BARRIERS TO DECREASING HOSPITAL READMISSION RATES FOR CHRONIC DISEASE PATIENTS IN NORTH DAKOTA AS PERCEIVED BY PRIMARY CARE NURSE PRACTITIONERS

by

Megan Lynn Ward

A DNP Project Submitted to the Faculty of the

COLLEGE OF NURSING

In Partial Fulfillment of the Requirements
For the Degree of

DOCTOR OF NURSING PRACTICE

In the Graduate College

THE UNIVERSITY OF ARIZONA

2 0 1 6

THE UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

As members of the DNP Project Committee, we certify that we have read the DNP Project prepared by Megan Lynn Ward entitled "Barriers to Decreasing Hospital Readmission Rates for Chronic Disease Patients in North Dakota as Perceived by Primary Care Nurse Practitioners" and recommend that it be accepted as fulfilling the DNP Project requirement for the Degree of Doctor of Nursing Practice.

_____ Date: April 18, 2016
Janet C. DuBois, DNP, CNE, ANP, ARNP, FNP-BC, FAANP

_____ Date: April 18, 2016
Christy L. Pacheco, DNP, FNP-BC

_____ Date: April 18, 2016
Eileen A. Owen-Williams, PhD, DNP, APRN, FNP-BC, CNM, AFN-BC

Final approval and acceptance of this DNP Project is contingent upon the candidate's submission of the final copies of the DNP Project to the Graduate College.

I hereby certify that I have read this DNP Project prepared under my direction and recommend that it be accepted as fulfilling the DNP Project requirement.

_____ Date: April 18, 2016
DNP Project Director: Janet C. DuBois, DNP, CNE, ANP, ARNP, FNP-BC, FAANP

STATEMENT BY AUTHOR

This DNP Project has been submitted in partial fulfillment of requirements for an advanced degree at The University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this DNP Project are allowable without special permission, provided that accurate acknowledgment of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department or the Dean of the Graduate College when in his or her judgment the proposed use of the material is in the interests of scholarship. In all other instances, however, permission must be obtained from the author.

SIGNED: __Megan Lynn Ward_____

TABLE OF CONTENTS

LIST OF FIGURES 6
LIST OF TABLES 7
ABSTRACT 8
INTRODUCTION 9
Background Knowledge 9
Local Problem 10
Purpose 11
Study Question 11
FRAMEWORK 11
Theoretical Framework 11
Concepts 12
Synthesis of Evidence 14
Variation in Concepts 15
Study Outcome Variations 15
Inconsistencies in Results 16
Gaps in Evidence 17
METHODS 18
Ethical Consideration 18
Design, Participants and Setting 18
Data Collection 19
Data Analysis 20
RESULTS 20
Sociodemographic 20
Patient Data 21
Scheduling Appointments and Access to Care 22
Healthcare Cost 22
Communication 23
Provider Opinion 23

TABLE OF CONTENTS – *Continued*

DISCUSSION 26
Study Limitations 27
Implications for Future Research 27
Implications for Practice 27

APPENDIX A: INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL – THE UNIVERSITY OF ARIZONA 29
APPENDIX B: ELECTRONIC SURVEY SAMPLE 32

REFERENCES 37

LIST OF FIGURES

FIGURE 1. Provider Years in Practice. 21
FIGURE 2. Chronic Diseases Treated by Providers. 22
FIGURE 3. Provider Perceived Barriers to Care. 24
FIGURE 4. Common Themes of Facilitators. 25

LIST OF TABLES

TABLE 1. *Provider Statements on Facilitators to Healthcare Access.* 25

ABSTRACT

Patients who have chronic diseases are often readmitted to the hospital within 30 days of being discharged. In the United States preventable hospital readmissions cost approximately $12-$17.4 billion annually. The Institute of Healthcare Improvement (IHI) has identified one key measure for reducing preventable readmissions and that is a timely post hospital follow-up visit. Although this seems to be a simple task, studies have revealed that as many as one-third of patients discharged from the hospital are not following up with their primary care provider. In North Dakota the percentages of patients with chronic diseases such as heart failure, chronic obstructive pulmonary disease, type 2 diabetes, and pneumonia have steadily increased over the last several years. A North Dakota critical access hospital report revealed a high percentage of patients with a chronic disease are being readmitted within 30 days. Identifying barriers to care in North Dakota can help to reduce the rate of readmission within the state. This study seeks to identify perceived barriers as observed by primary care nurse practitioners to improve patient outcomes and reduce hospital readmission rates.

INTRODUCTION

Background Knowledge

Hospital readmissions considered preventable account for approximately $12 - $17.4 billion of the 2.7 trillion spent on health care each year in the United States (U.S.) (Klug & Muus, 2012; National Center for Health Statistics, 2013). The leading causes of hospital admissions in adults 65 years and older are chronic obstructive pulmonary disease (COPD), diabetes, heart failure (HF), and pneumonia (Desai & Stevenson, 2012; Klug et al., 2009; Pittsburgh Regional Health Institute [PRHI], 2010). Patients who are readmitted within 30 days have been linked with poorer patient outcomes, increased morbidity and mortality, and higher health care costs than those patients who avoided being readmitted (IHI, 2015). As a result, many insurance companies, such as Medicare and Medicaid, are basing reimbursement on the facilities' ability to meet quality measures; one of which is the rate of readmissions (CMS, n.d.; Klug et al., 2009).

Hernandez et al. (2010) suggest one method that can assist in reducing the rate of readmission is a post hospital discharge follow-up visit within 30 days. Studies have revealed that the risk of readmission can be reduced by 27 - 31% if the patient receives a follow-up visit at a primary care clinic within 30 days of discharge (Desai & Stevenson, 2012; Klug & Muus, 2012). Despite these promising statistics, many patients do not follow-up with their primary care provider. Several studies identified that approximately one-fifth of patients who were discharged from acute care facilities reported difficulty contacting their primary care provider, 10% didn't have a primary care provider, 10% revealed difficulty getting to their appointment, many had an extensive waiting period between discharge and follow-up, and as many as 20% reported not

understanding they were to follow-up with their primary care provider (California HealthCare Foundation, 2010; Goodman, Fisher, & Chang, 2013; Sommers & Cunningham, 2011).

Local Problem

The North Dakota (ND) Department of Health reported 5,842 deaths in 2006; of the 5,842 deaths approximately 1,527 people died as a result of heart disease (Massmann, Gibbens, Peterson, & Quinn, 2014; ND Department of Health, 2006). In 2014, the ND Department of Health reported 6,036 deaths of which 1,352 were the result of heart disease (ND Department of Health, 2014). The American Lung Association (2013) reported that in 2011 approximately 24,087 of 672,591 North Dakota residents had a diagnosis of COPD (United States Census Bureau, 2010). Heart failure and COPD are considered the top two reasons for being admitted to the hospital and both conditions are often associated with readmissions. A recently published North Dakota critical access hospital report revealed that approximately 61.3% of heart failure patients and 73.6% of pneumonia patients will be readmitted to the hospital within 30 days of being discharged (Casey, Hung, Barton, & Moscovice, 2012). Nationwide it is estimated that 24% of heart failure cases and up to 27% of pneumonia cases are readmitted within 30 days of discharge (De Alba & Amin, 2014; Desai &Stevenson, 2012). The high percentages of North Dakotans with chronic diseases indicate a need for identifying and addressing the barriers to receiving a follow-up visit. The incidence of adults with type 2 diabetes has increased “from 3.5% in 1997 to 7.5% in 2009” (ND Department of Health, 2011, p. 5). One previously identified barrier for patients seeking post-hospital discharge follow-up was access to care. In North Dakota approximately 7% of all adult patients diagnosed with diabetes were unable to see a primary healthcare provider due to lack of insurance (ND Department of Health, 2011).

Nationally, 19.3% of all U.S. residents live in a rural area. In 2014 it was estimated that approximately 51% of all North Dakota residents live in a rural area (Rural Health Information Hub [RHIhub], 2015), which adds to the challenge of traveling to an appointment (United States Census Bureau, 2010; United States Department of Agriculture, 2013).

Purpose

The purpose of this project is to identify the perceived barriers to post-discharge follow-up for North Dakota citizens who have a chronic disease. The intent of this study was to identify the nurse practitioners' (NPs) perspective on what prevents North Dakota patients from following up with their primary care provider. The key stakeholders were all primary care nurse practitioners in the state of North Dakota.

Study Question

In a population of adults living in rural North Dakota with chronic diseases what are the provider perceived barriers to a post-hospitalization follow-up appointment with a primary care nurse practitioner within 30 days of discharge?

FRAMEWORK

Theoretical Framework

The Health Belief Model (HBM) is a conceptual framework commonly used to help understand health behaviors and identify potential reasons for nonadherence (Julinawati, Cawley, Domegan, Brenner, & Rowan, 2013; Turner, Hunt, DiBrezzo, & Jones, 2009). The HBM addresses four main concepts (perceived barriers, perceived benefits, perceived susceptibility and perceived severity) that impact compliance with the recommended health behavior (Hayden, 2009). Modifying factors, such as cues to action and empowerment, have been identified as

variables that impact patient perceptions. These variables can directly impact the rate of compliance with the desired health behavior (Hayden, 2009). The desired health behavior identified for this project is the patient attending a follow-up appointment within 30 days of being discharged from the hospital. The HBM concepts of the perceived susceptibility of readmission, perceived severity of readmission, perceived benefits of post discharge follow-up, and the perceived barriers of post discharge follow-up will be identified to address the issue of adherence in regards to timely post discharge follow-up (Turner et al., 2009). Healthcare providers can help to identify barriers preventing patients from following up within 30 days of being discharged from the hospital/ER. Understanding these barriers offers healthcare providers the opportunity to positively impact patient health behaviors within the HBM.

Concepts

Chronic diseases are considered long-lasting conditions that may be managed but not cured (CMCD, n.d.). Three concepts affect the way chronic diseases are managed: 1) health behaviors, 2) self-efficacy, and 3) perceived barriers which may include issues with transportation, insurance, lack of healthcare providers, language barriers, and lack of access to care (Elnitsky et al., 2013; Fitzpatrick, Powe, Cooper, Ives, & Robbins, 2004).

Promoting positive health behaviors may help to improve overall health and outcomes in patients with chronic diseases (CDC, 2014; Ryan, 2010). Health behaviors are affected by the identified concepts of perceived seriousness of readmission on overall health and the perceived susceptibility of being readmitted (Hayden, 2009). This means that if the patient understands that a readmission could result in a negative health outcome (perceived severity) and understands his/her chance of being readmitted is increased by not attending a follow-up appointment

(perceived susceptibility) then the chance that the patient will attend a follow-up appointment is more likely.

Self-efficacy, the individual's personal belief that he/she has the capability of doing something, has been identified as a personal factor that affects whether or not a person is willing to make positive changes in his/her health behavior. Health behaviors are also largely determined by the perceived benefits of the follow-up appointment. The patient needs to believe that the benefit of receiving a follow-up visit is better than the risk of being readmitted and poor outcome (Hayden, 2009; Ryan, 2010; Turner et al., 2009). If the patient has the belief that he/she has the ability improve his/her health by attending a follow-up appointment then the patient is more likely to adopt the desired health behavior (Hayden, 2009).

A significance ratio completed by Janz & Becker (1984) revealed that perceived barriers are statistically significant at 91% (Janz & Becher, 1984, p. 36). Today the concept of perceived barriers is still considered to be the most significant one in determining whether a behavioral change and adherence will occur (Hayden, 2009, p33). The patient must find the new behavior worth overcoming the old behavior for them to make the desired change (Hayden, 2009; Janz & Becker, 1984). By identifying the barriers to receiving timely follow-up, interventions can be developed and utilized to minimize the barriers making the benefits to a follow-up visit more desirable (Hayden, 2009; Ryan, 2010).

Previously identified barriers in rural areas include: (1) *Health literacy*; the patient simply does not understand the health information and thus the importance to follow-up is not fully comprehended; (2) *Financial*; the patient cannot afford the trip to the providers office and/or cannot afford the office visits; (3) *Language barriers*; the patient may not understand what you

are saying and my just nod in agreement to be polite; (4) *Cultural/Religious;* practices may prevent the patient from following up or following certain treatment plans; (5) *Family dynamics*; some patients may rely on their family for advice and transport. In some cases the family doesn't understand the importance of following up after discharge or the family does not believe a follow-up visit will make any difference in the patients care; (6) *Emotional concern;*, the patient and/or family my feel that follow-up is a hopeless task that will not help improve their current condition; (7) *Lack of motivation*; the patient may feel tired or too ill to make the long journey to the doctor's office and may decide the visit is more work than it is worth; (8) *Inadequate education time*; during the discharge education the provider forgot to mention the need for a follow-up or the need was lost amongst a large amount of discharge instructions provided; (9) *Poor communication*; the hospital staff didn't communicate the necessity for timely follow-up to the clinic or the need for follow-up was not related to the patient or family; (10) *Logistics*; the patient is unable to drive and is not able to find someone to help get him/her into to town for the visit (Ahmed, Lemkau, Nealeigh, & Mann, 2001; Burley, 2007; De Heer et al., 2013; Drainoni, M. et al., 2006); and, (11) *Access to care;* patients have difficulty finding a healthcare provider who still accepts new patients or accepts their insurance. In some circumstances, patients were able to see a family provider but were unable to see a specialist when one was needed (DeVoe et al., 2007; Fitzpatrick et al., 2004).

Synthesis of Evidence

A literature search for peer-reviewed articles related to barriers that prevent patient access to health care services was conducted. Search engines used included PubMed, CINAHL, and EBSCOhost and search terms consisted of: *barriers to care, rural populations, chronic illness,*

chronic disease, *hospital discharge*, and *post-discharge follow-up*. Inclusion criteria included articles published within five years, English language, all adults, human studies, peer reviewed, and available full text. Search results revealed 1,941 potential articles. Articles that did not discuss adults, chronic illness, barriers to healthcare access, and hospital readmissions were excluded. Among the 50 remaining articles, 20 specifically discussed barriers to healthcare access, hospital readmissions, and chronic illness/diseases and were chosen for evidence synthesis. Levels of evidence from the research studies are rated Level III - Level VII on the Hierarchy of Evidence (Ebling Library, 2014). The literature review revealed that there are currently no randomized controlled trials available for the identification of barriers to health care access. The articles reviewed consist of cross-sectional reviews, systematic reviews of qualitative studies, single qualitative studies, and expert opinion evidence.

Variation in Concepts

Concepts of interest include chronic diseases, self-efficacy, and perceived barriers. Chronic diseases were often referred to as comorbidities. Comorbidities referred to both physical and mental conditions in a variety of studies (de Heer et al., 2013; Elnitsky et al., 2013). Self-efficacy was addressed in referring to a rural cultural attitude of doing (Goins et al., 2005). The perceived barriers similarly defined as the patient's perceptions to what prevents them from accessing health care. The variations in perceptions were the result of the various populations being sampled.

Study Outcome Variations

There were little variation in study outcomes. All studies reviewed revealed that there were in fact barriers present that affect the patient's ability to access needed health care services

in a timely manner. The outcome of the majority of the articles also related that there was a need for further study to identify effective solutions to the barriers identified (de Heer et al, 2013; Elnitsky et al., 2013; Karliner et al, 2012; Sudore et al., 2006). Other articles provided suggestions for intervention strategies though not all suggestions were supported by evidence (Burley, 2007; Schwitters et al., 2015). Strategies suggested include writing discharge instructions using simple and easily understood sentences at no greater than a 6th grade reading level, utilizing professional medical interpreters when working with patients who speak a different language, avoid lecturing patients about what they should do and engage them in a discussion, and be respectful about patients alternative healing practices while providing high quality care (Burley, 2007; Schwitters et al., 2015).

Inconsistencies in Results

The majority of studies identified similar barriers to care including, access to care, distance traveled, lack of transportation, and healthcare coverage (Ahmed et al., 2001; Burley, 2007; de Heer et al., 2013; Drainoni et al., 2006; Elnitsky et al., 2013; Fitzpatrick et al., 2004; Goins et al., 2005; Gwyther & Jenkins, 1998; Sheer et al., 2003; Schwitters et al., 2015; Shah et al., 2014; Syed et al., 2013). However, in regards to the barriers related to the distance one has to travel to access healthcare and the lack of transportation (both public and private) different levels of significance between studies are highlighted. Several studies reported that transportation and the long distances one needs to travel to access care were major barriers to patients accessing needed health care services (Ahmed et al., 2001; Burley, 2007; de Heer et al., 2013; Drainoni et al., 2006; Elnitsky et al., 2013; Fitzpatrick et al., 2004; Goins et al., 2005; Gwyther & Jenkins, 1998; Sheer et al., 2003; Schwitters et al., 2015; Shah et al., 2014; Syed et al., 2013). Drainoni et

al. (2006) and Sheer et al. (2003) both reported that patients who have multiple comorbidities in addition to a developmental disability have an even more difficult time overcoming barriers to access. Six studies reviewed reported other barriers such as, wait times in the clinic, literacy deficits, stigma about condition, and language barriers, to prevent the patient from accessing health care services more than transportation and distance (DeVoe et al., 2007; Karliner et al., 2012; Khatib et al., 2014; Kim & Keefe, 2010; Sudore et al., 2012; Toth et al., 2013). The significance of the barriers identified changes from population groups, which include age, gender, and ethnicity.

Gaps in Evidence

Gaps in evidence were found centered around certain high-risk groups; such as, the elderly or those living in rural areas. The majority of research address adults 18-65 years of age. There is not a large amount of research that specifically addresses elderly adults ≥65 years of age. There may be age related factors that may not have been identified due to the limited research (Fitzpatrick et al., 2004). Additional gaps noted include barriers that hinder access to chronic disease management care. The majority of the articles refer to primary care and only a few adequately addressed chronic diseases. Articles addressing facilitators to healthcare access were very limited. The articles that did discuss facilitators to healthcare did so only briefly. One article mentioned facilitators to follow-up and retention included reminders, setting an alarm, counseling and patient education to motivate patients to participate in positive health behaviors; however, the majority of the information was focused on barriers (Bezabhe et al., 2014). Another article revealed that both patients and providers reported challenges to care and facilitators to improve care both needed to be addressed (Browne, Macdonald, May, Macleod, & Mair, 2014).

Facilitators to healthcare access has not been significantly studied leaving a gap in evidence and limiting this study.

METHODS

Ethical Consideration

This study was reviewed by The University of Arizona Institutional Review Board (IRB) and was found to be acceptable, according to applicable state and federal regulations and IRB The copy of IRB approval can be found in Appendix A. University policies designed to protect the participant's rights and ensure that they were treated equally and ethically and were not harmed during the study (Owonikoko, 2013; The Belmont Report, 1979). Participant autonomy and privacy was protected by disclosing survey intent and ensuring that no identifying information was collected. Emailed instructions included a disclosure statement relating that the participant gives consent when he/she completed the survey and by completing the survey, he/she is consented to his/her responses to be used in the study. Participants were informed that their participation was voluntary and that no identifying information would be gathered or disclosed at any time. Participants were able to discontinue participation at any time, without penalty, by ceasing to complete the survey.

Design, Participants and Setting

This is a descriptive study that is focused on identifying nurse practitioner's perceived barriers to healthcare access in North Dakota including transportation, insurance, lack of healthcare providers, language barriers, and lack of access to care (Elnitsky et al., 2013; Fitzpatrick et al., 2004). Nurse practitioners were the intended participants and include all nurse practitioners in the state of North Dakota. Participant eligibility criteria included: 1) the NP is

nationally board certified and licensed in the state of North Dakota; 2) he/she provides primary care to rural or underserved patients; 3) manages patients with chronic conditions; and, 4) has had a patient with a post hospital discharge follow-up appointment within the last year. The setting consisted of primary care NPs in the state of North Dakota. There is a total of 1,214 advance practice registered nurses practicing in North Dakota (North Dakota Board of Nursing [NC BON], 2016). The target population was all primary care nurse practitioners in North Dakota with a goal of 200 responses and a minimum of 20 responses (Mason, 2010).

Data Collection

Data collection consisted of an electronic survey that was comprised of open- and closed-ended questions. An example of the survey may be found in Appendix B. The survey questions were based on the literature review of identified barriers to access of healthcare. The survey was reviewed by three experts: (1) a DNP-FNP with expertise in managing chronic cardiac care in rural population; (2) a DNP-FNP with expertise in chronic diabetes management; and, (3) a PhD, FNP-C, with expertise in primary healthcare and managing multiple chronic diseases in rural areas. The committee recommended the survey be reviewed by three experts to establish content validity. An email introduction that included the purpose, aim, and goal of the project was sent to providers. The survey was completed through Qualtrics (an electronic survey tool) and the data collected has been kept confidential and secure by Qualtrics (Qualtrics LLC, 2016). Data collected via the self-administered electronic survey included sociodemographic (i.e., years in practice, type of practice), types of patients being cared for (i.e., COPD, DM, HF), issues with scheduling appointments, access to care, healthcare costs, problems with communication, and healthcare provider opinions. Providers were emailed a survey link and instructions that

requested the participants to fill out the survey within three weeks form receiving the email. An emailed reminder to complete the survey was sent out at the beginning of the second and third weeks. The survey introduction and link to the survey was sent to the North Dakota Nurse Practitioner Association (NDNPA) and disseminated to all NDNPA members encouraging the eligible providers to participate.

Data Analysis

Descriptive statistics and content analysis was utilized to identify key concepts and practices. Conventional content analysis was used in analyzing provider opinion statements on facilitators to care. Statements were analyzed and key words and meanings were identified and categories were created based on statement meanings (Hsieh & Shannon, 2005). Provider statements were then organized into the categories and entered into an Excel electronic spreadsheet. Data was then presented using a bar graph. The sociodemographic, patient data, scheduling appointments, access to care, healthcare costs, and communication related questions were analyzed using Excel software and applying comparative analysis to participant responses. Data was presented using a bar graph.

RESULTS

Sociodemographic

A total of 44 primary care nurse practitioners responded and of those 63% work in a family practice setting and 20% report working in a specialty area. Specialty areas included public health, mental health, cardiology, and neurology. The length of years in practice varied little with 26% having practiced for less than three years, 22% practiced for 3 - 4 years and 24% practicing for 15 years or more (Figure 1.). The majority of participants report working in a rural

or underserved area and almost all respondents care for patients who travel from a rural or underserved area.

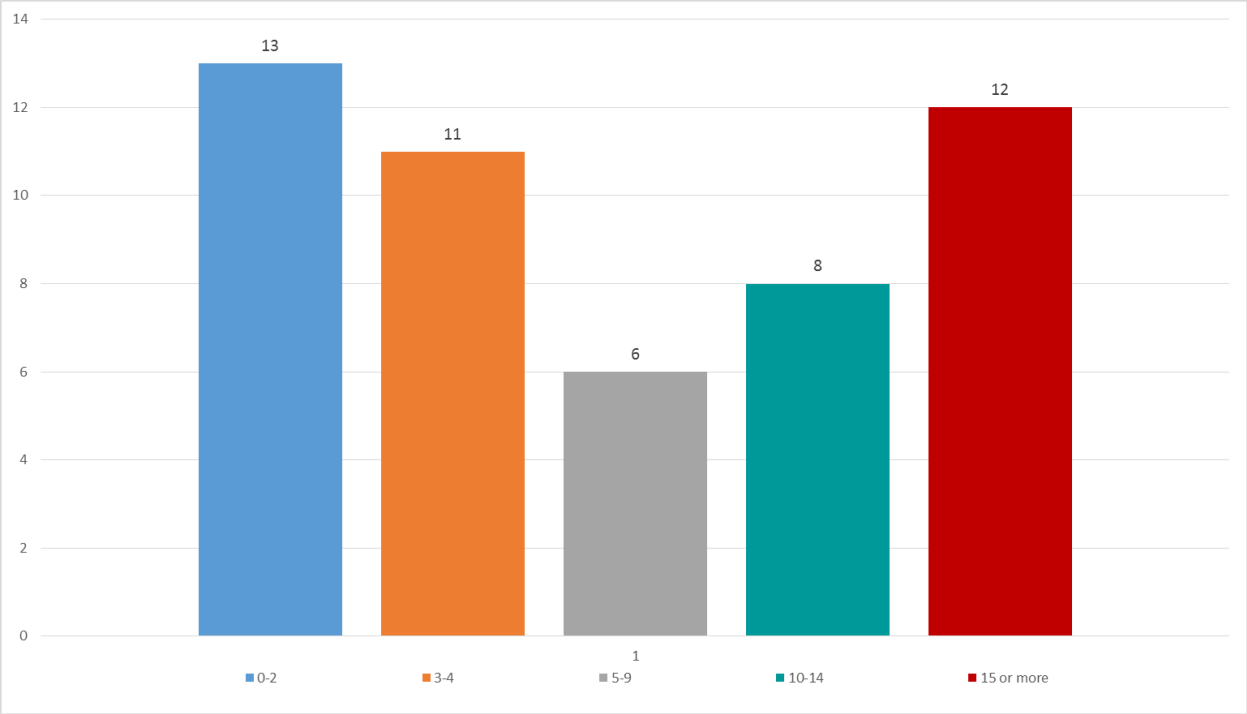

FIGURE 1. Provider Years in Practice.

Patient Data

The average patient age with chronic conditions was 51 years and older. The top five types of chronic conditions/diseases treated by respondents are diabetes mellitus, congestive heart failure, coronary artery disease, chronic obstructive pulmonary disease and kidney disease. Several patients with a chronic disease were often reported to have more than one of the top five chronic conditions listed. Several respondents reported their patients have or are being treated for pneumonia. Other conditions reported include: hypertension, mental health problems, addiction, hepatitis, and gastrointestinal issues. Patients seen with chronic conditions were hospitalized within the last six months 76% of the time. Of those patients who had been hospitalized 63%

were re-hospitalized within 30 days of discharge. Half of participants reported their patients almost always follow-up with them after being discharged from the hospital.

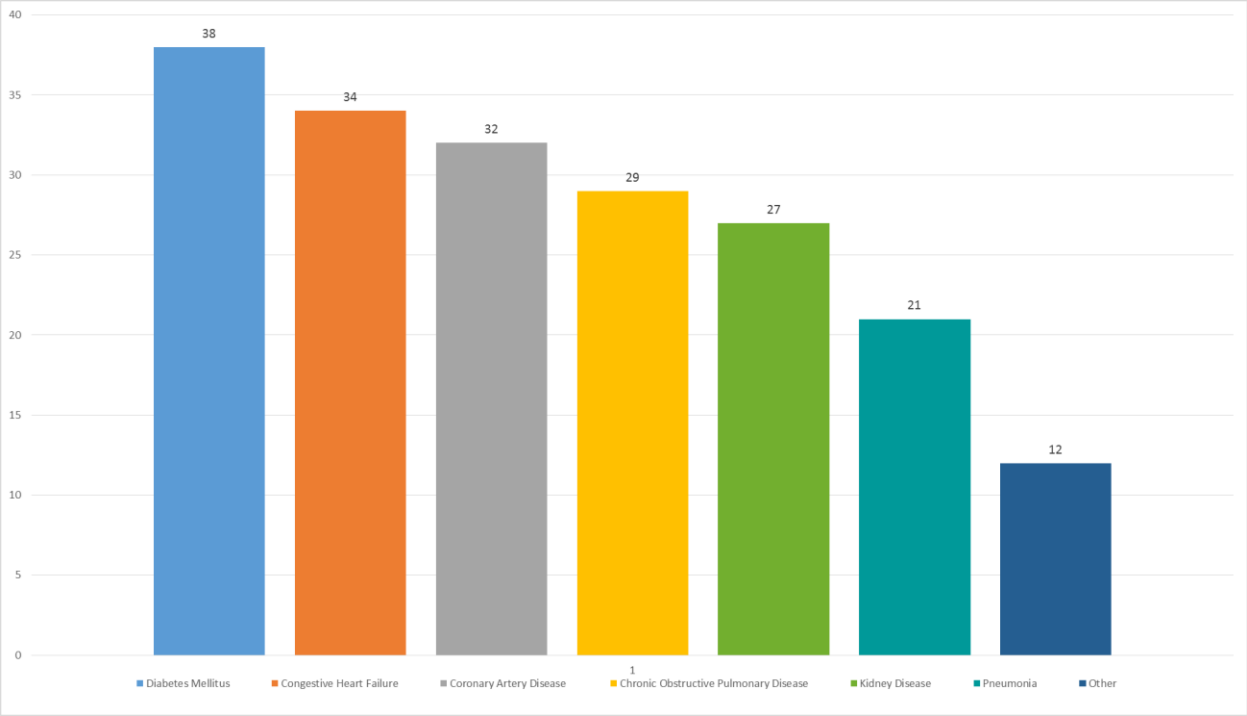

FIGURE 2. Chronic Diseases Treated by Providers.

Scheduling Appointments and Access to Care

Almost all survey respondents reported their schedule allows for timely post-discharge follow-up appointments and 90% reported their patients did not have a difficult time scheduling appointments. Transportation was found to be an issue by 65% of surveyed providers. Additionally, the majority of patients have shared with their provider that they are dependent on someone else for their transportation.

Healthcare Cost

The majority of the respondents had patients who discussed concerns about healthcare insurance coverage and felt healthcare insurance is a barrier to following up. Despite having

healthcare insurance, most of providers surveyed reported their patients lack follow-up was due to financial reasons.

Communication

It is believed by more than 60% of the survey responders that language is not a barrier to care. Most of respondents reported their patients relate they understand the discharge instructions given at the time of discharge from the hospital. Most of providers related their patients have not reported a lack of understanding that they were to be seen by their primary care provider for a post-hospital follow-up appointment.

Provider Opinion

The provider's opinions on why they believe patients are not following up with them are seen in Figure 3. The top four reasons for not following up was finances followed by transportation. The family or patient not feeling a follow-up appointment is necessary, and healthcare coverage were also seen as barriers. Having a bad experience with healthcare and fear of getting bad news were found to be barriers but not as significantly as the top four reasons. Providers felt language and the patient not feeling respected were equally less likely to be a significant barrier to patient care. Other reasons reported by providers were cultural barriers and provider schedule.

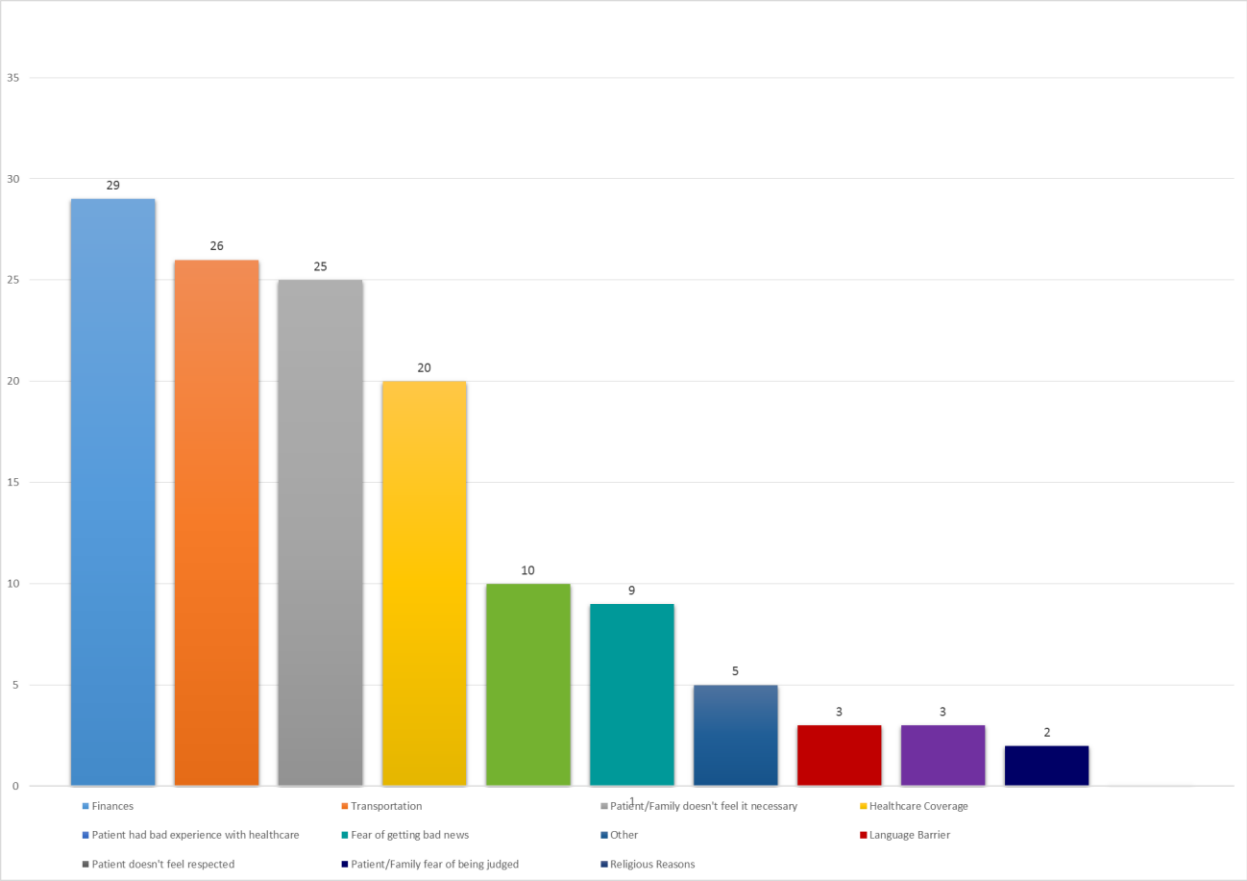

FIGURE 3. Provider Perceived Barriers to Care.

Several of the providers felt there are facilitators in place to help patients in overcoming barriers to follow-up appointments. Common themes identified by provider comments of facilitators to care can be seen in Figure 4. The top four facilitators identified by providers include (1) patient and family disease education, (2) follow-up calls and appointment reminder, (3) community programs and public transportation, and (4) at home follow-up. Several provider statements can be seen in Table 1.

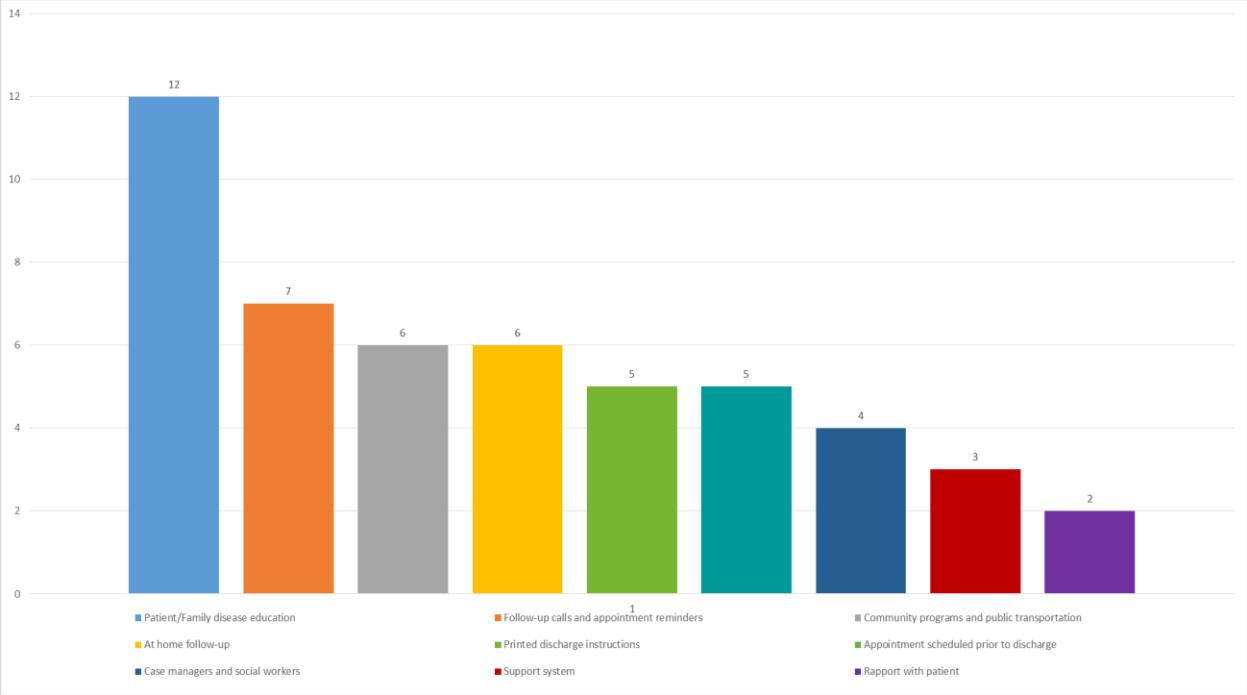

FIGURE 4. Common Themes of Facilitators.

TABLE 1. *Provider Statements on Facilitators to Healthcare Access.*

Provider Statements
"Scheduling appointments at discharge. Follow-up appointment clearly stated in discharge instructions."
"Taking time to educate on chronic health problems and how to prevent."
"Public transportation and taxi services."
"Rapport and trust with their primary care provider. Provider takes time to listen to them, establish what their concerns are, explain things to them to enlist their participation in their care."
"Share ride community program"
"Follow-up phone calls from hospital to schedule appointments"
"…I am a GNP who goes into the patient's home and treats them in place to the best of my ability…"
"Public transportation available in rural areas to persons of all ages. Elderly with cognitive and memory issues to have adequate support from family or other healthcare entity."
"Proper discharge education from the hospital/ER nursing staff. If discharged on a weekday, the nursing staff will schedule their follow up visits."
"They talk to me and I can get them in if the receptionists have no available appointments in their schedule."
"Chronic Disease managers and hospital and ER staff help to set up appointments and make sure patient understands the importance of follow up and checks to make sure they are doing well and remind them of appointment."
"Patient education about the importance of follow up for their health and safety."
"Public transportation and chronic disease nurse phone calls after discharge."

DISCUSSION

In the United States, preventable hospital readmissions costs our nation billions of dollars annually. One method to help prevent hospital readmissions is timely post-discharge follow-up appointments. Patients with chronic diseases are known to be at greater risk of hospitalization and thus re-admission. In the state of North Dakota the rate of patients with a chronic disease has steadily increased over the last several years. Despite knowing that timely discharge follow-up matters, the rate of hospital readmissions still continues to increase. Identifying barriers from the provider's perspective offers a unique information on what prevents their patients from following up appointments. Understanding common barriers is a necessary step in facilitating better access to care.

This study revealed the four most significant barriers reported by North Dakota NPs include: (1) finances, (2) transportation, (3) the patient or family doesn't feel that a follow-up appointment is necessary, and (4) healthcare coverage. The study findings were consistent with previously identified barriers (Ahmed, Lemkau, Nealeigh, & Mann, 2001; Burley, 2007; De Heer et al., 2013; Drainoni, et al., 2006). Finances were viewed as the most significant barrier followed by transportation. More than 60% of the providers related their patients have reported having a difficult time finding transportation to their appointments. Transportation was closely followed by the patient/family not feeling a follow-up appointment was necessary. The family's opinion has the potential to significantly impact transportation as more than 80% of the providers reported their patients depend on others for transportation. Those patients who are dependent on others for transportation may have an even more difficult time getting to appointments, especially if their family does not feel a follow-up appointment is necessary. Many providers

related their patients report concerns about healthcare insurance coverage or the cost of the recommended treatment despite having healthcare insurance.

Study Limitations

One limitation of this study is that it focused on barriers to care and did not go in depth regarding facilitators to care. A constraint to the study environment was that it was specific to North Dakota primary care practices and is not generalizable for practices in other states. The study also had a small sample size and the study population was specific to nurse practitioners; thus, the study is not generalizable to all North Dakota primary care practices.

Implications for Future Research

Further research is needed and should include facilitators and all primary care providers. It would also be feasible to include multiple states to make the results more generalizable. Additional studies should focus on obtaining patient opinion on barriers to care. An important component of this research would be a comparison of provider and patient opinions to identify if any communication gaps between providers and patients exist. An interesting additional variation in research would be to identify the exact financial concerns preventing these patients from seeking follow-up. Understanding if lack of coverage, co-pay, and/or cost of medications/treatments is what prevents patients from following up will help providers and healthcare organizations to better assist patients in overcoming these barriers.

Implications for Practice

This study revealed that the two most significant barriers reported to nurse practitioners were healthcare costs and transportation. Concerns about healthcare costs and transportation were followed by patient/family opinion and healthcare insurance coverage. This information

can help direct providers to work closely with patients and their families to develop a financially reasonable treatment plan that the patient and family are able to follow. The study also revealed the importance of providing disease education to patients and their families. The Principal Investigator (PI) plans to use the content analysis to inform and influence her own practice to improve patient outcomes.

APPENDIX A:

INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL –

THE UNIVERSITY OF ARIZONA

THE UNIVERSITY OF ARIZONA

Human Subjects
Protection Program

1618 E. Helen St.
P.O.Box 245137
Tucson, AZ 85724-5137
Tel: (520) 626-6721
http://orcr.arizona.edu/hspp

Date:	March 28, 2016
Principal Investigator:	Megan Lynn Ward
Protocol Number:	1603477093
Protocol Title:	BARRIERS TO DECREASING HOSPITAL READMISSION RATES FOR CHRONIC DISEASE PATIENTS IN NORTH DAKOTA AS PERCEIVED BY PRIMARY CARE NURSE PRACTITIONERS
Level of Review:	Exempt
Determination:	Approved

Documents Reviewed Concurrently:

Data Collection Tools: *Ward__Survey Questions-Final Draft(2).docx*
HSPP Forms/Correspondence: *Signature page.pdf*
HSPP Forms/ Correspondence: *Ward_Appendix_F_waiver_of_consent_and_signatures_or_alteration_0-1.doc*
HSPP Forms/Correspondence: *Ward_Appendix_F signature page.pdf*
HSPP Forms/Correspondence: *Ward_f107_Verification of Training Form_v2016-01.doc*
HSPP Forms/Correspondence: *Ward, Megan_f200_application_for_human_research_v2016-01.doc*
Informed Consent/PHI Forms: *Ward_Disclaimer Page_Mar2016.pdf*
Recruitment Material: *Ward_Recruitment Email_ NDNPA_Feb2016.docx*
Recruitment Material: *Ward_Reminder Email_NDNPA_Feb2016.docx*

This submission meets the criteria for exemption under 45 CFR 46.101(b). This project has been reviewed and approved by an IRB Chair or designee.

- The University of Arizona maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #00004218).
- All research procedures should be conducted in full accordance with all applicable sections of the Investigator Manual.
- Exempt projects do not have a continuing review requirement.
- This project should be conducted in full accordance with all applicable sections of the IRB Investigators Manual and you should notify the IRB immediately of any proposed changes that affect the protocol.
- Amendments to exempt projects that change the nature of the project should be submitted to the Human Subjects Protection Program (HSPP) for a new determination. See the Investigator Manual, 'Appendix C Exemptions,' for more information on changes that affect the determination of exemption. Please contact the HSPP to consult on whether the proposed changes need further review.

- You should report any unanticipated problems involving risks to the participants or others to the IRB.
- All documents referenced in this submission have been reviewed and approved. Documents are filed with the HSPP Office. If subjects will be consented, the approved consent(s) are attached to the approval notification from the HSPP Office.

APPENDIX B:

ELECTRONIC SURVEY SAMPLE

Survey

Barriers to decreasing hospital readmission rates for chronic disease patients in North Dakota as perceived by primary care nurse practitioners.

Sociodemographic

1. How many years have you been in practice?
   A. 0-2
   B. 3-4
   C. 5-9
   D. 10-14
   E. 15 or more

2. What type of practice do you have?
   A. Family Practice
   B. Geriatrics
   C. Acute Care
   D. Long-term Care
   E. Internal Medicine
   F. Specialty Practice _____

3. Is your practice located in a rural or underserved area?
   A. Yes
   B. No

4. Do any of your patients travel from a rural or underserved area to see you?
   C. Yes
   D. No

Patient Data

5. What is the average age of your patients with chronic conditions?
   A. Under 40
   B. 40-50
   C. 51-65
   D. 65-75
   E. >75

6. What types of chronic conditions/diseases due you treat?
   A. CHF
   B. COPD

C. CAD
D. Pneumonia
E. DM
F.Kidney Disease
G. Other _____

7. Have any of your patients mentioned in question 6 been hospitalized within last 6 months?
A. Yes
B. No

8. Of those patients hospitalized have any been re-hospitalized within 30 days?
A. Yes
B. No

9. Do your patients with a chronic condition/disease follow-up with you after being hospitalized according to current guideline?
A. Never
B. Occasionally
C. Frequently
D. Almost Always
E. Always

Scheduling Appointments

10. Does your schedule allow for timely follow-up post discharge (within 30 days)?
A. Yes
B. No

11. Do any of your patients report having a difficult time getting an appointment scheduled?
A. Yes
B. No

12. Have any of your patients report difficulty getting into your office due to conflict with your office hours?
A. Yes
B. No

Access to Care

13. Have any of your patients reported having difficulty getting transportation to your office for a visit?

A. Yes
B. No

14. Do any of your patient report they are dependent on another person for transportation?
A. Yes
B. No

Healthcare Cost

15. Have patients discuss a lack of healthcare insurance coverage as a reason for not following up?
A. Yes
B. No

16. Do any of your patients report not following up due to financial reasons despite having healthcare insurance?
A. Yes
B. No

Communication

17. Do you have any patients for whom language is a barrier?
A. Yes
B. No

18. Have any of your patient report not understanding instructions given at the time of discharge from the hospital/ER?
A. Yes
B. No

19. Have any of your patients reported not knowing they were supposed to follow up with their primary care provider after discharge?
A. Yes
B. No

Provider Opinion

20. What do you believe feel contributes to your patients not following up after being discharged from the ER or hospital? **Select all that apply:**
A. Language barrier
B. Transportation
C. Health care coverage

D. Finances
E. Patient or family doesn't feel it necessary
F. Religious reasons – patient doesn't want treatment
G. Patient had bad experience with healthcare
H. Patient doesn't feel respected
I. Patient or family fear of being judged
J. Fear of getting bad news regarding health
K. Other: _____

21. Do you believe there are any facilitators that help patients overcome barriers to a follow-up appointment?

A. Yes
B. No

If Yes to 21

22. What facilitators do you believe are available that help patients overcome barriers to a follow-up appointment?

Opinion: _____

REFERENCES

Ahmed, S. M., Lemkau, J. P., Nealeigh, N., & Mann, B. (2001). Barriers to healthcare access in a non-elderly urban poor American population. *Health and Social Care in the Community, 9*(6), 445-453.

American Lung Association. (2013). Trends in COPD (chronic bronchitis and emphysema): Morbidity and Mortality. *Epidemiology and Statistics Unit Research and Health Education Division.* Retrieved from http://www.lung.org/finding-cures/our-research/trend-reports/copd-trend-report.pdf

Bezabhe, W. M., Chalmers, L., Bereznicki, L. R., Peterson, G. M., Bimirew, M. A., & Kassie, D. M. (2014). Barriers and facilitator to adherence to antiretroviral drug therapy and retention in care among adult HIV-positive patients: A qualitative study from Ethiopia. *PLoS One, 9*(5). doi: 10.1371/journal.pone.0097353

Browne, S., Macdonald, S., May, C. R., Macleod, U., & Mair, F. S. (2014). Patient, carer and professional perspectives on barriers and facilitators to quality care in advanced heart failure. *PLoS One, 9*(3). doi: 10.1371/journal.pone.0093288

Burley, P. (2007). 10 barriers to compliance – and how to overcome them. *Modern Medicine Network*. Retrieved from http://www.modernmedicine.com/modern-medicine/content/10-barriers-compliance-and-how-overcome-them?page=full

California HealthCare Foundation. (2010). The post-hospital follow-up visit: A physician checklist to reduce readmissions. *Issue Brief*. Retrieved from http://www.chcf.org/~/media/MEDIA%20LIBRARY%20Files/PDF/P/PDF%20PostHospitalFollowUpVisit.pdf

Casey, M., Hung, P., Barton, B., & Moscovice, I. (2012). Hospital compare quality measures: 2010 national and North Dakota results for critical access hospitals. *Flex Monitoring Team*. Retrieved from http://www.flexmonitoring.org/wp-content/uploads/2013/08/NorthDakota2012.pdf

Center for Managing Chronic Disease [CMCD]. (n.d.). What is chronic disease: Retrieved from http://cmcd.sph.umich.edu/what-is-chronic-disease.html

Centers for Disease Control and Prevention [CDC]. (2014). Chronic diseases and health promotion. Retrieved from http://www.cdc.gov/chronicdisease/overview/index.htm

De Alba, I., & Amin, A. (2014). Pneumonia readmissions: Risk factors and implications. *The Ochsner Journal*, *14*(4), 649-654.

de Heer, H. D., Balcazar, H. G., Morera, O. F., Lapeyrouse, L., Heyman, J. M., Salinas, J., & Zambrana, R. E. (2013). Barriers to care and comorbidities along the U.S.-Mexico border. *Public Health Reports, 128*(6), 480-488.

Desai, A. S. & Stevenson, L. W. (2012). Rehospitalization for heart failure: Predict or prevent? *Circulation, 126*, 501-506. doi: 10.1161/CIRCULATIONAHA.112.125435

DeVoe, J. E., Baez, A., Angier, H., Krois, L, Edlund, C., Carney, P. A. (2007). Insurance + access ≠ health care: Typology of barriers to health care access for low-income families. *Annals of Family Medicine, 5*(6), 511-518.

Drainoni, M., Lee-Hood, E., Tobias, C., Bachman, S. S., Andrew, J., & Maisels, L. (2006). Cross-disability experiences of barriers to health-care access: Consumer perspectives. *Journal of Disability Policy Studies, 17*(2), 101-115.

Ebling Library. (2014). Rating system for the hierarchy of evidence. Retrieved from http://researchguides.ebling.library.wisc.edu/content.php?pid=325126&sid=2940230

Elixhauser, A. & Steiner, C. (2013). Readmissions to U.S. hospitals by diagnosis, 2010. *Healthcare Cost and Utilization Project*. Retrieved from http://www.hcup-us.ahrq.gov/reports/statbriefs/sb153.pdf

Elnitsky, C. A., Andresen, E. M., Clark, M. E., McGarity, S., Hall, C. G., & Kerns, R. D. (2013). Access to the US Department of Veterans Affairs health system: Self-reported barriers to care among returnees of Operations Enduring Freedom and Iraqi Freedom. *BMC Health Services Research, 13*(498).

Fitzpatrick, A. L., Powe, N. R., Cooper, L. S., Ives, D. G., & Robbins, J. A. (2004). Barriers to health care access among the elderly and who perceives them. *American Journal of Public Health, 94*(10), 1788-1794.

Goins, R. T., Williams, K. A., Carter, M. W., Spencer, S. M., & Solovieva, T. (2005). Perceived barriers to health care access among rural older adults: A qualitative study. *The Journal of Rural Health, 21*(3), 206-213.

Goodman, D. C., Fisher, E. S., & Chang, C. (2013). After Hospitalization: A Dartmouth atlas report on readmissions among Medicare beneficiaries (pp7-30). In Robert Wood Johnson Foundation (Eds). *The revolving door: A report on U.S. hospital readmissions.* Retrieved from http://www.rwjf.org/content/dam/farm/reports/reports/2013/rwjf404178

Gwyther, M. E. & Jenkins, M. (1998). Migrant farmworker children: Health status, barriers to care, and nursing innovations in health care delivery. *Journal of Pediatric Health Care, 12*, 60-66.

Hayden, J. A. (2009). *Introduction to Health Behavior Theory*. Wayne, NJ: Jones & Bartlett Learning.

Hernandez, A. F., Greiner, M. A., Fonarow, G. C., Hammill, B. G., Heidenreich, P. A., …Curtis, L. H. (2010). Relationship between early physician follow-up and 30-day readmission among medicare beneficiaries hospitalized for heart failure. *The Journal of the American Medical Association, 303*(17), 1716-1722. doi: 10.1001/jama.2010.533

Hsieh, H. & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*(9), 1277-1288. doi: 10.1177/1049732305276687

Institute for Healthcare Improvement. (2015). Reducing avoidable readmissions by improving transitions in care. Retrieved from http://www.ihi.org/education/InPersonTraining/ReduceReadmissions/pages/default.aspx

Janz, N. K. & Becker, M. H. (1984). The health belief model: A decade later. *Health Education Quarterly*, *11*(1), 1-47. Retrieved from http://deepblue.lib.umich.edu/bitstream/handle/2027.42/66877/10.1177?sequence=2

Julinawati, S., Cawley, D., Domegan, C., Brenner, M., & Rowan, N. J. (2013). A review of the perceived barriers within the health belief model on pap smear screening as a cervical cancer prevention measure. *Journal of Asian Scientific Research*, *3*(6), 677-692.

Karliner, L. S., Auerbach, A., Napoles, A., Schillinger, D., Nickleach, D., & Perez-Stable, E. J. (2012). Language barriers and understanding of hospital discharge instructions. *Medical Care*, *50*(4), 283-289. doi: 10.1097/MLR.0b013e318249c949

Khatib, R., Schwalm, J., Yusuf, S., Haynes, R. B., McKee, M., Khan, M., & Nieuwlaat, R. (2014). Patient and healthcare provider barriers to hypertension awareness, treatment and follow up: A systematic review and meta-analysis of qualitative and quantitative studies. *PLOS ONE*, *9*(1). doi: 10.1371/journal.pone.0084238

Kim, W. & Keefe, R. H. (2010). Barriers to healthcare among Asian Americans. *Social Work in Public Health*, *25*(3-4), 286-295. doi: 10.1080/19371910903240704

Klug, M. G. & Muus, K. (2012). Effect of outpatient visits and discharge destination on potentially preventable readmissions for congestive heart failure and bacterial pneumonia. *Upper Midwest Rural Health Research Center*. Retrieved from http://ruralhealth.und.edu/pdf/umrhrc_policybrief0312.pdf

Klug, M. G., Muus, K., Casey, M., & Moscovice, I. (2009). Potentially preventable readmissions in rural hospitals. *Upper Midwest Rural Health Research Center*. Retrieve from http://ruralhealth.und.edu/pdf/umrhrc_policybrief0809.pdf

Kullgren, J. T., McLaughlin, C. G., Mitra, N., & Armstrong, K. (2012). Nonfinancial barriers and access to care for U.S. adults. *Health Services Research, 47*(1) part II: 462-485. doi: 10.1111/j.1475-6773.2011.01308.x

Lee, B. W., Murakami, Y., Duncan, M. T., Kao, A. A., Huang, J., Lin, S., & Singh, K. (2013). Patient-related and system-related barriers to glaucoma follow-up in a county hospital population. *Investigative Ophthalmology & Visual Science, 54*, 6542-6548. doi: 10.1167/iovs.13-12108

Mason, M. (2010). Sample size and saturation in PhD studies using qualitative interviews. *Forum: Qualitative Social Research, 11*(3). Retrieved from http://www.qualitative-research.net/index.php/fqs/article/view/1428/3027#g12

Massmann, N., Gibbens, B., Peterson, M., & Quinn, R. (2014). Chronic disease assessment report for North Dakota. *Center for Rural Health and University of North Dakota School of Medicine & Health Sciences*. Retrieved from http://ruralhealth.und.edu/projects/community-transformation-grant/files/chronic-disease-assessment-report-for-north-dakota-2014.pdf

National Center for Health Statistics. (2013). Health, United States, 2013: With special feature on prescription drugs. Retrieved from http://www.cdc.gov/nchs/data/hus/hus13.pdf#112

ND Department of Health. (2006). North Dakota fast facts 2006: North Dakota department of health division of vital records. Retrieved from https://www.ndhealth.gov/vital/pubs/ff2006.pdf

ND Department of Health. (2011). North Dakota health disparities: Diabetes. Retrieved from http://www.ndhealth.gov/nutrphyact/North%20Dakota%20Health%20Disparities%20Diabetes%20Sept%202011.pdf

ND Department of Health. (2014). North Dakota fast facts 2014: North Dakota Department of Health Division of Vital Records. Retrieved from http://www.ndhealth.gov/vital/pubs/ff2014.pdf

ND Board of Nursing. (2016). Current statistics. Retrieved from https://www.ndbon.org/

Owonikoko, T. K. (2013). Upholding the principles of autonomy, beneficence, and justice in phase I clinical trials. *The Oncologist, 18*(3), 242-244. doi: 10.1634/theoncologist.2013-0014

Pittsburgh Regional Health Initiative [PRHI]. (2010). Brief I: Overview of six target chronic diseases. *PRHI Readmission Briefs.* Retrieved from http://www.chqpr.org/downloads/PRHI_ReadmissionBrief_ChronicDisease_June2010.pdf

Qualtrics LLC. (2016). Security statement. Retrieved from http://www.qualtrics.com/security-statement/

Rural Health Information Hub [RHIhub]. (2015). State guides: North Dakota. Retrieved from https://www.ruralhealthinfo.org/states/north-dakota

Ryan, P. (2010). Integrated theory of health behavior change: Background and intervention development. *Clinical Nurse Specialist, 23*(3), 161-170. doi: 10.1097/NUR.0b013e3181a42373

Saldana, J. (2013). *The Coding Manual for Qualitative Researchers* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Scheer, J., Kroll, T., Neri, M. T., & Beatty, P. (2003). Access barriers for persons with disabilities: The consumer's perspective. *Journal of Disability Policy Studies, 13*(4), 221-230.

Schwitters, A., Lederer, P., Zilversmit, L., Gudo, P. S., Ramiro, I., Cumba, L., … Jobarteh, K. (2015). Barriers to health care in rural Mozambique: A rapid ethnographic assessment of planned mobile health clinics for ART. *Global Health: Science and Practice, 3*(1), 109-116.

Shah, V. O., Ghahate, D. M., Bobelu, J., Sandy, P., Newman, S., Helitzer, D. L., … Zager, P. (2014). Identifying barriers to healthcare to reduce health disparity in Zuni Indians using focus group conducted by community health workers. *Clinical Translational Science, 7*(1), 6-11. doi: 10.1111/cts.12127

Sommers, A. & Cunningham, P. J. (2011). Physician visits after hospital discharge: Implications for reducing readmissions. *National Institute for Health Care Reform, 6*, 1-9. Retrieved from http://www.nihcr.org/Reducing_Readmissions.html

Sudore, R. L., Mehta, K. M., Simonsick, E. M., Harris, T. B., Newman, A. B., Satterfield, S., …Yaffe, K. (2006). Limited literacy in older people and disparities in health and healthcare access. *The Journal of the American Geriatrics Society, 54*, 770-776.

Syed, S. T., Gerber, B. S., & Sharp, L. K. (2013). Traveling towards disease: Transportation barriers to health care access. *Journal of Community Health, 38*(5), 976-993. doi: 10.1007/s10900-013-9681-1

The Belmont Report. (1979). Part B: Basic ethical principles. Retrieved from http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html

The Centers for Medicare & Medicaid Services (CMS). (n.d.). Linking quality to payment. Retrieved from http://www.medicare.gov/hospitalcompare/linking-quality-to-payment.html

Toth, M., Messer, L. C., & Quinlivan, E. B. (2013). Barriers to HIV care for women of color living in the Southeastern US are associated with physical symptoms, social environment, and self-determination. *AIDS Patient Care and STDs*, *27*(11), 613-620. doi: 10.1089/apc.2013.0030

Turner, L. W., Hunt, S. B., DiBrezzo, R., & Jones, C. (2009). Design and implementation of an osteoporosis prevention program using the health belief model. In J. A. Hayden (Eds.), *Introduction to Health Behavior Theory* (pp. 37-43). Wayne, NJ: Jones & Bartlett Learning.

United States Census Bureau. (2010). North Dakota: Quickfacts. Retrieved from http://quickfacts.census.gov/qfd/states/38000.html

United States Department of Agriculture. (2013). Rural classifications. Retrieved from http://www.ers.usda.gov/topics/rural-economy-population/rural-classifications.aspx

Zaccagnini, M. E. & White, K. W. (2014). *The Doctor of Nursing Practice Essentials: A New Model for Advanced Practice Nursing* (2nd ed.). Burlington, MA: Jones & Bartlett Learning.