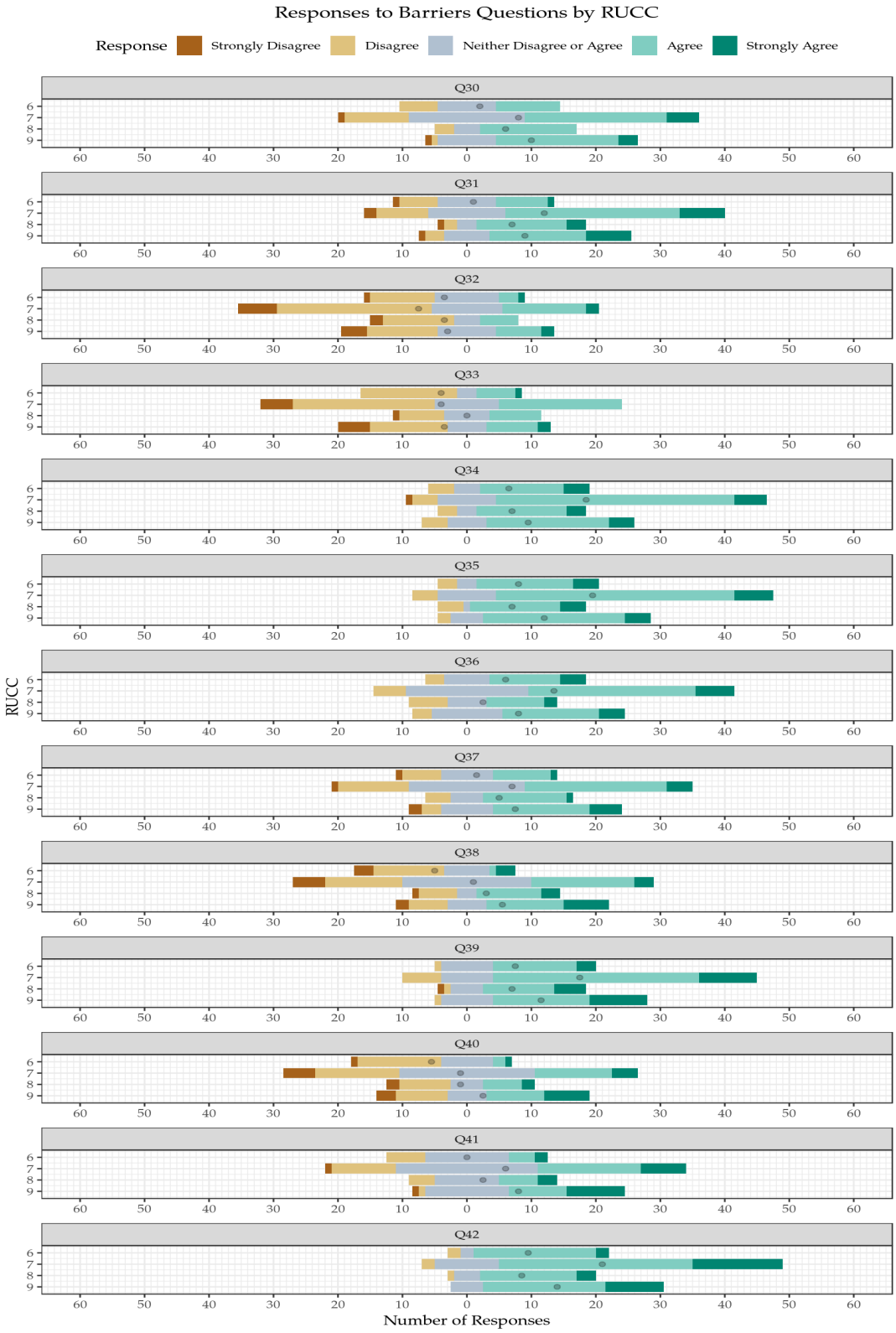
APPENDIX F

RESPONSES TO COMFORT QUESTIONS BY RUCC


Responses to Comfort Questions by RUCC
Response
Strongly Disagree
Disagree
Neither Disagree or Agree
Agree
Strongly Agree
Q20
Q21
Q22
Q23
Q24
Q25
Q26
Q27
Q28
Q29
RUCC
6
7
8
9
60
50
40
30
20
10
0
Number of Responses

APPENDIX G

RESPONSES TO BARRIER QUESTIONS BY RUCC


Responses to Barriers Questions by RUCC
Response
Strongly Disagree
Disagree
Neither Disagree or Agree
Agree
Strongly Agree
Q30
Q31
Q32
Q33
Q34
Q35
Q36
Q37
Q38
Q39
Q40
Q41
Q42
RUCC
6
7
8
9
60
50
40
30
20
10
0
10
20
30
40
50
60
Number of Responses