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Interprofessional Teams as a Strategy to Address Physician Shortages in North Dakota

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Walden University
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Abstract

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MPA, Walden University, 2007

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Dissertation Submitted in Fulfillment

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Abstract

North Dakota health care and political leaders are facing pressure to revise health care delivery in the state. A chronic shortage of health care providers, retention issues, an aging population, and a recent population burst, as well as an abnormally high rate of physician retirement, have made health care access problematic for residents of the rural state. The purpose of this study was to explore and understand the main inhibitors and facilitators of employing interprofessional teams as a strategy to address rural physician shortages in North Dakota. Bandura's social cognitive theory provided the framework for this phenomenological study of issues impacting the use of interprofessional teamwork for practicing physicians. Research questions focused on what physicians feel are the main inhibitors and facilitators to implementing an interprofessional teamwork model of care. A researcher-developed instrument was used to conduct 8 semistructured interviews with primary care physicians working in rural North Dakota. Data from the interviews were coded manually, using pattern coding, and interpreted using thematic analysis. The findings included 4 key inhibitors that included work environment, workforce capacity, resources, and regulations. Three key facilitators were identified: expertise, patient care, and previous experience. The findings may provide health care leaders with ideas they can use to facilitate the use of the interprofessional teams (e.g., adding educational initiatives to medical school curricula) and identify what barriers need to be removed to ensure success. The implications for social change include ensuring access to health care for North Dakota residents and those of other states facing health care delivery issues.

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Dedication

My darling husband and my beautiful children, this is for you. To my dad, in fulfillment of my promise to you that I would be a doctor; I know you are watching from above. Finally, to my mom, who worked three jobs to support her family and showed me what dedication really means. I love you all.

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Thank you to the amazing Dr. Hilda Shepeard and the remarkable Dr. Gary Kelsey. Your encouragement and dedication to students, and to me, is next to none.

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Chapter 1: Introduction to the Study

Health care is one of the single most important policy issues in the United States (Aischer & Parlapiano, 2017). It is an ever-increasing issue as health care becomes more complex, the populous ages, and the distance from patients to physicians becomes greater, especially in rural areas (Myhre, Bajaj, & Jackson, 2015; Szafran, Crutcher, Woloschuk, Mybre, & Konkin, 2013). Adding another layer of complexity is that rural areas can be more difficult to define than their urban counterparts (Weinhold, 2014) and, thus, pose a greater challenge for health policy makers when addressing disparities through health policies.

There is a considerable literature base that describes the importance of interprofessional teamwork (IP) and its benefits (e.g., Croker & Hudson, 2015; Fransworth, Seikel, Hudock, & Holst, 2015; Illing & Crampton, 2015; Khalili, Hall, & DeLuca, 2014; McNair, Brown, Stone, & Sims, 2001). Clinical benefits to engaging with an IP approach to practicing medicine include more effective and cost-efficient patient care, especially in providing mental health care; better focus on understanding the needs of older adults as they relate to health care; and better care for those who require more complex treatment (Brownie, Thomas, McAllister, & Groves, 2014; Casimiro, Hall, Kuziemsky, O'Conner, & Varpio, 2015; Heath et al., 2015; Parker et al., 2013).

In this study, I explored IP as a means of addressing the physician shortage in the U.S. state of North Dakota. In a state with population growth, but where current physicians are retiring, and because North Dakotans are requiring more complex health care due to their aging population (University of North Dakota School of Medicine and

Health Sciences [SMHS], 2017), it is imperative to study what factors are driving health care access in the state. Data suggest there is a shortage of physicians in the state, which makes access to care more difficult for residents (University of North Dakota School of Medicine and Health Sciences [SMHS], 2017). Complicating the already-reduced pool is the difficulty in attracting physicians to set up practice in rural areas such as North Dakota (University of North Dakota School of Medicine and Health Sciences [SMHS], 2017). Finally, patients are demanding a higher level of care from their often-overworked providers with an emphasis on greater integrity, respect, and better care communication (Van Fleet & Peterson, 2016).

In conducting this study, I wanted to explore IP as a possible strategy for addressing rural physician shortages in North Dakota. This study's implications for positive social change include bringing greater health care access to rural North Dakota; specifically, study findings may identify strategies that health care leaders can use to ensure access such as adding educational initiatives to medical school curricula. Chapter 1 includes the following content: study background, purpose statement, problem statement, research questions, theoretical framework, nature of the study, definitions, assumptions, scope and delimitations, limitations, significance, and chapter summary.

Background

Rural areas in the United States, particularly those in North Dakota, are experiencing a shortage of physicians that is contributing to an overall health care delivery issue and, consequently, to less than ideal health outcomes (Jones, Bushnell, & Humphreys, 2014; SMHS, 2017). Reasons for the national shortage include the actual or

perceived social isolation that is often attributed to living and practicing in a rural area and the increased workload that accompanies rural physician practices (Cleland, Johnston, Walker, & Needham, 2012). For North Dakota, however, although many of the reasons for the workforce shortage are similar to the national trend, additional reasons exist. Those reasons include physician support in North Dakota lagging behind the nation, current physicians practicing in North Dakota nearing retirement age, and many physicians over 61 years of age not practicing direct patient care ("Type of Employment for Physicians in North Dakota," 2017). The shortage of physicians is problematic because the majority of citizens in North Dakota are older adults and, thus, have an increasing need for more and complex health care (SMHS, 2017). In addition, there has been a recent burst of population in the state due to oil extraction (SMHS, 2017). Another layer of health care complexity is that citizens "disproportionately represent those populations identified as underserved" (p. 52) by researchers (Schroeder & Lee, 2017).

IP may be a way to address the health care delivery issues prevalent in North Dakota. Parker et al. (2013) noted significant benefits of engaging in IP as it relates to patient care. Benefits also include higher professional satisfaction in the workplace and increased retention rates (Parker et al., 2013). Similarly, Pullon et al. (2016) suggests that the collaborative IP process even leads to a health care system that is more maintainable. Yet, O'Reilly et al., (2017) indicated that, while there has been some growth in the use of IP in European countries, like the United Kingdom, progress has been slower in the United States. This lag persists even though IP has been identified by the federal government as a potential strategy for supporting not only improved patient outcomes but

also encouraging higher satisfaction levels of providers in order to address retention (Richert et al., 2013).

In the literature, it is evident that there are several unique concerns and issues related to physicians who practice in a rural area. Physicians who practice in rural areas describe barriers such as limitations to resources, geographical access issues, and balancing confidentiality (Chipp, Johnson, Brems, Warner, & Roberts, 2008). It is apparent that there is a gap in knowledge in that while IP has been found to improve patient experiences and patient care (Richert et al., 2013), there is very little research dedicated to understanding the relationship between IP teamwork and physician shortages, what IP experiences mean to rural physicians, and, consequently, what, if any, impact IP has on retaining rural physicians.

I responded to this gap by focusing on the possible effects IP teams have on retaining health care providers within North Dakota. This project is unique in that it involved an examination of an underresearched area of health policy--health care needs in rural areas, specifically those in North Dakota, a topic that has not been adequately examined (SMHS, 2017). I also sought to understand the possible connection between physician shortages and the use of IP, a topic that, according to my review of the literature, has also been understudied. Findings from this study may offer possible solutions to policy makers for addressing current delivery challenges including workforce shortages and physician retention. It may also provide insight into how medical curricula might be modified to encompass IP as a content area throughout a medical program's curriculum.

This study is important because its topic, health care access and delivery, pertains to a basic human need. In conducting the study, I sought a better understanding of the use of IP teams to reduce physician shortages in North Dakota. The focus of the study was on a state that is expected to reach a physician shortage of approximately 200 to 300 providers by 2025 amid continued difficulties in absorbing several budget reductions in the recent biennium (SMHS, 2017). More recently, however, in SMHS's *Fifth Biennial Report: Health Issues for the State of North Dakota*, the estimate of the physician shortage for North Dakota increased to 260 to 360 physicians by the year 2025 (SMHS, 2019). This study's implications for positive social change include highlighting the public policy issue of access to health care, identifying possible strategies for improving patients' access to care across the state and physicians' knowledge of IP teamwork.

Problem Statement

North Dakota health care leaders are facing pressure to make revisions to health care delivery in the state, particularly because it is rural and has a chronic shortage of health care providers as well as an aging population (SMHS, 2017). There is a tremendous burden placed on health care organizations by health policy makers to change the way they are doing business. Specifically, organizations are being encouraged to move from traditional forms of health care delivery to more IP forms (Khalili et al., 2014). IP health care delivery requires an approach that is collaborative and team-based in nature (Thistlethwaite, 2012). This is, in-part, because IP practice is often used to address a broad range of health care issues (Croker & Hudson, 2015). Although IP teamwork may be successful in delivering more effective patient care (Croker & Hudson,

2015; Nester, 2016). how it affects physician shortages has not been well researched, according to my review of the literature.

There is a need to study IP's effectiveness as it relates to the lack of physician providers because of North Dakota's aging population, who require extensive and complex care; a recent population growth spurt; and a high rate of physician retirement (SMHS, 2017). In reviewing literature for this study, I found that no researchers had investigated the issue of physician shortage by looking at the ratio of North Dakota's physicians to residents compared to that of the United States and the Upper Midwest region. In 2013, North Dakota's physician-to-population ratio was 11.7% below that of the entire United States and 4.7% lower than the Upper Midwest region consisting of the states of Minnesota, South Dakota, Iowa, Montana, Nebraska, Wisconsin, and Wyoming (SMHS, 2017). None of the studies I reviewed reported on the effectiveness of the IP environment in rural North Dakota. To address this gap in the literature, I investigated the inhibitors and facilitators of employing IP teams in relation to physician shortages. My broad goal was to provide knowledge that might assist health care leaders in developing policies that ensure the provision of health care services to an aging and complex patient population.

Purpose of the Study

This traditional phenomenological study's purpose was to explore and understand the main inhibitors and facilitators of employing IP teams as a strategy to address rural physician shortages in North Dakota. Using Bandura's social cognitive theory (SCT)

(Bandura, 1997) I sought to explain what factors, if any, of IP teamwork support the retention of practicing physicians in rural North Dakota.

Research Questions

I sought to answer two research questions (RQs), which were

RQ1: What do physicians feel are the main inhibitors to implementing an IP teamwork model of care?

RQ2: What do physicians feel are the main facilitators to implementing an IP teamwork model of care?

Theoretical Framework

I used Albert Bandura's SCT as the framework for the study. This theory states there are five aspects of human behavior that motivate individuals (symbolizing, forethought, vicarious learning, self-regulation, and self-efficacy) directly through observation of others (Stajkovic & Luthans, 2002). It goes on to explain the manner in which people assume and retain behavioral patterns (Bandura, 1997). It is a broad theory in which learning is considered to be the absorption of knowledge through cognitive processing (Stajkovic & Luthans, 2002). In this study, three SCT behaviors were examined: vicarious learning, self-reflection, and self-efficacy. A comprehensive explanation of the theoretical prepositions is explained in Chapter 2.

SCT related well to this study in that it is grounded in psychology and pays homage to health communication (Bandura, 2004). Bandura (2004) argued that the quality of one's health is directly influenced by habits individuals have as a part of their lifestyle. SCT also focuses on the behaviors people exhibit and translates them into

appropriate health practices. For example, SCT suggests certain habits can be controlled as they relate to health. From a health care team's perspective, SCT was a perfect fit in that it grounded this study in the idea that changes in behavior are dependent upon personal behavior, people, and the environment (Bandura, 2004).

Nature of the Study

The nature of this study was phenomenological. According to Creswell (2013) phenomenological studies focus on describing a lived experience. In this study, I collected qualitative data to ascertain what factors influenced or, conversely, did not influence rural North Dakota physicians to practice IP. In applying a phenomenological design, I sought to uncover the reality of rural North Dakota physicians' medical practices and their lived experiences.

The purposeful sampling strategy for the study consisted of sending a request letter to physicians whose names I purchased from the North Dakota Medical Association for a small fee. I followed typical case sampling procedures and aimed to identify average cases within the approximately 1,700 physicians practicing in North Dakota with a saturation goal of at least 10 physicians ("Types of Employment for Physicians in North Dakota," 2017). A researcher-created interview guide instrument was created, well vetted in advance, and administered to physicians who agreed to participate and met the established criteria, after Walden University's Institutional Review Board (IRB) approval was given to complete the study. I conducted telephone interviews with participants and transcribed their responses. Data analyzed after the interview recordings were reduced to codes that led to categories and eventually to themes. I drew conclusions based on the

results. In addition to exploring the experiences of physicians towards IP, I collected data to ascertain physicians' reasons for continuing to practice in rural North Dakota.

Definitions

Interprofessional team (IP): A body of health care providers who come from various disciplines with a shared team identity, responsibilities, and interdependence and who, through their practice, provide coordinated and cohesive care of patients (Franklin, Berhardt, Lopez, Long-Middleton, & Davis, 2015; Reeves, Xyrichis, & Zwarenstein, 2018).

Primary care: Care provided by physicians who are often the initial point of contact and who specialize in disease prevention or patient education; diagnose and manage chronic and acute conditions; refer to specialists as needed; and often practice in family, internal medicine, or pediatrics (American Academy of Family Physicians, n.d.; Center for Rural Health, 2017). Those who practice primary care are often charged with covering an array of health problems while working to build long-lasting relationships with their patients and communities (Streeter, Zangaro, & Chattopadhyay, 2017).

Rural: A sparsely populated area of land that does not fall under either urban or highly rural definitions ("What is Rural," n.d.; see also U.S. Department of Agriculture, n.d.).

Assumptions

This study contained four assumptions. The first was that IP is viewed as a positive aspect of practicing medicine. Second, every physician was educated in the actual or perceived benefits of using IP teamwork during medical school. A third

assumption was that participants want to learn more about physician retention in rural North Dakota. A final assumption was each participant was honest in their responses to questions. These assumptions provided both a direct and an indirect path in which to develop participant contact, as well as build on developing a trusting relationship with the participants.

Scope and Delimitations

Consider the study's scope to be similar to a garden analogy in that it is comparable to the edging around flower beds; the study must operate and be contained within the borders of the scope (Simone & Goes, 2013). The scope of this study was to recognize if practicing interprofessional teamwork in rural North Dakota has any influence on retaining physicians. This study focused on both the use and the non-use of IP teamwork by physicians practicing in rural North Dakota. In order to fully evaluate the scope of the research project, physician participants must hold a Doctor of Medicine (MD) or Doctor of Osteopathic Medicine (DO) degree, must be licensed and in good-standing with the North Dakota Board of Medicine, and currently practicing medicine in a primary care field including Family Medicine, Internal Medicine, or Pediatrics for at least one year in a rural setting.

Consider the delimitations of this study as situations or considerations that are a direct result of choices made by the researcher (Simon & Goes, 2013). One delimitation of this study was the population examined excluded licensed physicians in good standing known to the researcher in order to eliminate bias of any kind, but included those physicians who possessed an MD or a DO and practiced primary care in a rural setting in

North Dakota for at least one year. Another delimitation of this study included the idea that data were not collected on other members of the IP team, including physical therapists, occupational therapists, or physician assistants to name a few.

Finally, this study considers transferability. That is, the idea that this study may be generalizable to other situations and contexts (Miles, Huberman, & Saldana, 2014). Miles, Huberman, & Saldana (2014) provides several "tests" to assist researchers in understanding the transferability of their study to the general population. Consider that the sample is diverse enough to reflect applicability to other rural states within the United States of America. This study contributes to the larger research enterprise, although is not specifically generalizable.

Limitations

Limitations exist in research, and consequently, there are shortcomings of the study including the generalizability to the study, and how the study applies to the field that results from decisions made during the construction of the research study ("Organizing Your Social Sciences," n.d.). Limitations to this study included the struggle to obtain an adequate sample size. Obtaining participants for the study was challenging for reasons such as finding physicians who met the criteria for participation. Of that grouping, it was difficult to identify participants who have not only the willingness, but also the time to participate. Considering the rural nature of the state, obtaining access to willing participants was a limitation, but was overcome by conducting phone interviews.

Limitations related to the construction of the study resulted from the use of this study's purposeful sampling method. Because samples are often chosen during the

fieldwork section of the study, (Miles, Huberman, & Saldana, 2014), the researcher's sample selection evolved over time, and thus, the researcher's view of participants, and selection may change as well. Additionally, participants are able to end taking part in the study during any point in time; that, coupled with the rather small sample size, made it challenging to reach the breadth and depth of the desired sample which potentially affected generalizability.

There are ways that a researcher may attempt to reduce the effects of the limitations on the study. This study focused on solicitation of physicians in a way that hopefully made it attractive to physicians who not only desired to contribute to scholarly activity in their field, but also encouraged them to feel like they are making an impact on their rural state and potentially their patients' access to health care. Additionally, criteria for participation in the study was well thought out and as refined as possible. Doing so reduced the changes to the selection of the participants over time.

With that said, however, participants were challenging to recruit for this study. An initial participation solicitation letter was sent out 139 participants. Miles, Huberman, and Saldana (2014) note that cross-case analysis is another way to encourage generalizability and was completed in this study. In this study, however, saturation could not be confirmed, however, content rich data was still able to be mined.

Similarly, it is important to recognize that as a researcher, there are both actual and perceived biases within ourselves as we conduct research and scholarly activity. Most importantly, however, is identifying those biases and understanding how they can or, in some cases, cannot be mitigated. In this case, there was a potential conflict in

conducting research in the realm of current employment where I am the chief of staff at the state's School of Medicine and Health Sciences (SMHS). Steps were taken to ensure that a relationship did not exist with any participants and included discarding any participants ahead of solicitation time, using the student Walden e-mail account to connect with participants, and disclosing any relationship on the IRB application.

Significance

There is a national shortage of health care physicians (Szafran et al., 2013), as well as a maldistribution of physicians (Holmes & Fraher, 2017). Specifically, in North Dakota, there is a severe shortage expected by 2025 ("SMHS Tops," 2016). This leaves the State of North Dakota in quite a predicament as its population, generally speaking, are older adults and aging exponentially; physicians are retiring at an unprecedented speed (SMHS, 2017); and there is an influx of population in the state, though not to the same degree as in recent years (SMHS, 2017).

Research suggests, however, that IP teamwork can provide rich benefits to rural practice areas, particularly for those who are just entering the health care workforce (Pullon et al., 2016). This study contributes to advancing knowledge in the discipline as it may be one way in which medical schools are able to adjust their education to incorporate IP teamwork education in order to arm residents and new physicians with the tools they need to begin a successful practice in rural areas. It may also afford the opportunity for lawmakers and policymakers to use it as a stop gap measure until the nation is able to address its across-the-board physician shortage, not just in rural America. Health policy makers may be able to rely on this data to implement health

policy changes for North Dakota, and perhaps other rural areas, and to define the health care vision for North Dakota. It may also allow policy makers to be proactive instead of reactive, in that the way medical education is taught may need to change in order to incorporate IP teamwork consistently and across the board.

Ultimately, it is the hope that this new body of knowledge will provide a basis whereby health care leaders and policymakers can increase access for all rural Americans. In order to do that, health care leaders and policymakers need to understand who is participating in IP teamwork and why they are. The findings suggest that there is a relationship between IP teamwork and retention of rural physicians. It is the hope that the absolute quality of life for rural Americans may be improved. Increasing the quality of life for rural North Dakotans is a positive social change factor. For a country that places value on access to health care, the agent for social change is adapting and changing to the way we teach medical students to place emphasis on working with colleagues as a team to allow better health care, and better access to all rural North Dakotans.

Summary

The research problem addressed by this phenomenological study is that North Dakota has a shortage of physicians that may continue to get more severe. Noted in this Chapter is the importance of addressing the physician shortfall, particularly to the citizens of North Dakota. This study explored and documented the impact of IP teamwork on the retention of rural physicians in North Dakota. Conclusions to the study attribute to the larger body of knowledge in that health care policies may be created to address the integration of IP teamwork within medical education and health care practice. Chapter 2

documents the related literature and further describes the theoretical framework for the proposed research project.

Chapter 2: Literature Review

Introduction

Like their counterparts in other U.S. states, North Dakota health care leaders are facing pressure to revise health care delivery in the state (SMHS, 2017). North Dakota is different from many other states in the Union because it is very rural, has a shortage of providers with a high number of those providers set to retire, has an older adult population, and is grappling with the effects of unanticipated population growth (SMHS, 2017). The purpose of this study was to explore and understand the main inhibitors and facilitators of employing IP teams as a strategy to address rural physician shortages in North Dakota. There is a widespread shortage of physicians across the nation that may extend anywhere between 46,000 to 90,000 by the year 2025 (Hyder & Amundson, 2017); by 2035, it is expected that there will be a shortage of greater than 44,000 primary care physicians alone (Flaherty & Bartels, 2019). The shortage is particularly concerning in states such as North Dakota where the populous is mostly older adults, physicians are at retirement age and physician recruitment is challenging (Myhre, Bajaj, & Jackson, 2015; SMHS, 2017).

In Chapter 2, I review current scholarly material on the shortage of physicians in general and specifically in North Dakota. I then describe the literature search strategy, including the search terms accessed in library databases and the databases and search engines used to find current literature on this topic. The study's theoretical framework is further examined as it relates to this study. The chapter includes a review of the current relevant literature and concludes with a summary.

Literature Search Strategy

An intensive review of the literature included searching for articles in peer-reviewed journals, books, and government publications. Subjects searched included medicine, nursing, pharmacy, education, and IP. Databases specifically searched at Walden University included the Thoreau Multi-Database Search Engine, Academic Search Complete, Science Direct at Walden, ProQuest Central, Expanded Academic Analysis, and PubMed. I also searched Academic Search Premier, Scopus, and Google Scholar. Peer-reviewed articles published within the past 5 years were specifically sought after, while balancing the need to develop the historical perspective of the topic. Search terms used included the following: *physician shortage*, *North Dakota physicians*, *retention rates*, *IP health teamwork*, *reducing physician shortages*, *rural physician shortages*, *North Dakota's aging population*, *team-based medicine*, *rural doctors*, *inhibitors to rural practice*, *doctor shortage*, *interprofessional teamwork in rural areas*, *physicians who stay in rural practice*, *chronic physician shortages*, *North Dakota's physician-to-patient ratio*, *social change in North Dakota*, *social change in rural medicine*, *inhibitors to interprofessionalism*, and *physician retention in the Midwest*.

I considered each article for its relevance, limitations, and strengths, and how it related to the theoretical framework of the study. Specifically, selection was based on the article's relevance to physician shortages; IP, in either an urban or a rural setting; inhibitors to IP teamwork; positives of IP teamwork practice in health care; barriers to rural practice; and physicians' attitudes towards IP teamwork. Articles cited provided a thorough review of the literature with citations noted and proper validity and reliability

examined, as appropriate, as well as evidence related to the research questions. Specific research relating to North Dakota was moderately challenging to find, so additional research on Google Scholar was conducted to supplement the literature review. Slightly over 200 articles were considered with inclusion of 110 sources.

Theoretical Foundation

The theoretical foundation for this study was SCT. Albert Bandura, a psychologist from Stanford, is credited with identifying the five core pillars of SCT (Stajkovic & Luthans, 2002). This framework targets five aspects of human behavior including symbolizing, forethought, vicarious learning, self-regulation, and self-reflection (Stajkovic & Luthans, 2002). All five aspects merge to identify what motivates each individual differently within the same environment. For this study, however, the focus was on vicarious learning, self-reflection, and self-efficacy. SCT suggests that individuals gain knowledge from observing others via actions and experiences. In this study, I examined how its pillars relating to work motivation affect the setting of rural practice through physicians' engagement in IP. Consideration was given to SCT in exploring how positive approaches to motivation and theory can be applied to IP in that Bandura suggests, if people cannot contribute to their work environment in a desirable way, there is little incentive to participate (Stajkovic & Luthans, 1998).

Whitehead (2001) observed that SCT is widely accepted within the field of health education and practice. The reason hinges on SCT's roots in health psychology and its frequent use in studies of health behaviors. Furthermore, the lens of SCT allows for health behaviors to be considered in relation to IP teamwork. The primary focus of this

theory is the notion of self-efficacy and the idea that self-confidence and self-belief about personal aptitudes execute behavior that is needed to produce a performance accomplishment (Bandura, 1997). That is to say, individuals have the power to control a given task. Self-efficacy bridges one's beliefs with goals and frames the process for personal change (Bandura, 2004).

Self-efficacy within SCT is defined as one's confidence in personal abilities to motivate, provide resources, and take certain actions needed to successfully accomplish a task (Stajkovic & Luthans, 1998). IP hinges on leadership that is operative, including motivating and teaching members of the team, caring for the team by providing resources, and finding the balance of personal and workplace satisfaction (Nester, 2016; Thistlethwaite, 2012). Thus, SCT provided a useful lens to examine IP and the question of whether its use has any effect on physician retention in rural North Dakota. The heart of the theory is the ability of a person to draw upon their own human resources to play a leadership role in defining and balancing competitive demands. Stajkovic and Luthans (1998) suggested that intelligence is instrumental to accomplishing success within an organization. I explored why health care providers in North Dakota are not relying on themselves to work compatibly and constructively with other health care providers to raise physician retention, particularly in rural areas.

According to Stajkovic and Luthans (2002) the first basic human capability to explore within SCT is symbolizing. Symbolizing allows individuals to focus easily on remembering certain things by turning those visual experiences into future actions (Stajkovic & Luthans, 2002). It also allows for transformation of experiences to steer

future actions (Porter, Bigley, & Steers, 2003). An example of this is the white coat that is given to medical students during their first days as a student and stays with them throughout their career as practicing physicians. It symbolizes professionalism, authority, compassion, and societal trust ("The Meaning Behind the White Coat," 2014).

The second anchor of SCT is the idea of forethought. Forethought allows individuals to develop a plan as to what is desired, how they are going to get it, and what performance is needed in order to achieve the goal (Stajkovic & Luthans, 2002). The ability to think forward is a much-needed asset for any physician. As part of everyday practice, physicians need to establish a plan (Mauksch & Safford, 2013), identify resources, and define the execution of the plan.

The ability to learn vicariously through observational behavior and consequences allows for guidelines to be established governing patterns of behavior, thus reducing the risk of trial and error (Stajkovic & Luthans, 2002). SCT suggests that all learning may occur in a vicarious manner through observations of the behaviors of others (Stajkovic & Luthans, 2002). This, in turn, allows people to assume rules for regulating patterns of behavior and thus, eliminates the need to acquire negative behavior patterns via using potentially troubling behavior. This might allow, for example, physical therapists to learn from occupational therapists how to create a home treatment plan of a patient who is experiencing spinal issues. Vicarious learning then alleviates the often costly and painstaking trial by error method. This is especially important when working in a health care arena. This arm of social cognitive theory provides strength to the idea of IP teamwork. Working together as a team and capitalizing on the strengths of each team

member will provide an environment of trust, respect, and openness among team members, and develop a greater sense of comfort working with underserved populations, with the ultimate goal of increased team satisfaction (Deutschlander, Suter, & Grymonpre, 2013; McNair, Brown, Stone, & Sims, 2001; Nester, 2016).

The fourth prong of SCT is found in the notion that people behave in a manner to suit themselves, not others (Stajkovic & Luthans, 2002). That is to say, work-related behavior is controlled internally, and not through collaborative interactions with others. We know from Bandura, that the idea of one's confidence regarding his or her ability to engage in motivation, resources of a cognitive nature, and the ability to take action is known as self-efficacy (Stajkovic & Luthans, 2002). This allows for individuals to make certain choices based on degree, evaluation, and professed capabilities. In reference to this study, self-efficacy might be seen in a member of the IP team, say a medical laboratory scientist, who has little knowledge about caring for a patient with a spinal injury. By being a part of a team, and engaging in self-efficacy, that medical laboratory scientist may be able to evaluate relevant information about his or her own abilities to assist and care for the patient. Specifically, the actions of people are governed by self-satisfaction and self-worth while refraining from engaging in behavior that is contrary to satisfaction (Bandura, 2004). Bandura (2004) goes on further and indicates that an individual's health is regulated, to some degree at least, and influenced by individuals' habits.

Social cognitive theory suggests that people analyze their experiences themselves. Eventually, this leads to the longer-term goal of evaluation of one's

environment (Stajkovic & Luthans, 2002). The self-reflection prong of social cognitive theory suggests that people can consider and reflect on their own situations, involvements, and thoughts in a way that allows them to interact and analyze those experiences (Stajkovic & Luthans, 2002). People can then internalize those experiences and generate a specific base of knowledge about themselves and their surroundings. The environment in which providers work may be critical when assessing the possible benefits of IP health teamwork. For example, Cox, Adams, and Loughran (2014) notes that Garcia-Shelton and Vogel suggest that in order to be more effective, providers need to be cognizant of not only their professional view, but also that of their medical providers with whom they practice.

Previous Applications of Interprofessional Teamwork Model

There are several inhibiting factors to consider regarding implementation of an IP teamwork model. One of the main factors is the lack of evidenced-based data (Thistlethwaite, 2012). Certainly, literature exists identifying the degree of satisfaction of IP education and teamwork; however, literature addressing the long-term effects IP teamwork has is virtually nonexistent, and those works that do exist, are not of a quality worth sharing. The symbolizing capability, as part of social cognitive theory, highlights that people process visual experiences into models that later provide direction for future actions (Stajkovic & Luthans, 2002). Understanding how members of the health care team visualize working within an IP team may provide future researchers with insight as to why empirical data is not being obtained.

Thistlethwaite (2012) highlights other theoretical underpinnings of IP teamwork including social identity theory and engestrom's activity theory. The first focuses on interactions with others, while engestrom's theory gives deference to understanding an action of an individual from a cultural and technical perspective. Thistlethwaite (2012), cites that interaction with others through first observations and then later, through teamwork, are key components of the paradigm. However, learning through observation is one of the facets of the theory, and provides a suitable framework for the evaluation of IP teamwork (Stajkovic & Luthans, 2002).

Rationale for Theoretical Foundation

Social cognitive theory provides a solid base to explore IP teams' impact on reducing physician shortages in North Dakota. It has many relating aspects, but its focus on the vicarious learning capability is the lens in which to view IP teamwork. The idea that nearly every form of learning can occur vicariously through the observation of others' behaviors relates to Interprofessionalism as it allows the team to learn from others by simply observing, and not necessarily learning those behaviors from scratch. In an environment where the stakes are high, new members of the team could lessen any potential impact by learning vicariously through seasoned team members.

Change is evident in most any kind of profession, however, perhaps more so in health care. Research question one considered what physicians feel are the main inhibitors to implementing in IP teamwork model of care where research question two examined what physicians feel are the main facilitators to implementing an IP teamwork model of care. We know from social cognitive theory that self-efficacy is about creating a

process to bring about personal change (Bandura, 2004). Self-efficacy provided the frame that is necessary to understand the possible inhibitors and facilitators to conceivably bring about IP change.

Social cognitive theory suggests that people analyze their experiences themselves. Eventually, this leads to the longer-term goal of evaluation of one's environment (Stajkovic & Luthans, 2002). The self-reflection prong of social cognitive theory suggests that people can consider and reflect on their own situations, involvements, and thoughts in a way that allows them to interact and analyze those experiences (Stajkovic & Luthans, 2002). People can then internalize those experiences and generate a specific base of knowledge about themselves and their surroundings. The environment in which providers work may be critical when assessing the possible benefits of IP teamwork. For example, Cox (2014) notes that Garcia-Shelton and Vogel suggest that in order to be more effective, providers need to be cognizant of not only their professional view, but also that of their medical providers with whom they practice.

There are several inhibiting factors to consider regarding implementation of an IP teamwork model. One of the main factors is the lack of evidenced-based data (Thistlethwaite, 2012). Certainly, literature exists identifying the degree of satisfaction of IP education and teamwork; however, literature addressing overall effectiveness needs to be continued to be studied. The symbolizing capability, as part of social cognitive theory, highlights that people process visual experiences into models that later provide direction for future actions (Stajkovic & Luthans, 2002). Understanding how members of the

health care team visualize working within an IP team may provide future researchers with insight as to why empirical data is not being obtained.

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Previous Applications of Social Cognitive Theory

Social cognitive theory has great detail and applicability to the concept of IP teamwork. Whitehead (2001) considers the validation of nurses who utilize SCT within education on health-related practice for nurses. The study's quest was to provide continued validation of the need to systematically apply a process to preventive work in health care education within the field of nursing (Whitehead, 2001). Social cognitive theory provides a solid base to explore this as it places emphasis on the complex nature of relationships within a health care field. Here, we see IP teamwork, through SCT, tying back to relationships, how they are formed, and maintained within a health care team.

Nursing is not the only field that battles with the need for continued reinvention. Medicine, in general, appears to struggle with balancing demand against resources. This can be seen when examining issues in medicine such as burn-out. Physician burn-out extends to a laundry list of consequences that are anything but pleasant. Increased physician chemical dependency, increased patient treatment errors, and trouble recruiting physicians are a constant (Drummond, 2015). Thirioux, Birault, and Jaafari (2016) consider that physician burn-out and empathy are related. McNair, Brown, Stone, and Sims (2001) however, suggest that IP teamwork can lead to several successful outcomes including patient satisfaction, job satisfaction, reduction in costs associated with care, as

well as mutual respect for other professions. Literature further suggests that there is a somewhat recent research interest in measuring teamwork (Tilden, Eckstrom, & Dieckmann, 2016). It is known that for some health care providers, job satisfaction ranks high on their list of reasons to stay employed at a location (Kusler, 2017). What the literature does not address, however, is if IP teamwork reduces physician burn-out.

Thirioux's (2016) study focuses on the idea that the number of years of medical training a health care provider possesses, has a direct impact on the relationship of emotional exhaustion (burnout) to empathy (Thirioux, Birault, & Jaafari, 2016). The study suggests that providing a training program early on in medical education may reduce burnout, and subsequent consequences. The authors consider this through the lens of social cognitive neurosciences theory with the idea that there is a need to feel the emotions of those around us and to embrace those emotions (Thirioux, Birault, & Jaafari, 2016).

The health care field has been riddled with emotional topics such as the harsh reality of addiction. Heydari, Dashtgard, and Moghadam (2014) use social cognitive theory as a way to examine addiction rehabilitation for those referred to an addiction quitting clinic within the borders of Iran. The study used a two-group system in which there were 60 participants; thirty participants as part of the test group, and thirty who were positioned within the control group. At the study's end, it was determined that participants who had a high self-efficacy may possess a greater chance of quitting (an addiction) and may also lead to a lower degree of recidivism (Heydari, Dashtgard, & Moghadam, 2014).

Social cognitive theory appears to be useful in examining topics in the health care field generally, and particularly, within the health promotion arena. However, there are relatively few articles published that examined IP teamwork using SCT as a framework. It is unclear why this may be the case; perhaps it is because IP teamwork, while not a new concept, has garnered a great deal of media attention only recently. Even with that said, SCT is an appropriate fit to provide the framework for IP teamwork and its potential impact on retaining physicians.

Literature Review Related to Key Concepts

The national health care workforce scene is screaming for primary care physicians, and even some specialties like general surgery (Smith, Stain, McFadden, Finlayson, & Jones, 2014). The shortage of physicians, particularly in primary care, threatens the foundation of that field to its core and shakes the infrastructure of its goals that include, creating quality care; reducing costs; and focusing on the improvement of health across society (Petterson, Liaw, Tran, & Bazemore, 2015). This will likely have a trickledown effect on all forms of disciplines. With continued current trends as they are now, in addition to future demographic and policy changes, the struggling health care workforce will be taxed to an even greater degree in the future. It would be remiss, if discussion regarding international medical graduates (IMGs) was not considered part of the equation. IMGs have historically been known to be recruited to rural and underserved areas and often provided as a stop gap measure and North Dakota has been no stranger to this approach. Canada has a long-standing tradition of using IMGs in fulfilling their

health care workforce needs. Recently research suggests that Canada is struggling to retain even IMGs in rural areas (Mowat, Reslerova, & Sisler, 2017).

We know from Foster and Roberts (2016) that professional identity is instrumental to becoming an effective physician. This qualitative study considers the potential influence of role models on doctors' professional identify. Twelve licensed physicians participated in the study, two of which were considered rural physicians. All recruits participated in teaching either undergraduate medical education and/or post-graduate medical teaching (i.e. residency). A broad range of specialties were considered as part of the physician pool. The study indicated one limitation disclosed that two of the participants were married to each other. Interviews were conducted where participants described stories dating from their childhood through present of accounts that helped shape the physician they are today. The conclusion of the study found role models and their characteristics played a critical role in the professional identity of seasoned physicians (Foster & Roberts, 2016). This becomes important to note when considering IP teamwork, as social cognitive theory's vicarious learning suggests that junior physicians may emulate the behavior of their mentors simply by observation (Stajkovic, 2002).

There is little information that argues against the notion that there is a workforce shortage in rural areas. Parker et al. (2013) argued that workforce shortages force rural physicians to engage in practice differently than their metropolitan counterparts. Because health care delivery is often more fragmented in rural settings, providers typically have a wider scope of practice, tend to work more hours, and fail to have satisfactory back-up

coverage. For states like North Dakota with a high degree of older adults living within its borders, it is equally concerning that Schreiber's 2018 article (as cited in Flaherty, 2019) points out that there appears to be a knowledge barrier in the primary care workforce providing skilled geriatric care to geriatric patients.

The Parker et al. (2012) study used a qualitative approach to consider what factors make IP teamwork effective in a rural area, consider how IP teamwork is laid out in practice, in addition to what inhibitors and barriers are presented to its use. The qualitative study conducted interviewed providers, as well as managers and it focused on recruiting participants who represented policy makers, managers, and providers across rural regions. Data, collected from interviews over the course of a year, were coded and broken down into categories and themes. The data indicated the following results: participants believe the use of IP practice is a valuable idea; the definition of IP teamwork varied; and Interprofessionalism is complex (Parker et al., 2013).

Facilitators included strong ties with the community; critical roles of the general practitioner; financial resources; and workforce drivers due to high workloads. Conversely, inhibitors included workload; non-value of IP teamwork; service fragmentation; and managing barriers. A similar study from Tilden, Eckstrom, and Dieckmann (2016) suggests policy and legislative issues as an inhibitor to optimally engaging in IP teamwork. The Tilden (2016) study opens consideration up to a much wider scope of where IP teamwork is successful, other than just hospitals. In conclusion, IP teamwork in a rural setting is complex and complicated; factors driving it include providers' connection to surroundings, workforce availability; and financial resources to

name a few (Parker et al., 2013). Limitations to this research include the fact that while a framework was noted, nothing as part of the study was ever tied back to the framework and that made it difficult to understand its relevance.

Although this study focused only on physicians, one way to penetrate the idea of IP teamwork as it relates to physicians is through the lens of other providers of the team such as pharmacists and nurses. Bergman et al. (2016) examined the critical role between pharmacists and physicians. We know from Foster and Roberts (2016) that characteristics play a key role in identity, however, how do those characteristics blend when both members of the team possess earned doctorate degrees? Bergman (2016) engaged in a qualitative study whereby interviews were conducted, and coding themes identified, to understand the relationship among clinical pharmacists and primary care physicians. Three major findings were identified including electronic methods of communicating as a barrier to IP communication; traditional hierarchy structure where pharmacists are left with finding unique communication methods to lessen physician defensiveness; and finally, physical relation to one another as providers (Bergman et al., 2016).

The Baik and Zierler (2018) study suggests that the nursing field has already identified the benefits of IP teamwork as it relates to retention and satisfaction of nurses in the workforce. The nursing field, specifically, registered nurses, are struggling with similar issues in retaining nurses as well as maintaining and retaining workplace satisfaction for nurses. Their study considered what the effects on nurses were after an intervention by an IP team. The study's results concluded that RNs experienced a higher level of work satisfaction after an IP team interaction occurred (Baik & Zierler, 2018).

While Baik and Zierler (2018) concentrated on nurses and their retention and satisfaction rates, Bergman (2016) concentrated on communication barriers between physicians and pharmacists. Consider the Loffler study (2017) however, where discussion of physicians' practices of using nurse practitioners (NPs) and other mid-level providers in support of their primary care mission increased. Roberts (2019) confirms this by pointing out that the United Kingdom has recently invested resources on developing their Physician Assistant Programs to tackle their workforce shortage concern (Roberts, Howarth, Millott, & Stroud, 2019). This is not the case, however with pharmacists, who still lack integration into the IP team. Their study aimed to consider the practitioners' view regarding possible barriers to IP collaboration. Thirteen interviews and subsequent focus groups were conducted. The study identified three main results. Trust and appreciation are significant considerations when managing collaborations; pharmacists want to build a more collaborative relationship with physicians; and general practice physicians desire capable teammates to treat complicated patients. The results were very telling in that pharmacists reported challenges in connecting with the general practitioners, partly due to non-cooperation from nurses. However, rural areas showed less negativity between pharmacists and physicians, than in urban areas. Conversely, the Baik and Zierler study (2018) did not differentiate between urban and rural areas in its quest to measure nurses' reactions to IP teamwork.

Geographic and travel barriers are often presented as issues for rural citizens as it becomes challenging and cost-prohibitive to access health care (Chipp et al., 2011). Chipp (2011) explores the barriers to rural health care in a qualitative study considering

information for future health care providers, policy makers, and educators. Eighteen focus groups were utilized that accounted for over 125 providers ranging from states reaching as far as Alaska and New Mexico. The heart of the interview question considered was, what did those health care providers wish someone would have shared with them before going into rural health care delivery (Chipp et al., 2011). Three findings emerged including challenges and rewards in rural care, and adjustments to practicing in rural America. What was not considered however, was if those practitioners would have changed their intent to go into rural practice had they known this advice earlier.

Barriers to rural practice can be identified fairly commonly as a thread throughout recent literature. Cleland et al. (2012) explored these barriers in great detail. The study focused on Scotland's physicians who are placed in rural areas to practice, and then wrapped readers' heads around gaining a better understanding of what those physician practices resemble (Cleland, Johnston, Walker, & Needham. 2012). Cleland, Johnston, Walker, and Needham (2012) used a qualitative approach to the study while social cognitive careers theory sets the framework. The study found that there are indeed barriers to practicing in rural medicine and included both internal and external. There were three themes that emerged, and they included, factors of isolation, experience in education, and factors of a personal nature. This study is consistent in what other studies' findings have shared in that social factors contribute to the life of a rural physician and consequently, the eventual retention in rural areas. The Haggerty, Fields, Selby-Nelson, Foley, and Shrader (2013) study on the other hand, found that satisfaction within a physician's professional realm, personal wellness and financial securities, relationships,

and optimistic attitude were found to be relevant factors relating to the overall satisfaction of a rural provider. Similarly, the Kwan, Kondalsamy-Chennakesavan, Ranmuthugala, Toombs, and Nicholson (2017) study suggested that there is indeed a connection between one's rural background and selection to practice in a rural area (Kwan et al., 2017).

A study similar to this one, considered influential factors for family physicians who select to live and practice in a rural area. Asghari et al. (2017) considered these influences as a way to assist in identifying approaches that may promote retaining physicians in rural areas. Unlike this study, Asghari et al. (2017) looked to consider strategies to increase recruitment, not necessarily focusing on retaining the current physician workforce. While the two are seemingly similar, they are strikingly different in that recruiting workforce, while often challenging, is not the same as retaining it. Mathew, Ryan, and Samarasena (2017) argues that there are certain things we can either encourage, or do, to entice junior providers to set up his or her practice in a rural area. These include admitting students from a rural background into medical school and sending post-graduates to complete residency in rural areas. What is unknown, however, is how these rural areas retain those junior providers throughout their careers. Influences that draw them to rural practice are known, but what keeps them there after the reality of rural practice life sets in is unknown. O'Donnell, Humeniuk, West, and Tiburt (2015), begin to address this issue in their study when they set out to understand how fatigue and discontent with a physician practice influence their professional responsibilities. Their results suggested that almost half of their 2,556 physicians surveyed, pointed to fatigue

and satisfaction having a solid connection. Similarly, Flaherty (2019) points out that nearly half of physicians in the United States experience burnout. We know from Petterson et al. (2015) that physician burnout is attributed to physician retention, and thus pause must be given to note that nearly half of a group of physicians interviewed were fatigued.

Considerable information is available addressing physician retention. Ponder the role of IP teamwork as it relates to the pharmaceutical arm of health care. Bergman et al. (2016) take on the question of, what is the essence of the IP relationship among clinical pharmacists and doctors? Seven medical centers who receive federal funding were identified and selected based on the degree of participation in primary care. Snowball sampling was utilized bringing the grand total of participants to 18 pharmacists and 17 primary care physicians. Semi-structured interviews were conducted and yielded three findings. These findings included, electronic communication barriers exist between pharmacists and physicians; it is often challenging to balance the traditional hierarchy roles; and finally, onsite collaboration can be challenging. This study focuses on the assumed role that clinical pharmacists are taking on a more active role in patient care; however, consider how might that relate in a rural setting where pharmacists may be the only health care provider around.

We know from literature that the retention of rural physicians is problematic due to issues such as lacking social networks, high work demand, related spousal issues, and satisfaction of physicians to name a few (Cameron, Worthington, & Este, 2012; Cleland et al., 2012). Cameron et al. (2012) specifically focused their study on understanding

domains including professional, personal, as well as community that relate to retention of physicians in rural Alberta. This qualitative study used interviewing, personal observations, as well as documented reviews in their data collection. Researchers formed four cases corresponding with four communities where similarities and differences were identified, that used an already established matrix to compare data. Results of this study concluded that the three domains of personal, professional, and community are all intertwined. Additionally, the study found that physicians are indeed part of the social fiber structure and communities in which they practice in.

Approaches to the Problem Along With Strengths and Weaknesses

The majority of the literature available indicates that there is currently and will be some sort of physician shortage within the United States (Crisp & Chan, 2014). Green, Savin and Lu (2013) instituted a study that focused on two complex questions. They sought to find the appropriate size of a patient panel (the patient-to-physician ratio in a typical practice), as well as examining patient demand of non-physician providers, and use of technology. The study found that physician panels, where non-physician professionals partook in seeing patients, can be effective in increasing health care access. However, what the study did not indicate was whether or not non-physician professionals participating in physician panels will reduce workforce shortage. A weakness in the study is that it only evaluated non-physicians.

IP practice if often used to address a range of issues in health care (Croker & Hudson, 2015). One main influence of IP teamwork on health care is identified by the positive outcomes of patient care (Croker & Hudson, 2015; Nester, 2016). Croker and

Hudson (2015) argued that by communicating better as a health professional team, practitioners learned from and about each other, and that in turn, led to better patient care. This may be seen particularly in children where the collaboration that IP teamwork provided is essential in health care cases where children, who often have disabilities, face many difficult challenges in creating an effective and efficient patient treatment care plan (Payler, Georgeson, & Wong, 2016). Consider the study by Payler, Georgeson, & Wong (2016) where a case study was conducted of children through digital video recordings of their participation in an IP team setting. The results indicated that using IP teamwork for young patients, starting out at a very early age, contributed more effectively to future planning. This study's strength came through in a case study of children, as opposed to adults, and documented their experiences with IP early on as patients.

The rural health arena may also be a ripe venue for integrating IP teamwork (Croker & Hudson, 2015; Pullon et al., 2013). Although Croker and Hudson (2015) and Pullon et al. (2016) agree rural areas may be the perfect place to investigate IP teamwork, they do not, however agree on some of the logistics. We know from Crisp and Chen (2014) that teamwork is imperative in order to assure the success of managing health care teams; what is not addressed, however, is what is meant by the management of health care systems. Further explanation as to whether this is referring to the administrative component of health care organizations or, rather, at a grassroots level. Consider Croker and Hudson (2015) who suggests that the sharing of space, social interaction, and low turnover rate of staff in rural areas make it an ideal place. Pullon et al. (2016) suggests there are also challenges that are to be expected in rural settings where IP teamwork is

rolled out including the often small number of providers who are at entry-level positions; whereas Mitchell et al. (2013) advises that there are frequently significant limitations on IP rural practices. We know from Crisp and Chen (2014), however, that teamwork may well be important to consider in managing the care of health care institutions and organizations. Conversely, they also highlight that retraining of health care professionals through new educational efforts and updated policies may have a significant impact in rural areas. Interestingly, the Crisp article (2014) is the only one that mentions the retraining of current health care members to serve in rural areas. Perhaps further time can be dedicated to exploring this option.

Literature suggests that a chief hurdle to rural practice is the retention of providers (Cragg Jelley, & Burrows, 2013). Paliadelis et al. (2012) report that rural physicians in their mixed study stated that labor force issues were their primary challenge, and included that culture and workload specifically caused angst among physicians. Culture may well be the operative word in that the study specifically calls out the on-going tensions between primary care givers and specialists. The Verma et al. (2016) study supports the same finding the Paliadelis (2012) study did when they called for professional culture to steady itself in order to hopefully improve workforce-related issues. Paliadelis et al. (2012) goes on to indicate that the focus group results highlight an "inadequate skill mix" as adding to the already-tense workforce situation, but stops short of arguing that team members do not understand what members' skill levels are or how they could intersect in order to provide better care. Cragg (2013) suggests however, that IP teamwork may well improve recruitment of future providers in rural settings. Deutschlander (2013) reinforces

that IP teamwork, at least in a community-based setting where primary care is conducted, may show some success in recruiting former students who were engaged in IP teamwork. This is a qualitative study where data were collected by engaging in interviews with physicians at organizations who instituted the Rural Interprofessional Clinical Education (RICE) program (Cragg, 2013). The results of the survey indicated that the belief must be in the use of interprofessionalism among both practitioners and from more than one professional component of the team.

Contemplate the Mathew, Ryan, and Samarasena (2017) study that considered the work location of physicians very early on in their career. The study linked lists of graduates, alumni, and post-graduates with Scott's Medical Database in the hopes of identifying a listing of graduates who had their work location identified and were alumni from Memorial University of Newfoundland (MUN) (Mathew, Ryan, & Samarasena, 2017). The study concluded by indicating that in order to raise the number of rural physicians, medical schools should admit students who come from a rural background; encourage students to select primary care as their respective field of study; and finally, medical student graduates should be strongly encouraged to complete their residency in a rural area (Mathew, Ryan, & Samarasena, 2017). What the study from Mathew et al. (2017) failed to address is what happens to the physicians once they are recruited to the rural areas. Mathew's study ties in well with North Dakota's HWI in that North Dakota is growing their own.

Rationale for Selection of Variables or Concepts

IP teamwork has been around for decades, even dating as far back as 1969 (Fransworth, Seikel, Hudock, & Holst, 2015). It was created as the instrument to advance change and improvement in the health care world, as well as specifically addressing health care workforce shortages that rise, in part, because of an older adult population with chronic diseases, and complex health plans (Fransworth, Seikel, Hudock, & Holst, 2015). Like North Dakota, Minnesota too faces similar workforce challenges including strong opposition to any adjustments in the health care delivery outside of the typical physician-hierarchical approach (Gunn, 2016).

One study, however, asked questions similar to this study that included, how does IP teamwork affect rural settings; how, if at all; can IP teamwork overcome identified challenges within a rural setting; and finally, what factors can be identified to make IP teamwork in rural areas successful (Mitchell et al., 2013). Mitchell's qualitative study used both interviews and focus groups to obtain data. Themes surfaced from the data and included the notion that health care providers experience more effective teamwork, higher work satisfaction, and IP use appears to be responsible for lowering the cost of health care treatment (Mitchell et al., 2013).

There are many factors potentially, or actually, affecting IP teamwork. Consider the study by Parker et al. (2013) where the methods included the aim of identifying the factors that contribute to effective IP use in non-urban areas and identified the barriers and enablers. This qualitative study used interviews in a semi-structured way to obtain data. The study concluded that overall, participates indicated using IP teamwork was a

good thing, and demonstrated ways in which providers participated. There was variance to what extent IP teamwork was used in practice (Parker et al., 2013). The study produced a comprehensive listing of factors that affect the use of IP teamwork within a health care setting. The list includes funding barriers, proximity of providers from different disciplines, practitioner workload, and fragmentation of services (Parker et al., 2013).

Parker et al., (2013) however, goes on to mention culture as a barrier to successfully implementing IP teamwork. This is one of a few studies that identified culture as a potential or actual barrier. Yet, Connolly, Sweet and Campbell (2014) suggested that while instituting programs such as the longitudinal integrated clerkship (LIC), allows incremental learning over a period of time, the culture between the hospital and university changed from a more siloed-approach to a more IP one. Why culture is absent from most studies considering IP teamwork is concerning. Interestingly, while Kirchhoff, Hart, and Campbell (2014) does not specifically address culture, it does suggest that the physician-patient relationship is far more different in a rural practice than an urban practice. His study does not, however, address potential implications on IP teamwork, but it does play into observational learning. Social cognitive theory uses observational learning to gain changes in behavior ("Rural Health Information," n.d.). This approach provides individual experiences and the actions of others as a way to learn. Social behavior and norms are important when considering IP teamwork.

We know from Parker et al., (2013) that culture may be a barrier to the successful implementation of IP teamwork. However, consider the study conducted by Tangermann,

Kleij, Krauth and Amelung (2016) aimed to find out what model of care patients were willing to accept. Specifically, were patients ready to accept care delivered via telemedicine? Could patient care be transferred to an advanced-training nurse in particular situations? Focus groups, alongside of interviews, were used to analyze these questions. Results showed that participants were the most willing to accept treatment by a nurse who possessed advance training (Tangermann, Kleij, Krauth, & Amelung, 2016). There were, however, several limiting factors in this study to consider, including the definition of "telemedicine" was never given, thereby making it difficult to understand how wide of a net was intended to be cast. Secondly, this study took place in Germany, thereby making it challenging to understand the applicability of it in the United States as Germany has a universal health care system with multi-payers ("Health Care in Germany," 2018).

A study very closely related to this study looked to identify factors influencing physicians' choices to practice in rural and remote communities (Asgbari et al., 2017). Asgbari's qualitative study used semi-structured interviews to engage with rural physicians located across Canada. After saturation was reached at twelve interviews, themes were identified and included, appeal of working in a rural area, negative factors, and approaches to improve retaining physicians in rural areas. Results indicated that training, family unit support; and feelings towards living a rural lifestyle were all ranked as important factors. Conversely, the article does not identify anything relating to teamwork as an actual or a potential barrier to rural practice.

There is significant research dedicated to the IP relationship between physicians and nurses. However, there are few published studies dedicated to understanding the relationship between primary health care physicians and pharmacists. In the not-so-distance-past, pharmacists have mostly kept to themselves and were, at times, considered a mere afterthought in health care. What Denvir and Brewer (2015) attempt to tease out in their study is what the relationship between primary care physicians and pharmacists looks like. What they discovered was that there are three challenges that student-pharmacists discovered while attempting to communicate with primary care physicians. These include, highlighting medication-related issues to the attention of the physician; attempting to communicate with primary care physicians about correcting a prescription without appearing to challenge them; and finally, understanding the final decision-making role in the relationship. Clearly, communication is one of the inhibitors in the primary care physician-pharmacist relationship. However, one of the study's limitations is that it was conducted at only one institute of higher education in Eastern America (Denvin & Brewer, 2015). The reader should be cautioned as to overgeneralizing the study. Consider if communication between these two disciplines be different in a rural setting where the two parties presumably have a more intimate relationship.

Synthesis of Studies Related to Key Concepts

Literature suggests that there has been a strong focus over the last ten years to place more physicians, particularly primary care physicians, in rural areas (McGrail, Wingrove, Petterson, & Bazemore, 2017). What is relatively unknown, however, is what the migration patterns are for rural physicians. McGrail et al. (2017) reminds readers that

there are significant costs to these unknowns including high staff turnover, patient care, and effects on the community. McGrail's study (2017) adds an additional layer of uncertainly for North Dakota because he argues and assumes that rural areas have an adequate supply of physicians located in the rural areas. That is to say there is a sufficient baseline of physicians, however, McGrain argues those doctors may be migrating out of the rural areas. According to *North Dakota's School of Medicine and Health Sciences' Biennial Report* (2017) migrating may not be the case for North Dakota. The state specifically collaborated with the School, knowing there was not a sufficient supply of physicians currently, or predicted in the future. The SMHS, however, is the feeder institution of health care providers for the state. The School's Health Care Workforce Initiative (HWI) was created to positively affect the health care workforce of North Dakota. It provides for a collaborative effort between the state's legislature and its only medical school. It is a four-pronged plan that aims to reduce disease burden, increase provider retention, expand medical and other health professional class sizes, as well as expand residencies (SMHS, 2017).

There are certainly studies that suggest the devastating physician shortages to come, (Kirch & Petelle, 2017; Petterson et al., 2015; Weinhold & Gurtner, 2014) and then there are others who suggest it may not be as disturbing as broadcasted (Salsberg, 2015). Still other literature argues that despite the tremendous work already done with recruiting and maintaining physicians in rural areas, rural physician workforce continues to be an enormous concern (McGrail, 2017). Similarly, studies suggest that IP teamwork can do wonders for patient care, gaining confidence as a practitioner, improving job

satisfaction, all while reducing costs (Cragg, Jelley, Burrows, & Dyer, 2013; McNair, Brown, Stone, & Sims, 2001; Mitchell et al., 2012). Yet, another study points out the painstakingly obvious flaw that IP scholarly activities lack evidence-based data (Thistlethwaite, 2012). Then, there are the studies that indicate IP teamwork is rejected from providers because of the time investment, the perceived hierarchy within a health care team, and the lack of knowledge or interest in it (Nester, 2016; Parker et al., 2013).

There are several factors affecting IP teamwork and include increased pressure by team members to participate, confusion on coordination of team members among a long list of different disciplines (Cragg, 2013), as well as the power differential among those disciplines (Parker, 2013). There are two additional factors that would be remiss if not identified and those include little-to-no empirical data on the success of IP teamwork outside of educational experiences, as well as no long-term evaluation of the topic (Thistlethwaite, 2012). There is wide-spread data relating to IP experiences, however, most of it simply focuses on either patient or participant satisfaction. Even at the satisfaction level, there is not a robust data collection to tap into.

Other studies have searched to discover how practitioners, especially physicians, display power (Nugus, 2010). Data collected in the Nugus (2010) study was done via interviews and focus groups and found that there is some truth in the preconceived notion that the buck stops with physicians as they have the final say in patient care. The study goes on to note that a physician's time is nearly 68% of any given acute case (Nugus, Greenfield, Travaglia, Westbrook, & Braithwaite, 2010). What is not addressed is how might that influence the notion that the physician has to be in charge. More research

needs to be explored to gain an understanding of what happens in an IP team if no one person is left in charge. Consider what will happy to the team if no one person is left in charge.

There is data available that describes the benefits of using IP teamwork, the importance of it, its use in medical and other health care professional education programs, and the demand for changing the way health care is provided. What there is not, however, is consistent or widespread data demonstrating if IP teamwork actually changes the way medicine is practiced, if it has any effect on rural health care, or if it affects the health care workforce shortage either nationally or within North Dakota. We know from Cox, Cuff, Brandt, Reeves, and Zierler (2016) however, that in their interpretation of the Institute of Medicine's recent report, stumbling blocks to IP health care teamwork are more general and wide-ranging today, and less specific to particular regions or areas of health professions. Cox provides hope that rural areas, such as North Dakota, do not look as differently in the IP teamwork arena as once thought. Thus, making way for successful IP teamwork groundwork already laid to be applied to North Dakota.

Still other studies look to measure IP "teamness." Tilden, Eckstrom, and Dieckmann (2016) suggest that because there is such an interest in IP teamwork, there is a corresponding desire to use instruments to measure attributes of teamwork. Tilden et al. (2016) used a tool (ACE-15) that is designed to assess the degree of "teamness" that includes interconnected qualities such as goals, shared trust, and sufficient

communication, etc. to name a few. ACE-15 is a tool that will be used to hopefully bridge the gap between educators, students, and clinical teams.

Synthesis of Studies Related to Research Questions

There is an array of facilitation factors that can assist with the implementation of a teamwork model of care. Specifically, in rural areas such as North Dakota, implementing an IP model of care is instinctive, as the rural setting provides the ultimate location for health care providers as they often share a work setting, have formed social bonds separate of work, and have insignificant changes in personnel (Croker & Hudson, 2015). Croker and Hudson (2015) looked to understand how relationships are portrayed within the team participating in IP learning. Three themes emerged from their literature interpretation. IP approaches come from people; ideas appear to have an underlying meaning; and groups are able to interact and relate to human actions (Croker & Hudson, 2015). Due to the limited number of people and the close nit nature of health care employees, rural settings may provide the ability to learn vicariously, thereby learning how to effectively participate in IP teamwork by observing and subsequently, emulating those collaborative behaviors.

With all of the concerns setting up a practice in non-urban areas, Mitchell et al. (2012) focused on investigating what makes an IP practice successful. Specifically, this study considered approaches to practicing IP teamwork in a rural setting; how can IP teamwork be used to meet challenges identified within the rural setting; and influences that make IP teamwork successful? Semi-structured interviews were conducted in addition to focus groups. Data produced suggested those rural practitioners participating

in IP teamwork will, generally speaking, participate in a better teamwork environment. However, the study indicated that limitations existed that do not allow for generalization of the study. This is problematic when trying to apply it to North Dakota.

McInnes, Peters, Bonney, and Halcomb (2015) take a look at collaboration and its relationship to teamwork between general practitioners and nurses. McInnes et al. (2015) attempts to find both facilitators and inhibitors influencing collaboration among and between physicians who practice family medicine, and nurses who are also engaged in family medicine. Limited research exists in the area trying to explain to what extent, if at all, there exists teamwork among these two groups. Data were abstracted from the discovered research, and thematic analysis was used to review the data (McInnes et al., 2015). The study suggested that they work in a multidisciplinary manner, but not necessarily in an IP way. The scope of authority was evident in that the physician provided the work direction and the nurses completed their assignments under the direction of the physician (McInnes et al., 2015). The study concluded that if clarity around the scope of a general practitioner nurse does not get clarified, they will likely not receive the recognition in an interdisciplinary and IP world. This study failed to address the real issue of whether or not there is IP teamwork occurring within general practitioners' practices. Additionally, the study failed to explore the inhibitors and facilitators to implementing it.

Parker et al. (2013) argues that IP teamwork cannot be optimized in practice because of limitations in workforce and fragmentation within service. Using semi-structured interviews, the study aimed to examine not only the question of how IP

practice occurs, but also, to isolate what barriers and enablers are present in those practices. Twenty-two interviews with professionals in the health care field were conducted that yielded the following results. First, the study indicated that the number one benefit noted was patient care that was improved by the use of IP teamwork. Additionally, noted was IP in practice is difficult to implement and its use varies widely. Feeding into that describes the barriers and enablers, particularly as it relates to rural practice. Parker's identified barriers to IP teamwork included a small workforce; professionals uneducated about other team members' roles; and lack of services or disjointed services. Snyman, Von Pressentin, and Clarke (2015) challenge those barriers and suggest that the barriers really begin during health professions' early education. The study of Snyman (2015) uses the Associative Group Analysis method to mine data by extricating association responses from groups who are exposed to a stimulus via open-ended questions. This study considered the notion that clashing agendas are taught to students thereby creating barriers to IP teamwork almost immediately (Snyman, Von Pressentin, & Clarke, 2015). Conversely, Parker et al. (2013) and her team identified a list of enablers that include the idea of community, ensuring critical roles within the team are functioning properly, and physical location to other providers who are part of the team. One glaring absence from the study is the lack of culture noted as it relates to both enablers and barriers to IP teamwork.

Spencer, Woodroffe, Cross, and Allen (2015) among other aims of the study, considered the factors that encourage practice of IP teamwork. Two sites were considered in the use of this study where focus groups were conducted to extrapolate data via use of

a survey using a 5-point Likert Scare. Interestingly, Spencer and colleagues found that practicing in an IP manner occurred "naturally" in rural areas through both formal and informal methods. However, we know from Gunn (2016) that having an IP team in place in rural settings is absolutely needed in order to appeal to rural providers and to keep a doctor supply. Other studies identified have yet to make a similar assumption. Others assert that IP teamwork occurs in practice to a degree. The Spencer et al. (2015) study argues a finding that is often neglected and that is, to what degree do rural health care practices have processes in place to promote IP teamwork (Spencer et al., 2015)?

Wilson, Leeman, Saunders, and Havens (2018) considered what influences physicians who work in an emergency department setting to advance IP collaboration efforts by examining physician barriers and facilitators. It was a qualitative study where interviews and observations were conducted. Interviews were conducted over the phone with twelve participants. The authors looked to increase the rigor of the study by transcribing the interviews and conducted content analysis via deductive coding. The study concluded that there exist five factors that influence engagement of emergency department physicians in IP teamwork and they include employment expectations, organization and scheduling, other competing demands, resources, and leadership. The Wilson et al. (2018) study pairs well with this study in that it examined both facilitators and inhibitors, however Wilson's study took place in an emergency room department where the environment can often be different than in a clinic or hospital setting. The study also noted that an area to be strengthened is to include physicians into the discussion (Wilson et al., 2018).

Summary and Conclusions

Recent studies suggest IP teamwork can lead to impressive and notable improvements within health care (Croker & Hudson, 2015; Fransworth, et al., 2015; McNair et al., 2001). There is national demand by policy makers to institute its use. Most noteworthy however, is that because health care is so engrained into societal fibers, it is socially responsible to ensure health care is operating in the most optimal way possible.

The literature suggests, after a thorough review, that there is a physician shortfall, (Parker et al., 2013), especially in North Dakota (SMHS, 2017); IP teamwork has had some success (Fransworth et al., 2015); and there is little known about the implications of using IP teamwork in North Dakota. Barriers quickly emerge to include little evidence-based research exists on the topic as it relates to North Dakota. However, the need to understand the importance of identifying the factors that support physician workforce, and those that do not, is critically important and where focus on social change may be meaningful. Behaviors and relations may be strengthened by integrating IP teamwork in health care that may well have an ultimate social change influence on ensuring that providers are accessible to all North Dakotans and will work to ensure wellness and health among them. In addition to that, it will serve to fill the literature gap regarding IP teamwork, and its perceived implications on retention of rural physicians in North Dakota. Examining the topic through the eyes of social cognitive theory presents a light where understanding IP teamwork through observing the actions of others has merit. Chapter 3 presents the study design, data-gathering methodology, and data analysis.

Chapter 3: Research Method

Introduction

The purpose of this qualitative study was to explore and understand the main inhibitors and facilitators of employing IP teams as a strategy to address rural physician shortages in North Dakota. In this chapter, I present the design and approach that I used to guide the research and data analysis. I used a phenomenological design to explore IP's effectiveness on the health care shortage in rural North Dakota. Participants were interviewed using semistructured interview questions conducted over the telephone.

There are six major sections to this chapter. These include the introduction; research design and rationale; the role of the researcher; and methodology, including (a) participant selection logic; (b) instrumentation; (c) procedures for recruitment, participation, and data collection; and (e) data analysis plan. I also discuss issues of trustworthiness and ethical procedures. The chapter concludes with a summary.

Research Design and Rationale

Experts in medicine have highlighted the predicted shortage of physicians, particularly in the primary care field, in the United States in both the near and distant future. By the year 2035, doctors practicing primary care will be responsible for a population that is expanding not only in numbers, but also in age (Petterson et al., 2015). The future need for physicians is heavily attributed to the burnout and subsequent retirement of physicians by the age of 66 (Petterson et al., 2015). Petterson, Rayburn, and Liam (2016) suggested that not enough attention has been paid to understanding how poor conditions actually are and how that relates to physician retirement. Research

suggests that there is indeed a need for more physicians in the future; however, there is contradictory research as to what the most effective and efficient methods of obtaining those future physicians are. IP has been linked to more effective teamwork, increased communication, better patient outcomes, and increased job satisfaction (Bar et al., 2018; Cragg et al., 2013). The following research questions were addressed during this study:

RQ1: What do physicians feel are the main inhibitors to implementing an interprofessional teamwork model of care?

RQ2: What do physicians feel are the main facilitators to implementing an interprofessional teamwork model of care?

In a qualitative study, the human observer is the instrument (Rudestam & Newton, 2015). A phenomenological approach was appropriate in this research project because phenomenology focuses on the shared experiences of all participants and because I aimed to understand how the phenomenon of IP may relate to the retention of physicians in rural areas. This approach was appropriate because the goal of phenomenology is to extract a deep understanding of daily life experiences (Saldana, 2016). The design was a perfect fit for this study because I sought a solid level of understanding of rural North Dakota physicians' perceived inhibitors and facilitators in engaging in IP. Moreover, I sought to understand the experiences of physicians towards IP.

Role of the Researcher

As an observer to this research, it was important that I identify and understand my role and how it impacted the study. Creswell (2015) stated that observation plays an important role in qualitative research and is connected to the research questions and the

study's purpose. Participants were physicians who practiced primary care medicine in North Dakota. North Dakota's SMHS has employed me for 13 years. This has allowed for professional relationships with a limited number of physician providers at health care institutions to be formed. North Dakota is a very small state, with few health care systems, and nearly three-quarters of the physicians in the state have an affiliation with the School as a clinical faculty member (SMHS, 2017). I have peripheral knowledge of physicians within health care systems; however, to balance this bias and guard against any conflict, I adhered to only the inclusion criteria established to solicit physician participants. No conflicts arose during the study that needed to be mitigated.

As Rubin and Rubin (2012) suggested, trust is gained by engaging in responsive interviewing. This relationship develops based on the interviewer allowing the interviewee the necessary time and respect to build that trusting relationship. I was mindful of balancing the needs of the participants as well as the needs of the study. Any anticipated perceived power differential within the participant-observer relationship was recognized as a possibility however, this perception never materialized.

Creswell (2015) stated that ethical issues often emerge at the stage where data are collected; thus, establishing a plan early on to address as many issues as possible, as quickly as possible, is ideal. I managed any perceived conflicts by communicating with health care entities as a student (not as an employee) via my Walden University student e-mail address and personal cell phone. A section on confidentiality binding both parties was included in the Interview and Protocol letter. Finally, making the intent of the study clear—that it related to my personal educational goals and not to the Medical School—

was critical. In addition, no identifying information with personal or work affiliations was collected, and data were reported in the aggregate.

Methodology

Participant Selection Logic

I selected participants who are physicians practicing in North Dakota. As of 2018, there were approximately 1,068 physicians in the state of North Dakota engaged in providing primary care (Henry J. Kaiser Family Foundation, 2018). I obtained a list of all North Dakota physicians licensed to practice from the North Dakota Medical Association for a small fee. Physicians were excluded if they practiced in an urban area or if they had any disciplinary issues with the North Dakota Board of Medicine. I also excluded potential participants if I knew them through my employment. The remaining 139 participants received an invitation to participate request letter (see Appendix A) via the U.S. Postal Service, which contained a brief overview of the study; information on the consent process, including participants' willingness to be recorded during the interview; criteria for participation; and a request to contact me via e-mail if willing to participate. Two additional contact solicitation letters were released to potential participants as a way to expand the pool in the hopes of reaching saturation. Part of the participant request letter included that participation was voluntary and that participants were able to withdraw at any time, even during and after their interview. Additionally, I mailed a flyer to critical access hospitals within North Dakota in order to increase participation. In all, there were 13 physicians who responded to the request to participate, and 8 of those who participated in the study from beginning to end.

Participant criteria included holding an MD or DO degree, experience practicing rural medicine (at least one year) in a primary care field, and a license held in good standing with the North Dakota Board of Medicine. It was a struggle to obtain enough participants for the study, despite significant efforts. After consulting with my committee chair concerning the challenge to engage participants, I expanded the criteria slightly to include one additional town that met the definition of rural; the four largest cities in North Dakota continued to be excluded. There were eight participants interviewed. Alias numbers were assigned to each participant to protect confidentiality. Seven participants earned an MD degree, and one participant possessed a DO degree. All eight practiced within a primary care field for at least one year and were all in good standing with the North Dakota Board of Medicine. Each of the participants were practicing in a rural area, defined as any town outside of one of the four urban cities of Fargo, Bismarck, Grand Forks, or Minot. There were three potential participants who started the process but failed to complete it in its entirety. I contacted each one on several occasions to ask if they were willing to continue participation, but they declined. Two participants withdrew from the study due to other time commitments. Each respondent completed the Screener Guide (see Appendix B) and the Consent Form.

Because this study was primarily concerned with understanding the possible effects IP teamwork may or may not have on retaining physicians, data were not collected on other members of the IP team such as physical therapists, occupational therapists, nurses, etc. Additionally, despite the troubles of securing participants, the

scope of the project was not expanded to include non-physician care givers because the emphasis on provider retention for the state of North Dakota was physicians.

Once a physician responded to the solicitation letter with their willingness to participate, the screener guide (see Appendix B) was administered. If the individual met the minimum qualifications, the consent form was sent via e-mail to the participant. Once the consent form was received, a date and time was set up via e-mail to conduct the interview either over the phone or via Skype, depending on his or her location. Early on in the study, participants requested to only hold interviews over the phone due to their time restraints and commitments. Participants were informed as part of the Consent Form that the interview would be recorded. The interviews were conducted at the convenience of the primary care physician. Interviews lasted no more than one hour, and in fact many of them lasted only fifteen to twenty minutes, and followed the format contained in Appendix C. Each interview was recorded on a cell phone.

Purposeful sampling was used in this study because it is often used with groups that have extensive knowledge and/or practice with a specific interest (Palinkas et al., 2015). Specifically, typical case, which is a type of purposeful sampling, was used to find cases that were average or normal, and this in turn, provided a greater degree of confidence in the data results (Miles, Huberman, & Saldana, 2014). Purposeful sampling was a good fit as North Dakota is small in size, and IP teamwork experiences are likely normal, not extreme, experiences.

Those who were eligible to participate in the study had varying degrees of service to their institution, and different roles within their institutions but were not considered as

relevant eligibility factors. Participant names were exported into an Excel spreadsheet. All physicians on the spreadsheet were contacted via a hard copy letter as apparently the North Dakota Board of Medical Examiners is unable to share e-mail addresses for physicians.

We know from Palinkas et al. (2015) that qualitative studies must turn to previous experiences to establish an acceptable number of participants. This study looked to include approximately ten physicians as initially determined from prior, similar studies. Noting the importance between sample size and saturation, it is critical to select enough participants so that sufficient information is obtained in order to develop themes (Creswell, 2015). Solicitation of participants to the study continued until it was no longer feasible to continue to solicit from the same group of potential participants. After five months of attempting to recruit participants, a conscious decision was made to end data collection at eight participants and report the inability to reach saturation as a limitation to the study. Saturation was unable to be confirmed, though the data was still rich.

Instrumentation

The instrument used for this research project was a researcher-produced interview guide (see Appendix C). The instrument tool was pre-tested on two occasions, and in doing so, provided clarification in the questions and to the overall study (Hilton, 2015). Questions were changed based on feedback received from the initial pre-test. It was important to ensure that the interview questions were plotted back to the research questions to ensure they could be answered using the instrument tool ("Linking your

research," n.d.). That, in turn, ensured there was an appropriate number of tools being used to answer the research questions.

Mayo (2006) uses interviews as a way to understand what factors influence the recruitment of family medicine physicians who practice in rural areas; further, what keeps those physicians staying there. Similar to this study, Mayo's study excluded residents, specialty physicians, and locums (a physician who is temporarily assigned). Unlike this study, however, Mayo (2006) used a pre-interview questionnaire to collect data such as demographics. Open-ended questions were asked while engaging in semi-structured interviews and took approximately 45-60 minutes to complete. Similar to this study, coding was used to highlight concepts and themes that emerged through interview data (Mayo, 2006). Finally, reports were generated. Mayo's study is structured very similarly to this study.

McNeil, Mitchelle, and Parker (2014) on the other hand, uses structured and non-structured interviews when she considered her study. Twenty-two, one-on-one interviews were conducted lasting between 20-90 minutes each (McNeil, Mitchelle, & Parker, 2014). Six interview questions were asked in McNeil's study and responses were later transcribed. Purposive sampling was used in this study in order to optimize varied participation (McNeil, Mitchelle, & Parker, 2015).

The goal of this study was to understand the main inhibitors and facilitators of employing IP teams as it relates to rural physician shortages in North Dakota. All of the above-named studies have tremendous similarities to this study and set the framework for the qualitative instrument, including ensuring the study maintains validity. Use of

interviews, observation, coding, and searching for emergent themes is the basis and framework for this study. Content of interview questions was based on the Literature Review and key concepts that included identifying what IP teamwork is; who is practicing IP teamwork; and what are the inhibitors and facilitators to practicing IP teamwork.

Content validity was established using mini-testing. This refers to pre-testing the interview questions that allowed not only the ability to practice the questions for fluency and efficiency as it relates to time, but also provided a method whereby I was able to go back to the research questions and edit for clarity, based on responses from pre-interviewers, to ensure that the interview questions related directly back to the research questions. It also provided a way to measure how much time will be needed for conducting the interviews, as well as provided an opportunity for adjustments to be made if any red flags were noted prior to using them. Additionally, pre-tests helped determine content validity as the pre-tests unmined topics relating to inhibitors and facilitators to IP teamwork. Equally important is establishing sufficiency of data collection instruments in order to answer research questions. The key to being successful is to ensure that consistent outcomes are being established each time the instrument was used in the pre-test phase. Bastos, Duquia, Gonzalenz-chica, Mesa, & Bonamigo (2014) notes that the more precise the data instrument is, the greater the validity.

Procedures for Recruitment, Participation, and Data Collection

Participants were recruited for 5 months. Because North Dakota is a relatively small state, and the number of physicians is relatively few, finding enough participants

was difficult. After sending out the initial participation letter and follow-up post the criteria was expanded to include towns that were larger than anticipated but still considered rural in nature. During each stage of participation, participants were advised that they may leave the study at any point in time without any repercussions. Only one phone interview was held with each participant; no follow-up interviews were conducted. All participants requested that the interview be held over the phone. This was done for each participant and during that time a debriefing session was held at the end of each interview reminding him or her of the confidentiality of the information they shared, that the data will only be reported in aggregate with no identifying information, what the next steps were, the ability to review and edit the transcript, as well as advising participants that they will receive an executive summary of the completed study.

Data Analysis Plan

A phenomenological design requires attention to people, through observations, and field notes. The focus is on the words and their meaning, not the numbers. Data analysis was conducted in alignment with the suggested process from Rubin and Rubin (2012). Coding is similar to the process of telling a story (Center for Evaluation and Research, Tobacco Control and Evaluation Center, n.d.), and thus, it is important to manage codes. An initial codebook was completed prior to data analysis. That codebook acted as a collection of codes with corresponding descriptions and examples of data and by using words or expressions that were gleaned from the interviewers' own words and labeled them (Miles, Huberman, & Saldana, 2012). Saldana (2016) suggests that

codebooks provide a way to manage and compile codes in a structured manner that eventually assists the researcher in organizing categories.

A second coding process was used to drill deeper. Secondary data coding was examined using pattern coding which allowed themes to be identified and organized. According to Miles, Huberman, and Saldana (2012) pattern coding allows for large amounts of data to be reduced. As indicated in Maxwell (2013) memos are written during the course of obtaining data as they provide a way for the researcher to describe their analytic thinking, and also provide a stage to encourage such thinking. The words of the physicians, the thoughts, and feelings described were condensed down to codes that eventually led to categories, and finally to themes as it relates to inhibitors and facilitators for implementing IP teamwork in rural North Dakota.

Considerably detailed notes were taken to add breadth and depth to the interview transcripts. No coding software was used for this study; it was coded manually using Microsoft Word. The correlation of interview questions and the interview tool of data collection instruments is as follows: interview questions one, four, five, and seven answered Research Question 1. Interview questions two, three, six, and eight answered Research Question 2.

There were no discrepant issues discovered through the coding process. There were no participants who objected to recording their interviews, nor was there any incomplete interview data, or any other discrepant issue noted. In each debriefing session with each participant, he or she was advised that if incomplete interview information was found, the participant would be contacted to indicate such and inquire if a second

interview, done via phone, could be completed. Qualitative research standard practices indicate that participants have a right to review the interview transcript and provide edits. This was done in order to preserve the integrity of the study.

Issues of Trustworthiness

Credibility and Internal Validity

This is the point in the research study where the focus switches to truth value, that is, how do the findings of the study meet with readers and the participants and are the findings credible (Miles, Huberman, & Saldana, 2014)? The researcher needs to ensure that certain benchmarks are created including validity and transferability in order to safeguard credibility. Saldana (2014) suggests several ways to do this including, making sure data is "content rich," confirming the data and conclusions make sense, allowing original participants the ability to validate that the conclusions are accurate, as well as engaging in triangulation. In this study, possible validity threats included descriptive validity in which notes were not an accurate reflection of what was said. In order to guard against this, it was imperative that note taking was done with great detail. Researcher bias was also a concern in this study as the researcher has a background in health care in the state of North Dakota. Ways this threat to validity were managed included acknowledging those biases and utilizing the plan on how to manage those biases. Another way this was addressed was to ask interview questions in a non-leading manner.

Triangulation can be thought of as a means of providing a check and balance. Consider it a triangle in which each side represents a different measure of verification. Another way to think about it includes a way in which to judge different methods of

differing levels that still yield the same result (Maxwell, 2013). Saldana (2016) emphasizes that each measure must be a different one in order to meet the requirements of triangulation to deliver repeated verification. There are different ways to accomplish this however, this study's interview documents, and field notes represent one side, literature represents another side, and member checking rounds out the third angle. Theory is also a consideration in this study as well, in order to reach triangulation.

Another method of ensuring credibility is met through attaining saturation. Saturation is achieved when the study continues until redundancy (Patton, 2015). Creswell (2015) suggests that saturation is typically reached somewhere between 20 to 60 interviews. This study was unable to confirm saturation, though data were still rich.

Member checking was done relating to participants as another way to reach credibility. The transcript to each individual for verification of accuracy. This allowed participants to review the data and provide credibility to the study, if they concurred that their perspectives had been met. No edits or requested changes were made from any participant.

This study also focused on reflexivity as a way to ensure internal validity was met. Reflexivity is a researcher's awareness of biases, thoughts, feelings, beliefs, values, etc., that he or she may bring to the research (Creswell, 2015; Ravitch & Carl, 2016). Creswell (2015) takes it a step further, however, and provides a way to reach reflexibility. Both parts must be expressed and includes the disclosure of the researcher's experiences with the phenomenon being researched and must also include how these experiences have or have not morphed the understanding of the phenomenon for the researcher. My

experience with IP teamwork and physician retention is limited and is essentially lived vicariously through administrators at the Medical School. Thus, my lack of experience plays no direct role in morphing any phenomenon.

Transferability and External Validity

External validity is important to consider as it forces the researcher to reflect on a broader scope in terms of whether or not a study can be assignable to other contexts (Miles, Huberman, & Saldana, 2015). Miles (2015) provides a list of points to consider ensuring external validity is met. These include, sample size characteristics sufficiently described during the study, limitations to the study provided in an open and forthright manner, sample sufficiently diverse, and theories present throughout the study and sufficiently described so others can understand. Here, external validity was achieved by focusing on the sample size reaching saturation and so documented it to include the following: focused on listing the limitations to the study such as only physicians being considered as a part of the study and no other members of the health care team; the goal was to provide sufficient sampling; and finally, social cognitive theory was threaded throughout this study.

Dependability and Confirmability

The use of triangulation can again be helpful in trying to find dependability. Maxwell (2013) reminds readers that simply using triangulation does not necessarily increase dependability. The researcher will have to pay close attention to using evidence, not methods, to gain dependability in the study. Confirmability, on the other hand, ensures that the entire picture is depicted, including the behind-the-scenes material

(Miles, Huberman, & Saldana, 2014). Miles, Huberman, and Saldana (2014) provides the following key information to consider in order to reach confirmability: conclusions are linked to data; methods and procedures are specific and identifiable; all personal assumptions and biases have been acknowledged by the researcher; and any challenging hypotheses and thoughts have been documented. In this study, it was imperative that I ensured that methods and procedures were specific throughout all documents. Potential biases were identified in the IRB document as well as a plan to manage any bias was identified. The bias management plan was strictly adhered to throughout the process. Certainly, all hypotheses and thoughts were acknowledged and documented throughout the research process.

Ethical Procedures

Protecting research participants is imperative. Miles, Hubberman, & Saldana (2014) point out one simple rule first and foremost, and that is not to do any harm to any participant. That requires researchers to be cognizant of protecting human subjects at all times and safeguarding trust in the researcher-participant relationship. This study is no different as it used a more traditional agreement that was reduced to writing where lines were clear as to whom the researcher was and whom the participant was. Miles, Huberman, and Saldana (2014) remind researchers that confirming a participant's understanding of the agreement is critical when conducting research. This agreement was another opportunity to emphasize that participation was voluntary. It was also essential to safeguard, incorporate, and monitor any additional IRB procedures as part of the ethical review process.

The methodology section of any proposal is likely the section that has the highest potential for ethical concerns. This is in part why student researchers need to complete Human Research Protections training. Creswell (2013) reminds researchers to make informed consent front and center; make certain deceit is not part of the study; maintain confidentiality; and minimize outlining requests. The IRB approval process is essential to balancing conflicting dynamics and maintaining an ethical path. IRB approval was approved for this study from Walden University. For the IRB approval, informed consent was critical to demonstrate. As researchers, this is yet another way that we can certify protection of participants by confirming our participants are aware of benefits and risks, and do not feel forced or coerced to participate, and can demonstrate so, both orally and in written form (Rubin & Rubin, 2012). Participants were advised throughout the entire process, both in writing, and verbally, that their participation is voluntary, and they may withdraw at any time.

This study focused on rural physicians. There is a delicate balance in finding a location where there are enough physicians to interview in order to obtain saturation. There was hope early on that this could be accomplished in North Dakota if the entire state was used as a venue for selection. Unfortunately, as discussed earlier, not enough participants were secured. Of the participants garnered, all interviews were coded in a way to assure anonymity. Additionally, in this particular study, no at-risk populations were considered. The IRB approved this study and assigned it number 02-28-19-0106018.

It was important to identify, and subsequently develop a plan, to address ethical concerns during the collection and intervention activities. Miles Huberman, and Saldana, (2014) suggests guarding three measures during the process, including privacy, confidentiality, and anonymity. Working in a health care setting may have caused the physician participants to have a heightened awareness of how information is secured. Thus, it was imperative to ensure and to demonstrate the assurance of safeguarding privacy to the identified. It goes further than that, however, when considering the choice to withhold information that may affect public knowledge and could possibly influence theories in a way where alignment issues could occur (Miles, Huberman, & Saldana, 2014). There was not any immediate concern for intervention issues. If an issue was to occur, the plan for adjudicating that issue might have included talking through the issue with the participant to see if he or she needs to either withdraw voluntarily or be excused from the study. Fortunately, no issue arose that needed intervention.

Other considerations included reaching the optimal number of interviews in order to reach saturation. Physicians have high-demanding careers and schedules that often change quickly. Should a participant have requested to withdraw from the study, it may have had a direct effect on the richness of the data. Should a participant have needed to withdraw from the study before a final decision was made to end data collection, the plan would have been to continue to solicit physicians available who met the initial criteria to interview. Consideration was given to expand the applicant pool to include specialists and subspecialists, however, that change in scope would have altered the entire direction of the study, as physicians who are specialists and subspecialists do not typically practice

in a rural setting. Since this is a relatively small sample size, great effort was exerted to ensure that there was no identifying information provided. Data were as anonymous as ethically allowed and was kept confidential in every way possible.

To ensure that the breach of any ethical safeguards was minimized, I securely stored the data, on both a computer hard drive, along with a back-up USB flash drive, at my home, contained within a locked safe, within my locked home. Hard copies of any material relating to the study was filed under the same process. This will be done for at least five years' post-publication of the study. Confidentiality agreements were not needed as the researcher transcribed the interview notes and transcripts herself. Data will be destroyed according to Walden University Guidelines that currently require data be destroyed five years' post-dissertation publication. Finally, part of protecting data is ensuring that the final results get into the hands of those who participated in the study. An executive summary was provided to all participants as a way to keep the focus on maintaining a trusting relationship, provide transparency, and sharing new knowledge.

Medicine is a fascinating topic to research and it fits in nicely with daily work life. However, that also produces its own set of challenges. There were no known conflicts regarding professional relationships between the physician participant and me. Finally, ethical issues are sometimes unique to a study. This study, for example, engaged with and required interviewing of physicians who are often revered in society, whereby there could have been a potential for a power differential. Rubin and Rubin (2012) calls this situation interviewing the elites. They go on to indicate that obtaining information from elites may be more challenging, but by including a past example of research

experience might ease that barrier. Additionally, example questions were provided ahead of time to the elite participants in the hopes that doing so eased any concerns they may have had and provided a smoother interview.

Summary

The goal of this qualitative study was to narrow the gap in understanding the effects IP teamwork may have on retaining physicians in rural settings, such as North Dakota. Chapter 3 began with an introduction, followed by reciting of the purpose, with a preview of further sections. The next major section included a restatement of the research questions, and dialogue of the phenomenon of the proposed project.

The role of the researcher is very important in that it compels the researcher to not only take a step back and consider his or her role in the study, but also to explain that role in writing. Part of considering that role is in identifying any personal and/or professional relationships that might cause an actual or perceived ethical conflict and paying particular attention to possible relationships where there is a power differential. It is also during this section that the reader begins to see how ethical considerations need to be woven throughout the entire dissertation process.

Data-gathering methodology comprises a significant segment of this Chapter. This allowed details to quickly emerge regarding how data were gathered. The research population is described and how the researcher arrived at selection of the population. Furthermore, the important topic of saturation emerges. Research instrumentation is previewed, followed by discussion of validity and sufficiency. The detailed section of recruitment follows instrumentation. It is a lengthy section that tackles the specific

process of how data was collected. Coding is detailed next. Researchers also need to be able to provide trustworthiness for their work and considerable effort goes into validating this process. Last, but certainly not least, the section of ethics rounds out Chapter 3. Ethics is a concept that is interwoven throughout the process, but considerable time and details emerge in this chapter that help to form the base of solid research.

Chapter 4 will include data collected, data analysis results, and findings for the study. An executive summary was shared with the physician interviewees that included the results of the data as it relates to IP teamwork's impact on the retention of physicians in rural North Dakota.

Chapter 4: Results

Introduction

The purpose of this study was to explore and understand the main inhibitors and facilitators of employing IP teams as a strategy to address rural physician shortages in North Dakota. I used Bandura's SCT as the theoretical framework for the study, specifically the concepts of vicarious learning, self-reflection, and self-efficacy (Stajkavic & Luthans, 2002). North Dakota is considered a very rural state, with an aging population, yet it has had a recent growth in population and a chronic shortage of physicians who are nearing retirement age (SMHS, 2017). The related literature suggests that rural areas across the world experience challenges in finding health care providers to care for populations living in those areas (see Myhre, Bajaj, & Jackson, 2015; Szafran et al., 2013). However, there is an abundance of literature that indicates practicing IP has a positive impact on patient care (Brownie, Thomas, McAllister, & Groves, 2014; Casimiro, Hall, Kuziemsky, O'Conner, & Varpio, 2015; Heath et al. 2015; Parker et al. 2013). What the literature does not communicate, however, is if practicing IP has any influence on retaining rural physicians.

I conducted this study to address this gap in the literature. Eight physician participants were asked eight interview questions ranging from their first experiences with IP teamwork to what inhibitors and facilitators they experience practicing IP. The two RQs were

RQ1: What do physicians feel are the main inhibitors to implementing an interprofessional teamwork model of care?

RQ2: What do physicians feel are the main facilitators to implementing an interprofessional teamwork model of care?

In this chapter, I present findings from the interviews I conducted with participants. The chapter is organized into the following sections: the setting, demographics, data collection, data analysis, evidence of trustworthiness, the results, and chapter summary.

Setting

I interviewed eight participants who all met the criteria established in Chapter 3. All participants were interviewed over the telephone, per their request. Most of the interviews occurred over the noon hour when patients were not scheduled for the participants or in the evening, after clinic concluded.

No personal or organizational influences affected the results of this study. All participants were in good standing with the North Dakota Board of Medicine. I provided consent forms to each of the eight participants, who returned them to me, signed and completed. The consent form also explicitly informed each participant of the minimal risks associated with the study and of his or her ability to withdraw without penalty or harm.

Demographics

The eight participants interviewed met all screener criteria for participation. Participants were practicing rural medicine in towns across the state, in both the western and eastern halves. Table 1 highlights the specific details including years of practice, primary care discipline, and the degree of each participant. Towns within the state of North Dakota are often classified as being within the eastern or western half of the state.

Table 1 notes the side of the state each participant practiced in. In order to protect the identity of the participant, this demographic was identified as opposed to noting the city of practice.

Table 1

Participants' Years of Practice, Degree, Discipline, and Practice Area

Participant number	Years of practice	Degree	Primary care discipline	State practice area (east or west)
Participant 1	37	MD	Family medicine	East
Participant 2	18	MD	Family medicine	West
Participant 3	35	MD	Internal medicine	West
Participant 4	28	MD	Pediatrics	West
Participant 5	49	MD	Family medicine	East
Participant 6	8	DO	Internal medicine	East
Participant 7	35	MD	Pediatrics	West
Participant 8	7	MD	Family medicine	West

Data Collection

For the data analysis process, I adhered to the principles of Rubin and Rubin (2012). Purposeful sampling was used to recruit participants, who met the criteria and consented to participate, and collect data using a researcher-produced instrument (see Table 1). The phone interviews lasted between 14 to 40 minutes and were recorded using a cell phone. Participants were asked open-ended questions as noted in Appendix C. Some respondents were very thoughtful in their comments, while other participants seemed more hurried. Interviews ended when participants noted they had nothing

additional to add. Only one interview was given to each participant; no additional follow-up interviews were conducted.

Reaching saturation for the study was challenging, and one way to expand the participate pool was to extend the time frame of the solicitation of participants, which resulted in a variation from the original plan. Solicitation for the study began in April, with the first interview held on April 24, 2019, and the last one on July 18, 2019. Additional rounds of solicitation letters were mailed. There was a supplementary follow-up with participants who had expressed interest at some point. Solicitation posters were sent to critical access health care facilities around the state to be hung up in a public place. No unusual circumstances were encountered during data collection.

Data Analysis

I used seven steps to analyze the data, per the process laid out in Rubin and Rubin (2012). The first step included transcribing and summarizing each interview. Transcripts from interviews ranged from four to eight pages each. They were double-spaced with adequate space in the margins for notes. Member checking was completed as every transcript was sent back to each interviewee. No corrections were identified by the participant. After member checking was completed, data analysis began. Key words or phrases that were used frequently were underlined, outliers noted, conflicting ideas highlighted, and any interesting thoughts throughout the transcripts in the margins noted. Interview notes were also consulted and connected to the transcripts.

The next step in the coding process was to identify codes. I created an initial codebook before transcribing the interview recordings. Looking across the interviews,

excerpts were noted and sorted for initial similarity. Additional codes were added to the codebook as the process of reviewing the transcripts continued and eventually totaled 38 initial codes. Because this was a phenomenological study, where the focus was on words and their meaning, it was important to become immersed in the data; thus, all data were coded by hand and without the use of software.

I performed secondary data coding to provide a deeper level of understanding of the data. In doing so, I synthesized the data and compared the excerpts between different groups to identify categories. Unique experiences or ideas expressed were organized into similar groups. For example, the interviewed data transcript from Participant 7 included the statement, "in the hospital we have frequent interactions in that working space…usually we talk to them [nurses]." This quotation was reduced to the category of space with other data points such as "we're not all practicing in the same location on the same day" (Participant 7) or "he also works in some other towns other days of the week" (Participant 5). What later emerged was the theme of workforce capacity as it also includes personalities and other practitioners. Similarly, the phrases "lack of time," "no time," and "too much to do" were stated consistently by several participants. Those phrases were grouped together in one envelope, coded as time, reduced to the category of resources, and, finally, identified within the theme of resources.

This process was accomplished by sorting the transcripts into sections based on identified phrases, words, and thoughts used frequently, compared, and grouped according to identified codes and placed into envelopes that displayed the initial code. Each of the response categories was assigned an overarching theme that provided a

deeper meaning to the data. This process, according to Miles (2012), allows for a large amount of data to be reduced for further analysis. Examples of initial codes included "turnover," "informal process," "personalities," "prior experience," "flexibility," and "travel." A complete listing of codes is found in Table 2. Additional reviews of the field notes were conducted, and relevant notes were paired with appropriate codes. Data contained within each envelope was reevaluated where ideas and concepts were combined and condensed into themes and displayed in a chart. The initial 38 codes were reduced to 16 categories including, burnout, job satisfaction, and resources. After a rigorous process of reducing the categories, seven different themes emerged from the data, with one theme considered as both an inhibitor and a facilitator. No discrepant issues were discovered through the coding process.

Table 2

Codes, Categories, and Themes

Codes	Categories	Inhibitor Themes	Facilitator Themes
Flexibility	Workload/limited scope	Work environment	Work environment
Mid-levels	Previous experience	Resources	Top of license
Previous experience	Workforce capacity	Regulations	Patient care
Rewarding	Future of IP	Workforce capacity	Previous experience
Security	Top of their license		
Workload	Resources		
Effort	Disease-specific		
Education	Quality requirements		
Instructor	Effort		
Interprofessional	Complicated		

Table 2 (continued)

Codes	Categories	Inhibitor Themes	Facilitator Themes
Facilitators	Practice location/space		
Job Satisfaction	Burnout		
Inhibitors	Work environment		
Retention	Patient care		
Patient care	Job Satisfaction		
Training			
Time			
Turnover			
Personalities/egos			
Burnout			
Equals			
Retired			
Environment			
Required			
Practice location/space			
Effort			
Complicated			
Quality/requirements			
Travel			
Specialization			
Disease-specific			
Resources			
Change			
Key team members			
Patient appreciation			
Informal			
Top of their license			
Future of IP			
Workforce			

Interviewees were asked to describe what the interprofessional environmental is like where they practiced. What emerged was all physicians interviewed describing how their physical environment affected the way in which they practiced IP teamwork. Participant 7 noted that, "part of the challenge is I go to three different clinics in the course of a week and so getting the staff consistently on board has been tough." Other participants described the IP environment as a "team-approach, working for the patients' importance" (Participant 3). Yet, other participants, such as Participant 5, believe that the IP team consists of depending "heavily on our nurses, but otherwise it's just us (the physicians)."

The responses from the participants created connections between their lived experiences practicing IP teamwork and the inhibitors and facilitators they experience while practicing it. Also examined was how these IP teamwork experiences were connected in a way that builds an understanding of rural practice for physicians in North Dakota, and consequently, provides insight into the interchange between rural practice and access to health care in rural areas of North Dakota.

Evidence of Trustworthiness

Triangulation, true value, and validity are all very important concepts that need to be incorporated into a study in order to ensure the findings are credible. Saldana (2016) provides several ways in which a researcher can achieve those benchmarks. This study meets Saldana's benchmark of being content rich as the responses to questions were thoughtful and offered views into the participants' lived experiences. Interview questions were asked in a non-leading manner. Triangulation was also used as a way to ensure the

trustworthiness of this study. One side of the triangle demonstrated field notes and interview documents as matching each other while interview documents were seen as accurate. The second side of triangulation is the literature. Literature suggests similar data in relation to the study's results, including themes such as resources and workforce capacity. Member checking was completed to form the third side of the triangle. Each side of the triangle produced repeated verification of this study.

Unfortunately, one measure of credibility remained unmet for this study and that was reaching saturation. Creswell (2015) suggests a range into the mid-teens in order to reach saturation. Specifically, the intention for this study was to reach saturation in approximately ten interviews. After a great deal of solicitation, eight interviews were completed.

Miles, Huberman, and Saldana (2014) remind researchers that transferability allows a researcher the opportunity to consider his or her study in a much broader context. Sample size characteristics and diversities, overall limitations of the study, and the presence of theory all assist in pointing to transferability. Here, the participants' backgrounds were diverse in that there were four physicians who practiced Family Medicine, two from Internal Medicine, and the final two rounded out the sample from Pediatrics. In concert with Miles, Huberman, and Saldana (2014) this study sufficiently threads social cognitive theory throughout, thereby meeting the transferability threshold.

A study needs to provide consistency in order to be dependable. A code-recode process was completed whereby the data were coded once, and after a hiatus from reviewing the data, it was recoded. Additionally, triangulation provides for dependability

in a study and triangulation was used in terms of the literature, matching field and interview notes, and the theory consistently threaded throughout the study (Maxwell, 2013). Confirmability is gained through the use of triangulation and evidence. To ensure confirmability is met, conclusions were linked to data, procedures and methods were specific to the study, and all potential biases were acknowledged. It was clear in the IRB document, and with all participants, that while I am an employee of the School of Medicine and Health Sciences, I was acting in a student capacity during this study.

Results

Seven different themes emerged from the interview and field notes data. The study aimed to explore and understand what physician facilitators and inhibitors of employing IP teams exist as a strategy to address rural physician shortages in North Dakota. The first research question considered what physicians' felt the main inhibitors are to implementing an IP teamwork model of care in North Dakota rural areas. Conversely, research question two focused on what physicians' felt are the main facilitators to implementing an IP teamwork model of care in North Dakota's rural areas. Inhibitor themes that emerged included (a) work environment, (b) workforce capacity, (c) resources, and (d) regulations. Data-produced facilitator themes included (a) work environment, (b) expertise, (c) patient care, and (d) previous experience. Work environment surfaced as a theme as both an inhibitor and as a facilitator. Three participants saw IP teamwork as an inhibitor in that they were forced to work with different health care providers across different towns. The remaining five participants disclosed that participating in IP teamwork was a facilitator to them as it provided a sense

of continuity of care when seeing patients spread out across several towns. These mixed results could possibly be a result of an inability to reach saturation.

Research Question 1: What Do Physicians Feel Are the Main Inhibitors to Practicing Interprofessional Teamwork

Work environment. A study completed by the American Medical Association (2015), suggested that physicians' hours range from 40 to 80+ a week with the average physician working between 40 to 60 hours in any given week ("How Many Hours are in the Average Physician Workweek," 2015). Given those numbers, a physician spends a great deal of time in their work environment, which was an emergent theme from the data. This study considered work environment to include practice location; physical space within the practice; providers' personalities and egos; discipline of providers practicing within the work environment such as physicians, physical therapists, physician assistants, physician schedule; and what the current IP teamwork environment is like.

In a rural state like North Dakota, patients who live in rural areas have to travel for miles in order to access health care facilities. Several participants shared the impact of having a practitioner spread across several facilities and how that is seen to impact the practice of IP teamwork. Consider the words of Participant 1, "audiology, and physical therapy, and occupational therapy are in a different building across the street, so I don't see them quite as much." Participant 7 echoed that by adding, "their (physical therapists, occupational therapists, and speech therapists) building is off-site so I don't see them face-to-face as much." Whereas, Participant 8 indicated that traveling to three clinics within one week's time is a challenge to get "the staff consistently on board." Participant

8 also highlighted the multiple hats that physicians in rural communities' wear, and how those hats are related to space usage, where IP teamwork occurs.

> So, we are a small community, with a critical access hospital, with twenty-five beds. And my position as Internal Medicine physician involves both clinic practice, emergency room coverage, and hospital work. Each of those environments has a different style of interprofessional practice. I think the hospital has the most maturely developed model, and in that, we have a co-working space, I guess you could call it where nurses do their charting, we're in the same area, where we visit there.

When asked about any inhibitors participants experience practicing IP teamwork, Participant 2 indicated that, "sometimes personalities get in the way. I mean sometimes peoples' personalities or egos can be an issue." Participant 4 shared those same inhibitors to IP teamwork in that "sometimes team members don't get along" and that "I think personality clashes can be problematic." Physician 4, however, takes the workplace environment discussion a step further and points to a lowering of physician job satisfaction. She says,

> And so, the environment, if it is perceived as a hostile work environment, or if you have people you work with who are incompetent, then it makes things that much harder and unpleasant, and therefore the job satisfaction will go down.

All participants noted that they worked with other providers that ranged from the nurse assigned to him or her to therapists and discharge planners. Half of the participants discussed the lack of non-physician partners such as mental health providers, and social

workers who are often absent from the team. Participant 6 expressed concern throughout the interview that a social worker was missing from the list of providers in a way that nearly handicapped her from efficiently practicing IP teamwork. “We have no social worker in our clinic, which is a real shame.”

Six participants, when asked to share how they have integrated IP teamwork into their practice, responded that it has always been a part of their practice, because you “have to have [it].” Whereas Participant 8 digs deeper and suggests that IP teamwork “has functioned… [as] a very physician-driven model and you know, there was a time where we were front and center and had our fingers in everything and so everything ran through us.” The participant goes on to remind readers that “…in a rural setting, and in any setting now in this full employment economy, you work with the staff you have.” The two physicians who practiced the least amount of time indicated that they first learned of IP teamwork in medical school and extended into residency. The physician who had the most years of practice indicated that IP teamwork wreaked havoc on his work environment.

Workforce capacity. Participants voiced concerns over physician burnout, high turnover rates, recruiting difficulties, and retired physicians still having to practice in their communities in order for there to be access to health care for community members. Specifically, Interviewee 5 suggests that he is past retirement age and that his partner is only .6 FTE as he too is at retirement age, however both feel they must continue to practice in their communities in order for there to be physicians there. Participant 8 underscores that “there is simply too many patients and not enough docs to take care of

them." Interviewees pointed to the recruiting difficulties in that they run deeply in rural areas as Participant 3 shares "we lost a lot. We're down to half [of the physicians]."

Participant 8 emphasizes that, "you could create this perfect, masterful, interdisciplinary model, but if you don't have the bodies to run it, you're forced to run with what you have." Interviewee 5 recounted the story of how the doctors did not have a choice to stop taking call in the emergency room, but hospital administration saw that the physicians were burning out and responded to that by contracting with a company to provide patient care in the emergency room.

Physician burnout, recruiting difficulties to rural areas, and retirements have led to an increasing dependence in rural North Dakota on mid-level providers, according to interviewees. Participant 1 shared that for some thirty years "we've tried to recruit family physicians with minimal success. So then, when more primary care PAs and NPs became available then we started recruiting them."

Some participants see mid-level providers as a physician extender, not equals, and not necessarily as part of the team. Using mid-level providers has drawbacks in that many do not take hospital call. Participant 5 added, that there are still some things that a physician must do. He goes on to say, "I don't get anything from the PAs. I don't offer much to them; they're pretty self-sufficient. I mean, we ask each other questions unofficially all day long, but it isn't really because they're PAs and I'm an M.D."

Lack of skill level and role confusion can also complicate the team. The fourth participant comments that "not everyone has the abilities…[or] having different abilities on the team." According to Participant 6, one of the biggest inhibitors to practicing IP

teamwork is "people not knowing their role or taking the initiative to follow something through." "Organizational inertia" has been one of "the primary challenges" for practicing IP teamwork in rural North Dakota, according to Physician 8. IP teams are in a constant state of balancing member numbers, skill levels, and communicating team member roles.

Resources. Participant 3 listed resources as the number one inhibitor to practicing IP teamwork. For many of the physicians interviewed, lack of resources was listed as an inhibitor. Many participants specifically called out lack of human capital as the biggest shortage of resources. Specifically, Participant 6 shared a story of an unnamed patient who was continuously in and out of an urban hospital, though the patient lived in a rural North Dakota community. Providers at the urban hospital requested that the physician participant provide a specific piece of palliative care for the patient. Said physician shared, "like I have that at my disposal out here. Trying to like pass the buck on to me when basically, they can't keep the patient out of the hospital."

Participants also shared lack of human capital as an inhibitor to practicing IP teamwork. Participant 6 shared her view of the lack of a specific type of employee.

> I would say there is almost zero to no bridge between our clinic and county services for people. Sometimes I have to go out of my way to do that, or I will tap into our hospital social worker…because they are more of an expert in that.

In an ideal world, participants agreed that practicing interprofessional teamwork would be much easier with the resources and a full staff. Because of reduced resources,

physicians are often left with having to turn patients to other sources of assistance, like the Senior Center.

Regulations. Government regulations, metrics, quality improvements, and government controls are all words used to describe how some participants felt that the choice to even participate in teamwork has been taken away and that according to Participant 3, "well, we're forced into it; we've got to do it if we are going to accomplish our ACIO demands." The notion that physicians are moving away from personalized care and toward a "more metrics-centered care" system was concerning for Physician 3 who went on to describe teamwork as a "cold check mark thing to accomplish and move on" and that it is taking away from patient-centered care. Participant 5 had similar comments in that,

> Government oversight and um CMS rules that sort of demand it. They um, with all of our quality scoring and everything…and threatening not to pay us, if we don't keep our scores a certain level, we know that we have to do this as a team. And that comes from the top down.

The physicians interviewed indicated the need to complete certain metrics, but that it all must be accomplished while indicating they are short on resources such as staff and time.

Research Question 2: What Do Physicians Feel Are the Main Facilitators in Practicing Interprofessional Teamwork

Workforce environment. Workforce environment was a theme that emerged as both an inhibitor and as a facilitator in practicing IP teamwork. For some participants, the workforce environment was filled with inhibitors to practicing IP teamwork such as an

increase in workload as physicians had to cover outlying clinics, while others saw IP teamwork as a collaboration opportunity and as a way to share in responsibilities. For Participant 7, IP teamwork provides the "continuity in outlying clinics that otherwise would not be there," while it also allows a physician to be the back-up provider to take night call, as the physician assistant took primary call. All participants expressed the importance of being connected to other non-physician providers such as physical therapists, nurses, and social workers, in addition to providers who provide outreach such as a traveling surgeon. Participant three took the concept of IP teamwork to another level by adding administrative employees as part of a team in order to keep computers running, for example.

Participants 6 and 8 both addressed how the IP work environment is different in the hospital setting versus the clinical setting. Both participants expressed that in their respective practices, the hospitals had the most advanced IP teamwork environment, mostly due to the number of occupations within the health care team who are available. Participant 8 also added that the physical space within the hospital also added to the maturity of the developed IP team. Participant 8 shared that the way in which the workspace within the hospital is set up allows for "frequent interaction" with other providers and the E-shaped workspace allows for work among providers to be in close proximity to each other.

Expertise. The majority of physicians interviewed revealed that team members desire to practice at the top of their license, or utilize their expertise, meaning they want to use their education, training, and skillset to engage in duties that make the most

efficient use of their time. They also want to feel empowered to do their jobs and have ownership over duties and autonomy in their own scope of practice. Specifically, physician Participants 4 and 8 mentioned that their time is better spent on addressing complex issues; whereas physician assistants and nurse practitioners are capable of providing follow-up care to patients and less complicated care. Participant 7 supported having mid-level providers as part of the IP team as doing so allows "the physicians [to] focus their work more on patients that are more complicated, and I think the patients enjoy them. PAs and NPs tend to be good listeners." Physician 6 defers to other team members for their expertise in certain matters as "I don't need to be spending time during her visit worrying about, will Medicare pay for her thyroid medication?"

All participants interviewed agreed that because IP teamwork includes PAs and NPs as part of the team, more patients can be seen, which leads to an overall better system. It also provides some flexibility in the workplace in ways that permit physicians to be relieved of their care responsibilities to do things like take a vacation. All of this funnels into what Participant 3 calls, "redesigning the team concept so that rather than the primary physician, you're going to have the physician as the captain directing more work…" Participant 8 suggests that by hiring more mid-level providers, "we'd really start to have a true clinic team." Participant 7 agreed with other participants in adding that mid-level providers often take "first call" in places like the emergency room, or walk-in clinic which allows physicians to have rest from night call after seeing patients all day.

Patient care. Literature points to more optimal patient care and better results for patients as some of the main reasons why health care providers engage in IP teamwork.

There is strong evidence from participants to suggest the same in that where IP teamwork is used, it enhances care, outcomes are better, and care coordination is better for patients. From Participant 8, "only part of taking care of patients is their medical care…[as] the patient is more than their disease." Consider a further statement from Participant 8,

> I mean we'd get to see three patients a day if we spent the time necessary with them and their families to figure out all of these necessary things. I mean, so, it is true interprofessional program or approach in as different groups with different training in their unique expertise and their perspective to patient care, so working to enhance the overall care of patients.

One participant argued that the use of IP teamwork is "past the tipping point" and that "patients are demanding it." Participant 1 adds that the biggest facilitator in practicing IP teamwork is "a group of people willing to work together here in our community."

For some participants, however, IP teamwork has complicated patient care because it can be complex. Participant 3 says that "gone are the days where the patient saw you and you met the problem and you took care of the problem and they went home happy and you took care of the next patient…those days are gone." The participant goes on to say, "I don't have someone who's going to just sit off to the side and manage the electronic record while I just spew out my orders and thoughts and you know, go on to the next…" The participant follows that up by saying that some diseases are better managed within an IP teamwork setting than other diseases.

Previous experience. Physician participants' first exposure to IP teamwork ranged from medical school, to "it's always been there," to within the last ten years.

Participant 2 indicated that their first experience with IP teamwork was in medical school, with "a spattering of it in residency." Participant 8 provided information regarding a specific IP teamwork course in medical school with subsequent work in IP teamwork while working as a hospitalist.

> …we would sit down and so table rounds with social work, discharge, planning, Nursing, therapy, and pharmacy. Just sort of all of these disciplines to kind of to not try to let any of these frailty issues fall through the cracks.

Of the participants who indicated that they had been practicing IP teamwork most of their careers, all four of them expressed that their past experience with IP team was a facilitator to practicing it today. That is to say, that for those physicians who were taught early on in their careers how to engage as part of an IP team, the likelihood of continuing that process as part of a more mature medical practice continued.

Discrepant Issues

While this study did not reach saturation, there were no discrepant issues to contend with regarding the eight interviews conducted.

Summary

Chapter 4 documents the setting of the study and describes the demographics of the participants. The process for data collection is shared in detail. The method by which data were coded was detailed by examining each step in the process. Codes, categories, and overall themes were tendered. The soundness of the study was tested as evidenced by securing trustworthiness. Finally, the results of the data collected described and shared the personal experiences, thoughts, and feelings of all eight participants. Highlighted

were their lived experiences with IP teamwork through the eyes of their early days in medical school through their current practice.

Four inhibitors emerged from the data and included the work environment, resources, regulations, and workforce capacity. Four facilitators also emerged and included work environment, expertise, patient care, and previous experience. Work environment was identified as both an inhibitor and a facilitator. The overall consensus is that engaging in IP teamwork is beneficial to patients, it has limitations and may cause additional stress on physicians.

Chapter 5 will document the integration, synthesis, and the evaluation of the literature and interview results. The final chapter will conclude with Study Limitations, Recommendations for Further Study, and Implications for Social Change.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The landscape of health care is changing in the United States and in North Dakota and moving from a physician-controlled environment to a more collaborative, IP model. I conducted this study in response to a severe shortage of physicians in rural North Dakota. The purpose of this study was to explore and understand the main inhibitors and facilitators of employing IP teams as a strategy to address rural physician shortages in North Dakota. The study was qualitative in nature and featured a phenomenology design. There were two RQs that served as a foundation for this study, which were

RQ1: What do physicians feel are the main inhibitors to implementing an interprofessional teamwork model of care?

RQ2: What do physicians feel are the main facilitators to implementing an interprofessional teamwork model of care?

Key findings identified four main inhibitors to implementing an IP model of care: the work environment, resources, regulations, and workforce capacity. The work environment of physicians can be seen as an inhibitor to practicing an IP model of care in that physicians are often spread too thin when having to visit outlying clinics regularly. A lack of resources, stringent regulations, and a short-handed workforce rounded out the inhibitors.

Four main facilitators emerged as part of the data analysis and included work environment, top of their license, patient care, and previous experience. Work environment emerged as both an inhibitor and a facilitator. In terms of a facilitator, the

work environment provided ease in practicing IP as midlevel providers such as PAs could bear the load of patient care. Supporting all team members to work at the top of their license allows a team to work at its highest level. Those physician participants who had previous experience with IP found that past experience was a facilitator to implementing an interprofessional team in current practice. Finally, improved patient care was also identified as a facilitator.

The final chapter of the study begins with the integration, synthesis, and evaluation of the literature review and physician interviews as they relate to the two foundational RQs. Other sections include the limitations of the study, recommendations for future research and practice, and the implications for positive social change. The last section is a conclusion to the study.

Interpretation of the Findings

Inhibitors to Using Interprofessional Teamwork to Address Physician Shortages in North Dakota

Literature suggests that there is a national shortage of physicians (Jones, Bushness, & Humphreys, 2014) and North Dakota is no stranger to that shortage (SMHS, 2019). All eight participants interviewed discussed the shortage of providers within the state. This problem is exasperated by the physicians' work environment where many are currently stationed in rural towns and need to cover larger practice areas, causing current providers to have multiple towns in their scope of practice. Parker et al. (2013) listed proximity of providers as a barrier to practicing IP teamwork. That finding coincides with the finding of this study that physician space may have an effect on practicing IP.

Some participants interviewed expressed their part-time or retired status as an inhibitor to practicing IP in that the desire to leave practice exists for them, but, without their service, communities would have less access to health care. Those physicians are wanting to get out of practice and the additional burden of practicing IP is overwhelming for providers. The data also support the literature found in the literature review that North Dakota's physicians are nearing retirement age ("Type of Employment for Physicians in North Dakota," 2017).

Cleland et al. (2012) discussed isolationism of physicians as well as increased workload. None of the participants interviewed discussed a sense of isolationism; they did, however, share concerns about increased workload due to a reduced workforce. Petterson et al. (2015) described how a struggling workforce will continue to be stretched, if current trends remain. That same study highlighted physician burnout as a factor in physician retention. Participant 5 voiced relief when patients canceled appointments in order to address the backlog in work and reduce potential burnout. Participant 8 disclosed that the small critical access hospital lost one of two pediatricians employed due to retirement. Similarly, the third participant interviewed noted their physician staff had dwindled down to half. It becomes a vicious circle wherein physicians retire or leave and the remaining physicians are left to care for all of the patients for a period of time. In the meantime, the remaining physician staff are pushed to their limit, often leading to burnout.

Having a reduced workforce requires physicians to respond to patient care in a different manner than their counterparts practicing in more urban areas, according to

Parker (2013), which often leads to more fragmented patient care. Participant 6 shared struggles with finding a social worker to assist in patient care. The same respondent echoed concerns about having to send patients to the senior center for additional assistance because the resources do not currently exist at the health care facility.

The literature raised concerns over adequate resources being available, specifically citing financial resources as a barrier to IP (Parker et al., 2013). According to this study's respondents, reductions in workforce causes consequences such as significant physician travel from town-to-town in order to provide care to rural patients. Participant 6 highlighted the lack of resources between hospital and clinic services as well as between clinic and county social services. Study data suggested that time is a sizable inhibitor to move past and that time with patients often suffers the most.

The data show that the demanding regulations and metrics that need to be adhered to, relative to patient care, forces IP to occur but conversely show a relationship associated with depersonalized patient care. Participant 3 expressed concern that it was no longer a choice to participate in IP teamwork; it was demanded by their organization. In reviewing the literature, I found no literature that addressed regulations, government requirements, or quality requirements as they related to IP. Cragg et al. (2013), however, found that there is indeed additional pressure placed on team members to engage in IP.

Looking at the inhibitors of practicing IP through the lens of SCT, consider Bandura's approach in that people want to contribute to their environment in a way that is meaningful to them. If a work environment does not allow for meaningful work, there is little incentive to participate. Findings from my study suggest that physicians are

overworked, do not have adequate participation in patient care from other disciplines due to workforce issues, lack resources, and are taxed with regulations.

One of the three arms of SCT considered in this study was self-efficacy. That is the idea that one's abilities, motivation, resources, and certain actions are taken in order to be successful (Stajkovic & Luthans, 1998). If physicians feel they lack resources and are unable to take certain actions due to restrictions, then they are not going to be successful. Vicarious learning was the second of Bandura's concepts considered here. Learning vicariously through observations in behavior may lead to a guideline establishment (Stajkovic & Luthans, 2002). If rural health facilities were fully staffed, physician leaders may be able to establish guidelines and rules through their actions within the IP team for other members of the team to follow. The third point of Bandura's theory considered here was self-reflection. That is to say that experiences are analyzed at an individual level. Providers need to be reflective of not only their experiences, but also the experiences of others. It may be understandably difficult to analyze the experience of others when the workforce needed does not exist. That environment is not focused on being reflective, but rather on being reactive.

Facilitators to Using Interprofessional Teamwork to Address Physician Shortages in North Dakota

Several studies exist that address the hierarchical concerns where physicians are the head of the IP team. Specifically, the Bergman et al. (2016) study found that there were communication barriers among physicians and pharmacists, along with hierarchy role concerns between them. In Thistlethwaite (2012) there is evidence that IP teamwork

is rejected because of the perceived hierarchy within the health care system, among other reasons. Data from study interviews indicates that team members working to the top of their license is seen as a benefit. The team works best when each member is working to their utmost ability, educational level, and license to care for patients.

The majority of literature addressing the benefits of IP teamwork refers to patient care as a major benefit to practicing it. The Tilden, Eckstrom, and Dieckmann (2016) study points specifically to the idea that IP teamwork in rural settings is complicated and complex due to the availability of workers and financial resources. Interview data concurs with the literature review regarding the connection between IP teamwork and improved patient care. Specifically, collected data also echoes research found in Chapter 2 in that participants agreed that IP teamwork is complex.

The Crisp and Chen (2014) found that with educational initiatives, significant impacts may be seen on rural providers practicing IP teamwork. What that means in terms of this study is that participants recanted past IP teamwork experiences during the interviews that dated back to medical school and residency, however, no participant highlighted previous experience being a predictor for their current practicing of IP teamwork.

Several studies suggest that the future of IP teamwork will continue to grow as it has a positive effect on patient care. Findings from the 8 participants interviewed supported the same. Each participant shared that he or she believed IP teamwork would continue to grow and be a constant presence within patient care. The days of patients being seen by only the physician are days in the past.

Consider the facilitators to practicing IP teamwork through the framework of this study. The vicarious learning prong of SCT relates to the facilitator of individuals working to the top of their license. If individuals are allowed to provide valuable input and have ownership over their own scope of work, then other members of the team may emulate that behavior. All eight participants spoke about the future of IP teamwork in a positive manner. In light of Bandura's idea that people analyze their own experiences, consider this study's finding of the future of IP teamwork as a facilitator. Participants indicated a generally positive reaction when considering the future of IP teamwork, as they contemplated how they may analyze their current IP teamwork experiences. Previous experience may allow for more optimal self-reflection of experiences in an employee's current IP team.

Limitations of the Study

Saturation could not be confirmed for this study, however, the data obtained from these eight interviews was rich and beneficial to understanding their perspectives on what inhibitors and facilitators they experience practicing IP teamwork. The conclusions reached in this study are not generalizable to other populations.

Another limitation to the study is that during several of the interviews, participants would use the word "interdisciplinary" instead of "interprofessional" to describe the kind of teamwork being discussed. Interdisciplinary is often associated with considering more than one section of knowledge, while the term interprofessional typically describes something that is shared among more than a few professions. Physicians may be using the terms "teamwork," "interdisciplinary," and

"interprofessional" interchangeably. This could also be seen as a recommendation for a future study.

During interviews, participants often used "teamwork" interchangeably with "interprofessional teamwork." IP teamwork is a specific area study, different from teamwork. It was unclear while analyzing the data if there was a clear understanding of the differences between IP teamwork and teamwork.

Recommendations

There is ample literature citing physician shortages across the nation and specifically in North Dakota. Literature also suggests that there are tremendous benefits from engaging in IP teamwork, including improving patient care, more cost-efficient patient care, and more attention to how to care for certain groups of complex patients, specifically older adults. I examined rural physicians' experiences, inhibitors, and facilitators to practicing IP teamwork. However, it was unclear if there is an understanding of the differences between IP teamwork and teamwork during this study. It is recommended that a study consider what IP teamwork means to each member of the IP team.

This study was dedicated exploring and understanding the main inhibitors and facilitators of employing IP teams as a strategy to address rural physician shortages in North Dakota. However, only one member of the team, physicians, was considered as North Dakota's main health care worker shortage is physicians. It is recommended that the scope be expanded to include other members of the team such as therapists, social workers, and mid-level providers.

Another recommendation is to conduct a case study of a particular rural town in North Dakota in order to take a more in-depth look at what is occurring within rural hospitals. As seen with this study, North Dakota can be too small to extrapolate a sample size large enough to reach saturation. Similarly, consider physical geographic location of the participants was not taken into consideration, other than participants had to be practicing in a rural area. The scope of the study could have yielded that all eight physicians interviewed were employed by one or two larger rural health systems, thereby not capturing data evenly distributed across the state. Data collected from a physician practicing in a rural town of fifteen thousand people with a critical access hospital employing three physicians and two mid-level providers may look very different from a physician practicing three days a week in a clinic within a town of one thousand people. Conducting a case study would also allow richer data to be obtained from providers practicing in a truly rural town, as opposed to rural towns who are located relatively short distances from urban hospitals.

In considering recommendations for health systems to use an IP teamwork approach to address staffing shortages, it is recommended that all members of the team be educated on what IP teamwork is and how to properly engage in it. Health systems might also gain from evaluating how their hospital processes for IP teamwork differ from their clinic processes. Finally, all physicians interviewed expressed empathy for their patients, but also expressed limitations in their ability to provide the best kind of care as is related to social work or discharge planning. Perhaps health care systems might stand to benefit by taking a look at their support positions and consider expanding those roles.

Implications

Health care touches the lives of every single person at one time or another, and thus, the importance of health care is often of ultimate interest to everyone, but particularly to North Dakota because of its aging and complex health care population. This study provides a focus on social change as it highlights the public policy issue of access to health care as a way to develop strategies to address the concerns of providers that lead to workforce shortages.

This study explored and provided an understanding of inhibitors and facilitators to practicing IP teamwork in the hopes of uncovering barriers to access health care for the citizens of North Dakota. Data from this study supports the literature when physician shortages were identified. Additional data from this study lends itself to existing literature that suggests patients are demanding a more integrated team approach to their care.

This study expanded the literature in assisting to close a gap by uncovering what physicians feel are inhibitors and facilitators to practicing IP teamwork. This study aimed to highlight the importance of connecting IP teamwork and physician retention, two concepts that have rarely been identified in the literature together. By adding this study to the literature, policy makers may seek to use it as an educational tool and to assist in planning for policy changes to address physician shortages in North Dakota.

The literature suggests that participating in teamwork has some connection to retention of other professionals, such as nurses. This study found that, aside from one participant, engaging in IP teamwork has some influence on their satisfaction and/or

retention at their current place of practice. This study may provide insights for health systems to assist in retaining physician providers in rural areas.

The ultimate goal is to provide a possible strategy to move health care access forward by instituting IP teamwork educational initiatives as a thread throughout medical school curriculum. The participants who experienced IP teamwork in medical school appeared to be more inclined to integrate IP teamwork into their practice voluntarily, despite its challenges.

When participants were asked their thoughts about what the future of IP teamwork looked like, there was an overwhelming response that it is going to continue, expand, boom, increase, and is absolutely necessary. "The days of 'I just have one doctor, that's the only person I see' are rapidly going away" according to Participant 3. Despite the notion that IP teamwork may not be fully implemented in some locations, is considered time consuming by some participants, and requires additional resources, it is still important to patient care and is seen to increase in the future. When participants were asked to share what the IP environment is like where they work, they used words and phrases like trust, share, being on the same page, embrace, and benefits patient care. All participants agreed, however, that IP teamwork was going to continue in the future and will thus continue to have a positive impact on patient care. Additionally, if physicians are happier practicing IP teamwork because of the benefits it brings to patient care, the reduction of workload, and the shared responsibilities, it may also provide higher physician satisfaction and thus, higher retention rates for physicians in North Dakota.

Conclusion

Physician recruiting and retention, along with provisional access to health care in North Dakota will be an ongoing challenge. It is critical to offer options and new strategies to educators and policy makers to assist in addressing this challenge. Utilizing IP teamwork is one strategy available to assist in combatting rural physician shortages in North Dakota. Understanding this strategy's inhibitors and facilitators, it appears, based on the research, that this model may be a viable option to increase access to health care in North Dakota.

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Appendix A: Invitation to Participate in the Study

My name is Judy Solberg and I am a doctoral student at Walden University. Part of the requirements needed to obtain my degree is to complete a research project. I am conducting a study on the potential impact interprofessional teams may or may not have on retaining physicians in North Dakota. As I am sure you are well aware, there is a nation-wide concern regarding the ability to retain physicians in rural areas, such as North Dakota. It is certainly an important topic for all North Dakotans to consider.

As a physician practicing in a rural area in North Dakota, you may meet the profile to participate; however, not all volunteers may be eligible to participate. If minimum requirements are unmet, volunteers will be notified via e-mail. Physicians must be an M.D. or a D.O.; licensed, and in good-standing with the North Dakota Board of Medicine; and currently practicing primary care in rural North Dakota for at least one year.

Should you agree to consent to partake in my study, I will provide you with a more detailed Consent form outlining examples of type of questions, procedures, etc. No personal identifying information will be part of the data collection, all responses will be recorded and kept confidential; results will be reported in the aggregate. Interviews can be conducted via Skye or in person at a local library of coffee shop and expected to take one hour or less to complete. It is important to note that your name will not be directly reported in any way, shape, or form to the results, and no identifying information included. It is important to remember that your participation is voluntary and thus, you have the option to withdraw without harm, fear, or consequences. Should you withdraw,

all data (including the consent agreement), and information provided and collected thus far, will be deleted.

While your time is appreciated, compensation will not be offered for any of your time dedicated to participating in the study. Your participation will, however, contribute to a gap in research regarding physician retention in rural North Dakota. Should you be interested in participating, please e-mail me at [redacted]. I am eager to hear back from you and request a timely response at your convenience, hopefully within ten days.

Should you have any questions regarding the study, please do not hesitate to contact me at [e-mail address redacted] or at [telephone number redacted].

Many thanks for your consideration.

Judy A. Solberg, M.P.A.

Doctoral Candidate

Appendix B: Screener Guide

Applicant name:

1. Are you an MD or DO?
2. Are you licensed to practice medicine in the State of North Dakota?
3. Are you in good standing with the North Dakota Board of Medicine?
4. How many years have you been practicing medicine?
5. What is your practice area?
6. What is your city of practice?
7. Is the city of practice considered rural?

Appendix C: Interview Protocol and Questions

Please let me extend my gratitude to you for your participation in my study. As a reminder, my study is exploring interprofessional teams' inhibitors and facilitators to address physician shortages in North Dakota. This is a qualitative study where I have a list of questions prepared, however I may also ask follow-up questions as appropriate. As we go through the questions, I ask that you are as descriptive as possible as you respond to the questions. Should you have any concerns over any question as we progress through the list, please interrupt so we can discuss. The information exchanged between you as a participant, and me as a researcher, needs to be held in strictest confidence. As a reminder, your answers to questions will be recorded, kept in confidence, and are anonymous

Introduction and warm-up: If you are ready to begin, we will do so.

Interview question 1: Tell me about what the interprofessional environment is like where you practice. Specifically, what disciplines are represented, and which ones might you interact with the most?

Interview question 2: Where in your career path did you experience interprofessional teamwork?

Interview question 3: What does interprofessional teamwork mean to you and your practice?

Interview question 4: How have you integrated interprofessional teamwork into your practice?

Interview question 5: What are any inhibitors you may have experienced practicing interprofessional teamwork?

Interview question 6: What are any facilitators you may have experienced practicing interprofessional teamwork?

Interview question 7: Does interprofessional teamwork influence your current satisfaction and/or retention at your current job?

Interview question 8: What do you think the future holds for interprofessional teamwork?

Thank you for your time; it is much appreciated. After I have a chance to transcribe the interviews, I will provide you a copy of the transcriptions for review and correction. If you have any questions or wish to withdraw from the study, please do not hesitate to contact me at any time.