BARRIERS TO SEEKING PREVENTATIVE CARE FOR MEN LIVING IN RURAL NORTH DAKOTA

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DOCTOR OF NURSING PRACTICE

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ABSTRACT

The purpose of this evidence-based practice improvement project (PIP) was to identify perceived barriers to seeking primary and preventative healthcare by males living in a rural North Dakota community. Research has shown that men in the United States live shorter lives and are more likely to die of many common causes of death than females. These facts may be partially explained by the idea that men are less likely than women to regularly see a healthcare provider. Health disparities also exist between rural and metropolitan communities as well. Individuals living in rural areas have been found to die more frequently of potentially preventable causes, have higher incidence of obesity, and shorter life expectancies than those living in metropolitan communities.

The objectives of the PIP included: 1) Identifying actual and perceived barriers to seeking annual preventative care examination and screening by adult males, ages 19-65; 2) increasing healthcare professionals' knowledge of the barriers to seeking annual preventative care among adult males in the community; and 3) implementing at least two recommendations to improve healthcare utilization and reduce barriers within the rural clinic by the end of the project implementation

Male volunteers were recruited to complete a survey identifying potential barriers to seeking preventative healthcare. The results were then communicated to healthcare providers practicing in the survey area along with evidence-based recommendations for breaking down identified barriers to increase utilization of services by males in their community. Twelve participants completed surveys. Barriers identified included poor health literacy/education, clinic hours conflicting with responsibilities, not wanting to discuss emotions and masculine ideas, and cost of healthcare. Recommended interventions included education at multiple levels,

implementing male-focused health initiatives, and male-focused education/information in the clinic. After one month, the coinvestigator revisited the participating clinic. At that time, the clinic had opted to not implement the recommended interventions citing COVID-19 pandemic.

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DEDICATION

I would like to dedicate this dissertation to my wife, Shantel, and our three children, Nathan, Bradley, and Ava. You all sacrificed so much to allow me to achieve my dream. Without your love and support I would not have made it this far. I love you all!

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CHAPTER 1: INTRODUCTION

Background and Significance

Preventative health screenings have been shown to decrease healthcare costs, reduce morbidity and mortality, and improve overall health outcomes for patients (Office of Disease Prevention and Health Promotion [ODPHP], 2020). However, disparities exist among adult men in regards to seeking preventative health screenings or meeting regularly with a primary care provider (Hing & Albert, 2016). In fact, Hing and Albert found the rate of adult females ages 19-65 years old seeking preventative care visits to be approximately 69% higher than males of the same age range, whereas no significant differences between males and females were noted in individuals 65 years of age and older or 18 years of age and younger.

The gap in primary and preventative care utilization between genders plays a major role in length and quality of life. In the United States, non-Hispanic, white men have a life expectancy of 76.1 years, which is much lower than the life expectancy of non-Hispanic, white women at 81.6 years (Xu et al., 2018). The disparity in life expectancy among men is similar for Hispanic (men 79.1 years, women 84.2 years) and Black Americans (men 71.5 years, women 77.9 years) as well. Ultimately, shorter life expectancies among men may be attributable to reduced utilization of preventative and primary care services due to uncontrolled disease states, as well as later detection of disease.

The 15 leading causes of death in the United States for the year of 2018 were (1) heart disease, (2) cancer, (3) accidents, (4) chronic lower respiratory disease, (5) cerebrovascular disease, (6) Alzheimer disease, (7) diabetes mellitus, (8) influenza and pneumonia, (9) kidney disease, (10) suicide, (11) chronic liver disease and cirrhosis, (12) septicemia, (13) hypertension, (14) Parkinson disease, and (15) pneumonitis (Murphy et al., 2021). Of these, men had a higher

incidence of death compared to women in all categories with the exception of cerebrovascular events and Alzheimer disease. The number of cerebrovascular deaths was essentially the same in men and women, and the higher number of Alzheimer's-related deaths in women may be attributable to the fact that they were living longer and thus, more likely to develop and die from the disease.

Disparities in health status and preventative screening are also present when comparing the health of rural verses metropolitan men and women. According to the Centers for Disease Control and Prevention [CDC], potentially excess or preventable deaths from the five most common causes of death among individuals less than 80 years old in the United States were higher in the nonmetropolitan or rural areas than in metropolitan areas (Garcia et al., 2019). The authors also found higher rates of obesity and lower life expectancies among rural residents. Men who live in rural communities were found to be more likely to die from cancer than men who live in nonrural areas (Henley et al., 2017). Additionally, Carnahan et al. (2018) found that men living in rural communities in the United States lived an average of two years less than men who lived in nonrural areas. They also found that only 41% of men living in rural areas meet physical activity guidelines of 150 minutes of moderate exercise per week compared to 51% of men who in urban settings. Insufficient physical activity can lead to increased likelihood of developing heart disease, obesity, high blood pressure, high cholesterol, type 2 diabetes, and various cancers (CDC, 2019).

Contributing factors to lower preventative screening and primary care utilization among men is multifactorial. Barriers to seeking healthcare among men include gender norms, ideas of masculinity, social attitudes/coping strategies, health risks, and system barriers affecting men's health (Hooper & Quallich, 2016). Commonly accepted gender norms point toward men being

independent, self-reliant, tough, and able to provide for their families. Men may feel pressure to conform to these norms and seeking healthcare may cause role conflict. Seeking care requires a person to admit they may not be healthy or that they need assistance from another. Engaging in preventative healthcare services also requires patients to provide personal information to another individual, which may go against what men are led to believe is normal or typical behavior.

Men's view on their own masculinity and what it means to be a "man" can also affect their desire to seek healthcare (Hooper & Quallich, 2016). Certain cultural beliefs may lead men to believe that to be a man means to deny weakness and maintain both physical and emotional control. Seeking healthcare can be thought of as admitting that one needs help or is not physically and/or emotionally fit and thus, less "manly." Men have also been found to have smaller social circles than females and tend to have poorer coping strategies at the onset of healthcare issues, such as denying or ignoring health problems.

Not only does inadequate health maintenance affect overall health among men, but this also has major financial implications. Premature morbidity and mortality among males are estimated to cost approximately 479 billion dollars annually in the United States (Baker & Shand, 2017). Additionally, the medical costs and loss of productivity of the combination of cancer, diabetes, and coronary artery disease (CAD) totals approximately 715 million dollars each year (CDC, 2021b). This is a very large financial burden that is placed on individuals, families, and taxpayers. Cancer, diabetes, and CAD place a large financial burden on individuals and families. The diseases may be diagnosed earlier and, in some cases, prevented entirely with early and regular healthcare screenings and utilization of primary care services. Thus, demonstrating the importance of improving healthcare utilization in the United States, particularly among males who are less likely to seek primary care services.

Problem Statement

Men utilize primary and preventative care services at a significantly lower rate than their female counterparts (Hing & Albert, 2016). These statistics are even more pronounced in rural communities where healthcare services are more distant. According to the Association of American Medical Colleges ([AAMC], 2019), North Dakota has approximately 237.6 active physicians per 100,000 people in the state, which ranks North Dakota 35th out of the 50 states in regard to available providers per residents. There are also 614 licensed nurse practitioners and 322 physician assistants practicing in North Dakota (Kaiser Family Foundation [KFF], 2022; National Commission on Certification of Physician Assistants [NCCPA], 2017). The distance between providers and the distance that must be traveled to reach a provider also is farther in rural areas (Loftus et al., 2017). Men living in nonmetropolitan or rural areas live an average of 2 years less than men who live in metropolitan areas (Carnahan et. al, 2018). These men are also more likely to die of preventable causes of death and be obese (Garcia et al., 2019), as well as be less physically active than their metropolitan counterparts (Carnahan et. al., 2018). Based on information provided above, barriers to seeking care among men living specifically in rural areas may lead to an increased incidence of many diseases and conditions among rural, male residents, as well as shorter expected lifespans in men compared to women.

Purpose

Adult males living in the United States currently have shorter expected lifespans, lead in 13 of the top 15 causes of death, and are less likely to seek primary or preventative care compared to females (Hing & Albert, 2016; Murphy et al., 2021; Xu et al., 2018). Understanding barriers to seeking primary and preventative care by the American male is essential in improving healthcare utilization and health outcomes for this population. The purpose of this evidence-

based practice improvement project was to identify perceived barriers to seeking primary and preventative healthcare by males living in a rural North Dakota community. Identified barriers were communicated with suggested improvements to reducing these barriers to the primary care providers in the community with the goal of increasing the use of primary and preventative services by their male population.

Objectives

The focus of this evidence-based practice project was to identify barriers to seeking preventative healthcare by men living in or around a rural North Dakota community. The information was then used to educate the practicing providers in these areas on ways to increase utilization of preventative healthcare services in the target demographic. In accordance with these goals, the measurable objectives for this project were as follows:

1. Identify actual and perceived barriers to seeking annual preventative care examination and screening by adult males, ages 19-65.
2. Increase healthcare professionals' knowledge of the barriers to seeking annual preventative care among adult males in the community.
3. Implement at least two recommendations to improve healthcare utilization and/or reduce barriers within the rural clinic by the end of the project implementation.

CHAPTER 2: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

Literature Review

An in-depth literature review was completed utilizing Cumulative Index to Nursing and Allied Health Literature (CINAHL), Cochrane Database of Systemic Reviews (Cochrane), and PubMed. A systemic screening process was applied to the subsequent articles. Keywords included the following: “men” or “male,” “preventative” or “primary care,” and “barriers.” Further searches using the terms “promoting” or “utilizing,” “preventative” or “primary care,” and “men” or “male” were completed. Searches were limited to full-text, peer reviewed, and free articles published between the years of 2016 to 2021. Results were further limited to written in English.

In addition to the academic databases, Google Scholar, the CDC website, hand searching, and a subject-matter expert were also utilized. An in-depth literature review was then completed, and the following topics will be discussed: gender-based health disparities, barriers to seeking primary/preventative healthcare, and potential strategies for improving utilization of primary/preventative services among men in the United States.

Gender Based Health Disparities in The United States

General Health Status

As stated previously, there appears to be a disparity in health between men and woman in the United States. Woman currently have an average life expectancy that is approximately five years longer than that of men (Xu et al., 2018). Men also lead women in 13 of the 15 most common causes of death in the United States (Murphy et al., 2021). In North Dakota, men have a higher incidence of a variety of diseases compared to women, including skin cancer, hypertension, obesity, and cardiovascular disease (Sagynbekov, 2017). In fact, 75.4% of males

are considered obese in North Dakota compared to 57.4% of females. According to the CDC (2021c), men have been found to be more likely than women to be overweight or obese in all 50 states, as 76.4% of males living in the United States were overweight or obese with a body mass index [BMI] greater than or equal to 25 compared to 68.8% of females.

Mental health is also an area where men can unfortunately lag behind their female counterparts. Since 2020, men report higher rates of depression symptoms and suicidal ideation (Ellison et al., 2021). Ellison et al. also report that while men's depressive symptoms tend to be consistent with clinical reports, they are often under diagnosed and screened for, leaving men undertreated. Research by Sileo and Kershaw (2020) found a statistically significant correlation between masculine status and depression, as well as between masculine toughness and depression status. The authors further found that men who report high masculine status were less likely to utilize mental health services.

Rural location also plays a factor in mental health. Individuals living in a rural area are more likely to be over the age of 65, live in social isolation, die by suicide, and have less access to healthcare providers (Rural Health Information Hub [RHIH], 2019). Another barrier to routine healthcare among ND is identified as a lack of desire to receive among men in ND. According to the Substance Abuse and Mental Health Services Administration [SAMHSA], only 44.6% of individuals who experienced any mental illness received mental healthcare (SAMHSA, 2017).

Lifestyle Behaviors

Tobacco Use

According to Sagynbekov (2017), the percentage of males who are tobacco users is higher than females in 48 of the 50 states. South Dakota is the only state in which woman smoked tobacco at a higher rate than men, and in West Virginia, the numbers are the same.

Specific to North Dakota, 21.9% of men are current tobacco users compared to 15.4% of females. The CDC also tracks tobacco use between genders. According to the CDC (2021c), 15.3% of men in the United States used tobacco products compared to 12.7% of females in 2019. Electronic or E-cigarette use is also higher among males compared to females at 5.5% and 3.5% respectively.

Alcohol Use

In addition to the health disparities previously discussed, men also have a higher risk for poor coping strategies. Men are more likely than women to drink alcohol, binge drink alcohol, drink heavily, regularly use tobacco products, and use illegal substances (McHugh et al., 2018). According to the CDC (2020), 22% of men in the United States report binge drinking and do so, on average, 5 times per month. Binge drinking is defined as 8 or more drinks in one sitting. Approximately 7% of men have been found to have an alcohol use disorder, and 59% of men having reported drinking alcohol in the past 30 days. Rates of alcohol use disorder and alcohol consumption among men are much higher than rates for women at 4% and 47% respectively. Sagynbekov (2017) also found men living in North Dakota to be more likely than women to binge drink or consume more than four alcoholic beverages per occasion.

Excessive alcohol consumption has negative effects on a person's health. Men are more likely to suffer from an alcohol-related hospitalization (CDC, 2020). Men also account for three quarters of all excessive drinking deaths and are 50% more likely than women to be intoxicated during a motor vehicle accident. Additionally, men are three times more likely to die by suicide than females, and they are more likely than women to have been drinking alcohol prior to suicide. Excessive alcohol drastically increases the risk of many cancers common in men including mouth, throat, esophagus, liver, colon, and prostate. Finally, alcohol consumption can

decrease male hormone production, cause erectile dysfunction (ED), infertility, and increases the chance of an individual partaking in risky sexual behaviors (CDC, 2020).

Substance Abuse

Illegal substance use has also proven to be substantially higher in the male gender. Thirteen percent of men report using illicit substances in the past 30 days compared to 7% among females (McHugh et al., 2018). Men are also three times more likely than women to use non-injectable illegal substances and account for 80% of non-prescribed injectable drug users (Baker, 2019). As with alcohol use, illicit substances also have a negative effect on one's health. In 2015, drug overdoses were the leading cause of death from injury in the United States. Deaths related to drug overdose also appear to be more common in rural or nonmetropolitan areas (17.0 per 100,000 population in rural areas versus 16.2 in metropolitan areas) (Mack et al., 2017).

Barriers to Healthcare Utilization Among Men

Health Knowledge and Health Literacy

A major barrier that may affect the health of men is a lack of overall health knowledge as compared to women. Teo et al. (2016) found that lack of knowledge regarding disease and screenings among men was a barrier to seeking healthcare. Additionally, Yahai et al. (2016) looked at 237 university students in the United States and found that college-age male students were less likely to be knowledgeable about nutrition and were more likely to be overweight than their female counterparts. The male students were also more likely to have diets that consisted of unhealthy fats, red meats, high sugar, and alcohol intake. Another study by Rababah et al. (2019) also looked to assess health literacy in college-age students. The results of the study also showed higher levels of health literacy in females in the categories of "Social support for health," "Navigating the healthcare system," "Ability to find good health information," and "Understand

health information." Oliffe et al. (2019) also found that men's health literacy tended to be lower than that of women in regard to nutrition and food availability. Fear of being seen as weak or unintelligent, as well as masculine gender norms, was also found to commonly prevent men from seeking further information related to their health.

Lower levels of health literacy also appear to play a part in men's utilization of primary and preventative care services. Clouston et al. (2017) found 47.5% of men had poor health literacy compared to 39% in women in their study. Poor health literacy leads to seeking care for acute situations instead of preventatively and waiting longer to seek healthcare, as well as an inability to accurately describe symptoms, ask appropriate questions, and fully understand a plan of care or required follow up. A study by Fabbri et al. (2018) looked at health literacy in individuals with heart failure and found that low health literacy led to increased risks for hospitalization and death among men.

Socioeconomic Status

Socioeconomic status [SES] can play a role in one's ability to routinely seek primary and preventative care. North Dakota has approximately 760,000 people (United States Census Bureau, 2019). Of this population, approximately 97.1% are employed in the private labor force, leaving approximately 2.9% unemployed (United States Bureau of Labor Statistics [USBLS], 2022). The median household income is $64,894 with 10.6% of the population living in poverty. Arpey et al. (2017) found that socioeconomic status has a direct effect on health outcomes and care received, as individuals of lower SES were more likely to have lower life expectancy, more chronic conditions, and worse self-reported health. Arpey et al. also found that most subjects believed that their SES influenced the care provided to them, including the number and type of diagnostic testing and medications. Subjects of the study also stated that finding providers who

were able or willing to care for them due to their SES was a barrier to regular healthcare and discouraged them from seeking out care or providers for preventative care.

Volberding (2018) reported that patients with low SES were more likely to suffer from chronic disease, have shorter life expectancies, and are more likely to be obese and suffer from obesity-related illness than individuals in higher SES classes. Tumin et al. (2018) performed a study that looked to compare SES and health disparities and concluded that economic inequality was associated with worse health. Additionally, geographic areas with high economic inequality were found to have more unmet healthcare needs. In the county of the participating community, the median household income is approximately $41,932 with 11.7% of the community at or below the poverty level (United States Census Bureau, 2019). In this county, 6.2% of residents report being told that they have had a heart attack and 9.8% report having cardiovascular disease (North Dakota Department of Health [NDDH], 2019). This is compared to 4.2% and 7.7% averages for the entire state of North Dakota. In the NDDH report, 46.6% of residents of the participating county reported never having a cholesterol test. Only 16.1% reported a cholesterol check in the past five years. This was compared to 37.5% and 24.6% respectively, statewide. County members were also 20% more likely to have not had a colorectal cancer screening during the recommended timeframes and 10% more likely to have not had a pap smear within the past 3 years.

Discomfort with Healthcare Providers and Procedures

Acknowledging the need for preventative care and visiting a healthcare facility are only part of the battle. Once face to face with a provider, a patient must be able to effectively communicate their symptoms or health status and understand what information is being relayed back to them by a provider. When men do seek healthcare, they have been found to ask fewer

questions and report a less engaging experience (Leone et al., 2017). Men also tend to feel discomfort in discussing issues regarding their penis, testicles, and rectal areas, leading them to avoid discussing or providing thorough information about issues that they may be experiencing in those areas (Teo et al., 2016). Poor communication often results in men feeling like they were not properly taken care of, causing them to have a dissatisfaction of providers and the healthcare process, which reduces the chance of follow-up in the future.

Teo et al. (2016) found ineffective communication and fear were major barriers to men seeking healthcare services. Feelings of inferiority and fear of screening due to limited health literacy were also noted as barriers. Additionally, fear of getting a disease, appearing weak and/or feminine due to seeking care or asking for help, the inability to be fully self-reliant for seeking help, the thought of not being "invincible," and presenting as not heterosexual if undergoing digital rectal exam (DRE) or colonoscopy were found to be factors increasing discomfort among male patients when seeking healthcare.

Masculinity

Masculinity has proven to be a barrier in men seeking help of any type, including regular healthcare services (Leone et al., 2017; Milner et al., 2019). Many men in rural farming and ranching communities in North Dakota are raised to be self-sufficient, hardworking, and not stop until the job is complete. While these characteristics are beneficial and, in most cases, required for success in many aspects of their daily lives, these traits may also be detrimental to maintaining health and diagnosing, monitoring, and treating chronic disease.

Regularly seeing a healthcare provider and reporting symptoms can be thought of as weak and feminine in the minds of males (Leone et al., 2017). This further increases the "tough it out" mentality and steers men away from seeking these services to appear masculine to those

around them. Unfortunately, society in general reinforces these misconceptions, as men having poorer health outcomes and healthcare behaviors is commonly accepted (Leone et al., 2017). Ultimately, gender norms and masculine ideals play a primary role in how men access preventative services and may contribute to reduced healthcare utilization among the male population in the United States. Milner et al. (2019) found that masculinity and pressure to conform to gender norms, lead to lower health literacy. The results of the Milner study also indicate that men who indicate they feel more masculinity norm pressures, tend to have poorer mental health, are more likely to be depressed, and are less likely to engage in health promoting activities.

The pressure to prove masculinity often leads men to take part in activities that could negatively impact their health including multiple sexual partners, self-reliance, risk-taking activities, and violence (Iwamoto et al., 2018). Each of these activities can have a direct negative effect on health, or in the case of self-reliance, cause a man to treat himself versus seeking healthcare at a clinic setting. Iwamoto et al. (2018) also identified a likely strong link between pressures of maintaining masculinity and mental health after asking participants to rate their level of pressure to maintain masculinity in various categories. The results showed that increased pressure to maintain masculinity also led to increased cases of depression among male participants. Men have also been found to have higher rates of suicide, accounting for approximately 75% of completed attempts (Spence, 2019).

The concept of masculinity also tends to lead men to partake in more dangerous or risky behaviors that may lead them to trouble with the law. According to Spence (2019), men are 20% more likely to spend time in prison. Men also tend to work in more dangerous professions such

as military, law enforcement, fire and rescue, oil production, truck driving, and construction, with approximately 90% of work-related deaths being among men.

Lack of Male-Focused Health Initiatives

Due to disparities in health status and health seeking behaviors, male specific initiatives to improve and promote health among this population are necessary. Unfortunately, there is currently only one state, Tennessee, that regularly publishes a document that assesses and tracks men's health and disparities (Griffith, et al., 2019). In this initiative, men's health data and trends are tracked and compared over time, across different demographics including age, race, and region. The data are then compared to Healthy People 2020 objectives and graded. The information is used to determine areas of improvement.

Sagar-Ouriaghli et al. (2019) found that there appeared to be a gap in the number of male-specific public awareness campaigns or interventions in place to improve rates of seeking preventative healthcare. They also found that many male-focused initiatives tended to by isolated in their practice with minimal collaboration with other regions, groups, or researchers. The authors further discussed that some male-focused health campaigns may inadvertently reinforce negative masculine stereotypes, such as *Man Up Monday.* This was a campaign to encourage sexually transmitted infection [STI] testing in males; however, the message in the campaign may be misunderstood as "real men" engage in risky sexual behaviors. Globally, the story is much of the same. Baker (2019) looked at information from 11 global organizations and found that only 3 countries, Australia, Brazil, and Ireland, have published men's health policies.

Strategies for Improving Utilization of Services Among Men

Men are less likely to seek primary and preventative health services and are more likely to have poorer health and die earlier compared to females (Hing & Albert, 2016; Murphy et al.,

2021; Xu et al., 2018). These disparities are often more so in rural communities (Garcia et al., 2019). Therefore, identification of interventions to decrease these gaps and increase the health and use of available services by men is essential. One necessary intervention is to increase awareness of the current disparities between the health of men and women among the general public, as well as within the health professional community. Individuals tend to contribute more to society and be productive individuals when they feel valued and invested (Rovito et al., 2017). Unfortunately, current policies regarding men's health do not contain the comprehensive strategies needed to truly affect male buy-in and therefore promote change.

Bring the Issue to Light

According to Rovito et al. (2017), four recommendations can be utilized to advance dialogue on men's health. The first recommendation is to caution normalizing the idea that men are sicker and die younger, as the current disparities between length of life and death statistics are not "normal" and can and should be corrected. The second recommendation is to caution the idea that these disparities will correct themselves. A valiant effort will be needed from policymakers and citizens in order to encourage discourse on how to best increase the health of our communities. The third recommendation is to encourage both national and international organizations and governments to begin discussion related to policies to promote men's health. The fourth recommendation is to encourage the major parties involved to begin drafting policy initiatives that promote increasing health in the male gender and all other sexual orientations and gender identities that identify within the male population.

Make Available Services Known

Men often describe not knowing what services are available nor how to access them, so another intervention to improve healthcare utilization among this population includes providing

education illustrating how to access the health services that are available in their community. (Leone et al., 2017). This can be as simple as infomercials that play during television and sporting events that are popular with the male demographic, billboards on popular roads and highways, and incorporating common male role models in advertising.

The incorporation of "manly" male role models in advertising campaigns can play a role in destigmatizing topics that men find uncomfortable normally discussing (Hussain et al., 2020; Singh & Banerjee, 2018). This can be seen recently in the numerous testosterone enhancement commercials that are frequently played during sporting events that contain former famous athletes. If a famous male athlete can discuss low testosterone, erectile dysfunction, balding, or other men's health-related topics, that subject appears to be less taboo for other men to discuss with others.

Health Promotion Education

Another intervention that may reduce disparities among men is to incorporate and emphasize health education initiatives in school-age children. Participation in health education curricula in addition to other health-based interventions coordinated by schools, including physical activity and improved nutrition, have reduced rates of obesity and improved health promoting behaviors (Auld et al., 2020). Health education initiatives in schools have also resulted in a reduction in tobacco and alcohol use, as well as aggression and violence, at the participating schools. Ingraining these healthy behaviors in children when they are young allows for them to develop healthy habits and ideals that will benefit them later in life. Reductions in the incidence of certain diseases, such as Type 2 diabetes, have also been seen in the communities where there is high importance placed on health education in schools.

Implementing healthcare initiatives in places of work have also been found to be beneficial in improving male health. Mellor et al. (2017) implemented a work-place health promotion program with middle-aged men that were employed at various Australian government agencies. Men were placed into either an intervention or no intervention group. The intervention group were tasked with taking part in 4 weeks of 90-minute workshops that educated on stress management, coping strategies, self-efficacy, healthy diet, exercise, and positive body image. At the program's conclusion, researchers noted positive trends in improving overall health, decreased body fat percentage, and adoption of healthy lifestyle changes in the intervention group.

Communication

Finally, once men are in the clinic setting, healthcare providers should be cognizant in how they communicate with their male patients. Pederson et al. (2019) found that many men were concerned about being "talked at" or "talked down to" by their providers instead of talked to. They also reported that it felt like providers treated them like they were unintelligent. This proved to be a barrier for these men to seek regular healthcare. It is also important that providers take the time the time during their visits to explain the importance of preventative healthcare measures and screenings specific to their male clients (Hooper & Quallich, 2016). Additionally, educating men on health that specifically relates to male health or has a greater impact on men helps to improve understanding and compliance (Baker, 2019).

Theoretical Framework

The Iowa Model of Evidence-Based Practice

The Iowa Model of Evidence-Based Practice to Promote Excellence in Health Care (Iowa Model) (see Appendix A) is used to guide clinical decision-making using current evidence-based

practices from the clinician and systems perspective, (Iowa Model Collaborative, 2017). The model was first developed in the 1990's by nurses from the University of Iowa Hospitals and Clinics and College of Nursing to help guide clinicians in evaluating and infusing research into patient care (Buckwalter et al., 2017). Permission to utilize the evidence-based practice model was obtained from the University of Iowa Hospitals and Clinics (see Appendix B). The first step of utilizing the Iowa Model of Evidence-Based Practice is to identify "triggers" that point to an opportunity for improvement in clinical practices based on new scientific or evidence-based data (Melnyk & Fineout-Overholt, 2018). Additional steps in the Iowa Model include the following: form and assemble a team, appraise and synthesize evidence, evaluate evidence to determine the need for practice change, design and pilot the practice change, determine if change is appropriate for practice, and integrate and sustain the practice change. Results should then be disseminated in order to promote professional learning and to promote change in other facilities.

Topic Selection

The first step of the Iowa model is to select an opportunity for improvement in clinical practice (Iowa Model Collaborative, 2017). Based on evidence available, there is a care gap in use of primary care services by adult males ages 19-65 years old when compared to adolescent and elderly males and females of all ages (Hing & Albert, 2016). These services are utilized even less in rural areas where the distances to clinics or healthcare facilities are farther apart (Loftus et al., 2017). This gap leads to shorter than expected lifespans and increased untreated disease among males when compared to female counterparts (Murphy et al., 2021; Xu et al., 2018).

Form a Team

Forming a team is the next step in the Iowa model (Iowa Model Collaborative, 2017). This step is essential as it combines all the involved stakeholders and allows them to work

together on the project. For this practice improvement project (PIP), the team consisted of a North Dakota State University (NDSU) Doctor of Nursing Practice (DNP) student (coinvestigator), supervisory committee, and a family nurse practitioner practicing in a rural clinic. Secondary stakeholders at the participating clinic also consisted of the remaining healthcare providers and clinic manager. The supervisory committee was composed of DNP faculty members and a graduate school faculty member with interest in the project. Please refer to Table 1 for additional information on the supervisory committee members. The role of the coinvestigator included developing a project proposal consisting of a literature review and synthesis of relevant evidence, designing the project, implementing and evaluating the project, and collaborating with committee members.

Table 1

Supervisory Committee members

Name	Role	Contact Information
Dr. Allison Peltier	Chair	allison.peltier@ndsu.edu
Dr. Dean Gross	Committee Member	dean.gross@ndsu.edu
Dr. Adam Hohman	Committee Member	adam.hohman@ndsu.edu
Dr. Jeanne Frenzel	Committee Member	jeanne.frenzel@ndsu.edu

Assemble, Appraise, and Synthesize Evidence

An extensive review of literature is the next step of the Iowa Model (Iowa Model Collaborative, 2017). Literature was reviewed to identify potential barriers to males participating in regular primary and preventative healthcare practices. Through the literature review process, a gap in research was noted, as there was limited data related to the barriers for seeking healthcare for males living in a rural community. Because of the limited available data and disparities in utilization of primary care services among men, a research need was identified to evaluate real

and perceived barriers to primary and preventative care utilization among males living in a rural community in North Dakota (Hing & Albert, 2016).

Piloting a Practice Change

Once an in-depth literature review has been completed, piloting a change is the next step in the Iowa model (Iowa Model Collaborative, 2017). Adult male volunteers were recruited at events within the participating community in rural ND, which is comprised of approximately 574 people. Incentives for participating included offering blood pressure and BMI screens. They were then asked to complete a survey to determine perceived barriers to primary and preventative healthcare. After perceived barriers for men in the research community were determined, recommendations for strategies to increase male participation in primary and preventative services were presented to the participating clinic healthcare professionals. Successful implementation of the project may result in improved utilization of primary and preventative health services, which may ultimately lead to improved management of chronic disease processes and improved health outcomes among men in the community. Stakeholders were also given the opportunity to determine if changes in the practice improvement project were appropriate for the rural health clinic.

Integrating and Sustaining Practice Change

The next step of the Iowa model is the integration of the practice change (Iowa Model Collaborative, 2017). This step did not take place as the proposed interventions were not approved and implemented by the providers and administration of the participating rural health clinic. An informational presentation was provided to stakeholders that contained the information discovered in the literature review, survey of males living in the rural community, and proposed practice changes. Potential integration of recommended interventions was observed by the

coinvestigator via a site check in one month post presentation. Unfortunately, this step was not completed as the participating clinic opted to not implement recommended interventions. Clinic stakeholders did state they would revisit the topic at a later date. Had integration of interventions been completed, sustaining the practice change would be monitored by the clinic administration and providers involved.

Dissemination of Results

The final step of the Iowa Model is dissemination of results (Iowa Model Collaborative, 2017). These results were disseminated in the form of a formal paper available on the NDSU library database. Results were also disseminated at the North Dakota Nurse Practitioner Association [NDNPA] Pharmacology Conference in the Fall of 2021, as well as in poster presentations to NDSU DNP classmates and faculty in the Spring of 2022. These poster presentation events allowed for attendees to review pertinent PIP information, ask questions related to the PIP, and provide feedback to coinvestigator. Attendees at the NDNPA pharmacology conference included many current or soon-to-be practicing nurse practitioners and healthcare providers. Future publication in healthcare journals will also be explored.

Pender's Health Promotion Model

For this practice improvement project, Dr. Pender's Health Promotion Model was used. The Pender model is a tool that has proven to be helpful to implement change of unhealthy behaviors and improve the health of the target population (Murdaugh et al., 2019). The model is broken down into three categories: individual characteristics and experiences, behavior-specific cognitions and affect, and behavioral outcomes. These three categories then each have their own subcategories.

Individual characteristics and experiences consist of the subcategories of prior related behavior and personal factors (Murdaugh et al., 2019). As it pertains to this project, prior related behavior was identified lack of routine preventative care among men living in rural North Dakota. As identified in the literature, men are less likely to have a regular primary care provider or seek routine preventative care compared to women (Hing & Albert, 2016). Personal factors may influence this trend, such as personal ideas of masculinity, perceived unavailability of healthcare providers, or fear of loss of confidentiality. Secondary prior related behavior consisted of current practices and strategies by the participating clinic related to men's health, including a knowledge deficit of the perceived barriers to primary care by men in their community.

Behavior-specific cognitions and affects are broken into the subcategories of perceived benefits of action, perceived barriers to action, perceived self-efficacy, activity-related affect, interpersonal influences, situational influences, commitment to a plan of action, and immediate competing demands and preferences (Murdaugh et al., 2019). This practice improvement project focused primarily on identifying the perceived barriers to action as stated by the male subjects included in this project. The PIP also focused on benefits of action as it relates to the participating healthcare clinic. Evidence-based recommendations to removing barriers to preventative and primary care for men were presented to the clinic. The potential long-term benefits of sustained implementation of these recommendations may include an increased use of their services and increased health promoting behavior among men in their service area.

The final category in the Health Promotion Model is behavioral outcomes, which includes commitment to a plan of action and health promoting behavior (Murdaugh et al., 2019). The goal of this project was to identify the perceived barriers to seeking preventative care in men and to provide education and interventions to practicing providers from the same community to

increase utilization of their services. Reducing barriers through a plan of action from the healthcare facility may result in improved health promotion behaviors and increased utilization of primary or preventative care services among men in the community.

CHAPTER 3: METHODS

Overall Project Design

The focus of this evidence-based practice improvement project (PIP) was to identify barriers to men seeking preventative care in rural North Dakota. During the project, surveys were utilized to determine perceived barriers to seeking regular primary and preventative care screenings among male residents in a rural North Dakota (ND) community. Participants who consented to take part in the project were provided with a paper survey to identify actual or perceived barriers in the predetermined rural community. Results of the surveys, as well as evidence-based recommendations to reduce barriers and improve healthcare utilization among men, were then provided to healthcare professionals practicing in the local clinic. A post-presentation survey was then distributed to identify healthcare professionals' knowledge of actual or perceived barriers to men in their community. The effectiveness of the PIP was determined based on improved knowledge of barriers by the professionals as stated by the professionals on a post-presentation survey, as well as implementation of at least two or more of the recommendations provided to the clinic.

Objectives

The overall goal of this evidence-based practice improvement project was to identify barriers to seeking preventative healthcare among men living in or around a rural North Dakota community. The information was then used to educate the practicing providers in these areas on ways to increase utilization of preventative healthcare services in the target demographic. In accordance with this goal, the measurable objectives for this project were as follows:

1. Identify actual and perceived barriers to seeking annual preventative care examination and screening by adult males, ages 19-65

2. Increase healthcare professionals' knowledge of the barriers to seeking annual preventative care among adult males in the community
3. Implement at least two recommendations to improve healthcare utilization and/or reduce barriers within the rural clinic by the end of the project implementation

Implementation Plan

Setting

The PIP project consisted of two settings. The first setting was a rural North Dakota clinic. The second setting was a rural North Dakota town and the surrounding service area of the participating clinic. These settings were selected based on communication with providers at the rural clinic during the coinvestigator's clinical rotation at the clinic. During discussion with the clinic providers, a discrepancy in utilization of healthcare services between men and women was noted. Healthcare providers noted that based on clinic numbers, men appeared less likely to use healthcare services. The clinic providers identified a need for interventions to help improve participation in preventative care among male residents in the rural community.

According to the United States Census Bureau (2019), the participating rural ND town has an estimated population of 574 people, with approximately 55% female and 45% male. Fifty-one percent of the population is 65 years old or older. There is a median household income of $41,932. Approximately 11.7% of the community is at or below the poverty level, and 3.6% of the community members do not have health insurance. Of the population, 79% have at least a high school degree. The communities' many services include multiple gas stations, a grocery store, a drug store, a pharmacy, an ambulance and rural fire department, a small airport, multiple restaurants and eateries, farm equipment, and lumber yards.

The participating clinic provides inpatient hospital, a 24-hour emergency department, skilled nursing, and clinic services to the town and the surrounding communities in McIntosh County (Ashley Medical Center, n.d.). The clinic consists of three healthcare providers, two nurse practitioners, and one medical doctor. Also employed by the clinic are a clinic manager three full-time nurses, and a clerk. The clinic also provides telehealth services in each exam room that can be used to connect to specialist services for consultation if needed.

Sample and Recruitment

This PIP consisted of two sample populations. The first sample included men between the ages of 19 and 65 years of age who live in the service area of the participating clinic. The age range was determined based on clinical research showing that males between 19 and 65 years old utilized primary and preventative care services less than men of other age groups and females (Hing & Albert, 2016). Upon discussion with clinic providers, it was determined that this demographic seemed to utilize services less than other age and gender groups. All men between the ages of 19 and 65 who spoke English and agreed to participate in this project were included in the PIP. Participants were recruited by the coinvestigator during multiple community gatherings. Community gatherings included Octoberfest, located in the participating rural ND town during the fall of 2021, and a weekend evening at one of the local community bar/restaurants. Octoberfest is an annual weekend-long community celebration consisting multiple activities for adults and children. To encourage male residents to participate in the surveys, the coinvestigator offered eligible individuals free blood pressure and weight measurements, as well as information on BMI. Participants were provided with a consent form (see Appendix C) with a brief explanation of the purpose of the project, risks associated with

participating in the PIP, and information regarding the fact that participants can remove themselves from the PIP at any time.

The second sample group was the healthcare professionals employed at the participating clinic. At the time of implementation, there were three healthcare providers employed at the clinic site, including two nurse practitioners and one medical doctor, along with several nursing and office staff (Ashley Medical Center, n.d.). This group was recruited during coinvestigator's DNP clinical experience at the clinic while discussing lack of healthcare utilization among men in rural communities.

Survey Tool

A questionnaire previously used by Seibold (2020) in a similar PIP was used to determine perceived barriers by the participants (see appendix D). This questionnaire was modified by Seibold from an original document used in a study by Mansfield et al. (2005) to assess barriers to men seeking mental healthcare from the Veteran's Administration (VA). In their study, the group used their Barriers to Help Seeking Scale [BHSS] to determine perceived barriers in two different populations. At the conclusion of their research, the authors concluded that BHSS had high reliability and validity in determining barriers to seeking healthcare. The reliability and validity results consisted of alpha values of 0.94 and 0.95 as well as an r-value of 0.58 and p-value of less than.0.01. The modified questionnaire used for this PIP contained 20 questions that were rated using a 1-4 Likert scale and required approximately 5 minutes to complete. The questions address barriers such as institutional barriers, logistical barriers, staff-related barriers, stigma barriers, and social barriers. The survey also contains basic demographical data including age, race, and occupation. Permission to use the Modified Barriers Survey was obtained (see appendix E).

Resources

Equipment to manually measure blood pressure was provided by the coinvestigator. A scale and a BMI calculator for adults through the UpToDate database was utilized to provide BMI calculations to participants (UpToDate, 2021). The coinvestigator also used Microsoft PowerPoint software via personal laptop computer to provide a presentation to participating clinic stakeholders. Finally, the coinvestigator's personal vehicle, as well as gasoline, were utilized to drive to and from the participating rural ND town multiple times throughout the course of the PIP.

Implementation

The coinvestigator attended two community gatherings, in the rural ND town during the fall of 2021. Gatherings included Octoberfest, which was held in September, and a weekend evening event at a local restaurant in November. At these gatherings, the subjects that fit the above-described demographic were recruited to complete the perceived barriers survey. To entice increased participation, the coinvestigator offered free blood pressure screens, as well as BMI calculations to participants. These screens were voluntary, and participants had the option to participate in some or all of the screenings but were also not required to participate in any screenings prior to survey completion. Results were discussed with participants, as well as normal ranges for each screen. Individuals with results outside of normal limits were provided education on the importance of prompt follow-up with a healthcare provider as well as potential risks of failing to manage the abnormal result. Participants were provided a private area to complete the survey. They were also provided as much time as is needed to complete the survey. After completion, the surveys were placed in a locked box to ensure privacy and confidentiality for participants. No patient identifying data was collected from participants.

After the coinvestigator attended two community gatherings and analyzed and organized the received data, a 30-minute educational presentation was provided to clinic professionals and stakeholders at the participating clinic. This educational presentation was completed prior to the first scheduled patient in the morning to ensure availability of providers and was completed using Microsoft PowerPoint. The presentation contained demographical data of the participants, results of the barrier survey (both individual and trends), and recommended interventions to increase participation in primary and preventative care screens for adult males in their community. Recommendations provided were based on responses to the barrier survey, as well as evidence-based interventions found in the literature. Healthcare professionals were asked to complete a post-presentation survey to evaluate effectiveness of the presenter and information provided. They were also asked to rate, using a Likert scale, their knowledge of barriers to healthcare for men in their community, the likelihood that they will make changes to their practice based on the information provided, and how the information provided will change the way they interact with men in their community and clinic (see Appendix F). Informed consent for those in attendance was obtained prior to the educational presentation (see Appendix G). Finally, the coinvestigator completed a one-month post-presentation visit to the clinic to meet with clinic stakeholders to determine if provided interventions have been implemented.

Evaluation

Objective 1

The first objective of this PIP was to identify actual and perceived barriers among men between the ages of 19 and 65 old to pursuing primary and preventative healthcare services in a rural ND community. This was done by participants completing a 20-item survey using a 1-4 Likert scale. The survey contained various common perceived barriers to participating in primary

and preventative health screenings. Results of the completed surveys were recorded individually, as well as analyzed as a whole to identify common barriers or trends.

Objective 2

The second objective was to increase participating healthcare professionals' knowledge of the barriers to seeking annual preventative care among adult males in their community. This was completed by providing participating healthcare professionals with a PowerPoint presentation containing the information gathered from the completed Modified Barrier Surveys. They were then given a short survey (see Appendix F) that evaluated the effectiveness of the presentation and presenter, the quality of information gained, and the likelihood of changes being made in their practice regarding treatment of males in their community. The presentation was evaluated through a survey asking healthcare professionals to rate the likelihood of making changes in their practice based on the information provided. They were also be asked to rate the usefulness of the presentation in increasing their knowledge using a 4-point Likert scale.

Objective 3

The third objective was to incorporate at least two recommendations provided by coinvestigator during the educational presentation into the clinic to improve healthcare utilization by male community members. This was evaluated by the coinvestigator completing a post-presentation site visit one month after the initial presentation to stakeholders. At this visit, the coinvestigator met with clinic stakeholders and determined whether at least two recommendations have been implemented at the clinic.

Table 2

PIP timeline

Task	Timeframe
Proposal meeting	July, 2021
IRB approval	August, 2021
Project implementation	August-November, 2021
Information analysis	November-December, 2021
Presentation to clinic staff	January, 2022
Final dissertation defense	March, 2022
Dissemination of results	Spring, 2022

Institutional Review Board [IRB]

This PIP received IRB exempt approval through NDSU on September 7th, 2021. See Appendix H for IRB approval letter. No further IRB approval was needed for this project. A consent form with a brief description of the project, as well as potential risks and benefits of participating in the PIP, was given to participants prior to beginning survey. Participants were made aware that participation is completely voluntary, and participants could remove themselves from the project at any time. No identifying personal information was collected. As adult males aged 19-65 years old were the target demographic, women, and children were not included.

CHAPTER 4: RESULTS

Objective 1

The first objective of the practice improvement project was to identify actual and perceived barriers to seeking annual preventative care examination and screening by adult males, ages 19-65. Data for objective one were gathered by providing qualified volunteers with the Modified Barrier Survey (see Appendix D). Twelve (N=12) participants completed the survey. Participants were also offered blood pressure screening and BMI calculations with participation. All twelve participants opted to have their blood pressure checked. Four of the twelve participants declined to have their BMI calculated.

Demographical Information

The average age of the male participants was 49.9 years old. The oldest participant was 61 years old, and the youngest participant age was 22 years old. All participants (N=12) reported a minimum of high school diploma or G.E.D. Three participants (25%) reported a high school diploma or G.E.D., four participants (33.33%) reported some college with no degree, and five participants (41.67%) reported a 2 year or higher college degree. See Table 3 for a complete breakdown of demographic information.

Table 3

Modified Barrier Survey demographic information

Question	Participants (N=12)	Average (%)
Age		
19-29	3	25%
30-39	1	8.3%
40-49	2	16.7%
50-59	5	41.7%
60-65	1	8.3%
School Completed		
No high school diploma	0	0%
High school diploma or G.E.D.	3	25%
Some college, no degree	4	33.3%
2 year or higher college degree	5	41.7%

Vital Signs

All twelve participants (100%) completed blood pressure screening. Collected systolic blood pressures were 108, 112, 118, 122, 122, 126, 128, 134, 134, 136, 148, & 152 mmHg. Results were organized into ranges, "systolic blood pressure [SBP] <120 mmHg", "SBP 120-129 mmHg", "SBP 130-139 mmHg", and "SBP $\geq$ 140 mmHg". The mean SBP 117 mmHg. The DBP results collected were 64, 64, 68, 70, 74, 74, 76, 80, 82, 84, 86, & 88 mmHg. The mean DBP was 77 mmHg. DBP were organized into categories of "DBP 60-69 mmHg", "DBP 70-79 mmHg", and "DBP 80-89 mmHg". Participants whose SBP was greater than 130 mmHg or whose DBP was greater than 80 mmHg were instructed that their result was outside of normal limits and that they should consult with a healthcare provider. Normal limits were based on guidelines by the American College of Cardiology [ACC] blood pressure guidelines (ACC, 2017).

Of the 12 participants, 8 (66.7%) participated in BMI calculation. BMI results were broken down into the following categories, "18.5-24.9," "25-29.9," and "$\geq$ 30" (CDC, 2021a). Four of the 8 participants (50%) had a BMI of 18.5-24.9, three participants (37.5%) had a BMI

between 25-29.9, and one participant (12.5%) had a BMI greater than or equal to 30. Individuals were educated on which BMI category their result placed. Participants with a BMI greater than or equal to 30 were educated that their results categorized them as obese, and they were recommended to consult a healthcare provider. Table 4 contains a breakdown of the vital signs gathered.

Table 4

Vital signs

Vital sign	Participants (N=12)	Average (%)
SBP mmHg		
<120	3	25%
120-129	4	33.3%
130-139	3	25%
≥ 140	2	16.7%
DBP mmHg		
60-69	3	25%
70-79	4	33.3%
80-89	5	41.7%
BMI		
18.5-24.9	4	50%
25-29.9	3	37.5%
≥ 30	1	12.5

Modified Barrier Survey Results

The Modified Barrier survey asked volunteers to rate 20 potential barriers on a 4-point Likert scale with 1 indicating “not at all,” 2 “slightly,”3 “moderately,” and 4 “very much.” Twelve participants completed the survey. See table 5 for survey results. A score result of “slightly,” “moderately,” or “very much” was considered a positive barrier. A result of “not at all” was considered no barrier. Four barriers were designated as a positive barrier by receiving a selection of 100% (N=12) of the participants. These barriers were “the clinic hours conflict with

my work responsibilities", "my problems aren't a big deal; they will go away in time", "I am not sick enough to be seen in the clinic", and "I don't want to overreact; my problems aren't serious." The barrier with the most "very much" responses was "I am not sick enough to be seen in the clinic", with 83.3% of participants selecting this option. One barrier, "I have difficulty finding transportation to the clinic", received a "not at all" by 100% of participants.

Each barrier was further given an average Likert score rating by adding each score for that barrier and then dividing by the total N (12). The barrier with the highest average Likert score was "I am not sick enough to be seen in the clinic" with a score of 3.75. Barriers, "my problems aren't a big deal; they will go away in time" and "I don't want to overreact; my problems aren't serious" received the second and third highest average score with scores of 3.5 and 3.33 respectively.

The barrier, "I have difficulty finding transportation to the clinic" received the lowest average score of 1. Barriers "the clinic doesn't feel comfortable for my age, race, or sex", "clinic staff members are not responsive to my needs", and "the clinic is for people who are different sex than me" received the next lowest average scores of 1.08, 1.17, and 1.17 respectively.

Table 5

Modified Barrier survey results

Potential barrier	Not at all	Slightly	Moderately	Very much	Average
I don't trust doctors or nurses	7	3	2	0	1.58
Clinic staff members are not responsive to my needs	10	2	0	0	1.17
I have difficulty finding transportation to the clinic	12	0	0	0	1
The nearest clinic is too far away	6	5	1	0	1.58
I have to pay more than I can afford at the clinic	3	6	3	0	2
The clinic hours conflict with my parenting responsibilities	5	7	0	0	1.58
The clinic hours conflict with my work responsibilities	0	5	6	1	2.67
I had to wait too long to get an appointment at the clinic	5	6	1	0	1.67
The clinic is for people who are different sex than me	10	2	0	0	1.17
The clinic doesn't feel comfortable for my age, race, or sex	11	1	0	0	1.08
My problems aren't a big deal; they will go away in time	0	0	5	7	3.5
I am not sick enough to be seen in the clinic	0	1	1	10	3.75
I don't want to overreact; my problems aren't serious	0	1	6	5	3.33
I don't like to get emotional about things	1	8	3	0	2.17
I don't like other people telling me what to do.	2	7	3	0	2.08
I don't like to talk about my feelings	1	6	4	1	2.42
I would think less of myself for needing help	6	5	1	0	1.58
Privacy is important to me, and I don't want other people to know about my problems	4	6	2	0	1.83
I don't want to look stupid for not knowing how to figure these problems out	9	3	0	0	1.25
I'm concerned that other people might find out information in my clinic medical records	6	6	0	0	1.50

Objective 2

The second objective of the practice improvement project was to increase healthcare professionals' knowledge of the barriers to seeking annual preventative care among adult males in the community, which was evaluated after providing healthcare professionals with an educational presentation (see Appendix H) that contained the results of barrier survey. The healthcare professionals consisted of two nurse practitioners, one registered nurse, one licensed

practical nurse, and the clinic manager. The healthcare professionals practiced in the same rural community of the male volunteers.

The education presentation was completed via a Zoom meeting on January 20th prior to the first scheduled clinic patients of the morning to allow enough time for the education. The presenter was the coinvestigator for the project. The presentation lasted approximately 20 minutes. After the presentation, the participating healthcare professionals were provided with a seven-question survey (see Appendix F) asking them to rate whether the information will impact or change their approach to engaging men in the primary care setting, the likelihood of incorporating 2 of the recommendations into their practice, the likelihood of more men participating in primary care visits as a result of the proposed interventions, the quality of the content and presenter, and the whether the presentation increased their knowledge of barriers to care by men living in their community using a four-point scale.

Of the completed surveys, 6 participants (100%) responded at least “somewhat likely” when asked how likely the information would impact the way in which they practiced and the likelihood that the information would change how they would engage men in the primary care setting. For these survey questions, 1 participant (16.7%) selected “somewhat likely”, 3 participants (50%) selected “likely”, and 2 participants (33.3%) selected “very likely”. When asked if they would incorporate two of the recommended interventions into the practice, 1 participant (16.7%) selected “very likely”, 3 participants (50%) selected “likely”, and 2 participants (33.3%) selected “somewhat likely”.

Six healthcare professionals (100%) strongly agreed when asked if the presentation increased their knowledge of actual and perceived barriers to care by men in their community.

Six professionals (100%) rated the content and quality of the presentation and performance of the presenter as excellent. See table 6 for a complete breakdown of the results of the provider survey.

Table 6

Provider survey results

Survey Question	Very likely	Likely	Somewhat likely	Not at all
The information provided will impact the way you practice	2	3	1	0
The information presented will change how you approach engaging men in the primary care setting	2	3	1	0
You will incorporate 2 of the recommendations provided into practice	1	3	2	0
More men will participate in routine primary visits due to the proposed interventions	1	3	2	0
	Excellent	**Above average**	**Average**	**Poor**
Please rate the content and quality of the information provided	6			
Please rate the performance of the presenter.	6			
	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
This presentation increased my knowledge of actual and perceived barriers of adult males (age 19-65) living in my service area	6			

Objective 3

The third objective of the practice improvement project was to implement at least two recommended interventions to improve healthcare utilization and reduce barriers within the rural clinic by the end of the project implementation. The third objective was completed by the coinvestigator completing a follow-up communication with the rural community clinic manager 1 month post educational survey. Recommended interventions were provided during the educational survey to the community healthcare professionals. Recommendations were based on project literature review and specific common barriers determined in by the results of the barrier survey.

Primary barriers identified consisted of men not thinking they were sick enough to go to a clinic and not understanding the seriousness of their symptoms. Interventions provided to address these barriers included increasing health education and literacy by providing educational fliers to local businesses frequented by men and mailing fliers to community members. It was recommended that the provided education contained common healthcare screenings for men, consequences of avoiding screenings/healthcare, and clinic hours and special programs. Another intervention included providing health education to local schools geared toward different age groups and common health concerns for each age group. The final intervention provided for the identified barrier included implementing male-focused health initiatives. The coinvestigator provided an example of a men's health week or month. This was recommended to be implemented during the winter months to avoid the busier agriculture months and could consist or free or discounted screenings including labs and blood pressure checks, discounted wellness exams, and/or extended clinic hours.

Further recommendations consisted of increasing healthcare literacy and in clinic comfort of male patients. These interventions included including male specific information and reading material in the waiting rooms, providing male specific information on after visit summaries, and providing male specific education during visits. It was also recommended to provide healthcare information at an appropriate health literacy level for each patient and provide ample time at the end of each clinic visit for questions. The final intervention recommended was to stress to male patients that their healthcare information is private and will not be discussed outside of the clinic visit. See table 8 for the list of recommended interventions provided.

The third objective was not met as the participating clinic opted not to implement recommended interventions. The clinic cited the current COVID-19 pandemic and the

accompanying time constraints as the mitigating factors. The clinic manager did agree with many of the recommendations, such as male-focused initiatives. The clinic manager did report that the clinic would readdress the reported barriers and the recommended interventions at a later date.

Table 7

Provider recommendations

Recommendations
1. Health disparity/education fliers placed at local areas of business
2. Informational fliers distributed by mail
3. Male-focused health initiatives
4. Regular health education visits to local schools
5. Male specific health information and reading material in waiting rooms
6. Stress privacy of information
7. Ensure time for questions prior to ending visit
8. Male centered health education during visit and on after visit summaries
9. Provide education at appropriate health literacy levels

CHAPTER 5: DISCUSSION AND RECOMMENDATIONS

Summary

The purpose of this PIP was to determine actual or perceived barriers for adult males to participating in routine preventative health visits in rural North Dakota. Literature has shown that men seek preventative care at lower rates than women (Hing & Albert, 2016). Lack of routine healthcare has led to men having shorter average life expectancies than their female counterparts (Xu et al., 2018). These disparities are also present in North Dakota, as Sagynbekov (2017) has found that in ND, men have higher rates of skin cancer, hypertension, obesity, and cardiovascular disease. Determining what barriers are causing these gaps in care is important to promote a healthier society as a whole. For the project, barriers to participating in preventative health were determined by providing qualified male volunteers with a survey with 20 common barriers to regular healthcare? utilization. Volunteers ranked each barrier on a Likert scale. Identified barriers were then communicated to healthcare professionals practicing in the same rural community. Healthcare professionals were also provided with multiple intervention recommendations to reduce these barriers. Interventions were based on identified barriers, as well as evidence-based recommendations found during literature review. A one-month follow up visit was completed by the coinvestigator at the participating clinic to determine if any of the recommended interventions were implemented. At the time of the one-month follow up, the clinic had opted not to implement the recommended intervention.

Objective One

The first objective was to determine perceived or actual barriers to regularly seeking primary care for adult males living in a rural ND community. Twelve participants completed the Modified Barrier Survey. Of the 20 barriers included in the survey, there were 5 barriers in

which participants responded are ‘very much’ barriers to seeking care. A majority of the participants (n=10, 83.3%) agreed ‘very much’ that they did not feel they were sick enough to be seen in the clinic. These findings are consistent with the literature, as Teo et al. (2016) found that a common barrier to seeking care among men is lack of knowledge regarding disease and screenings.

Another common barrier identified in the survey is that the male participants felt their health problem would resolve in time. In fact, seven participants (58.3%) responded ‘very much’ and five participants (41.7%) responded ‘moderately’ to feeling that their problems aren’t a big deal and will go away in time. Additionally, the participants also reported not wanting to overreact because their problems are not serious, as five participants (41.7%) answered ‘very much,’ six participants (50%) answered ‘moderately,’ and one participant (8.3%) answered ‘slightly’ to this barrier. This is also consistent with literature. As stated previously, a lack of knowledge about disease and screenings has been found to be a healthcare barrier for men (Teo et al., 2016). Additionally, Clouston et al. (2017) and Fabbri et al. (2018) have lower levels of health literacy than females, leading them to not understand seriousness of symptoms and seeking care for acute situations instead of preventatively.

Additional barriers in which at least one participant responded that they ‘very much’ agree with include that the clinic hours conflict with work responsibilities and they do not like talking about their feelings. These barriers, in addition to wanting to avoid appearing emotional, were determined to be secondary barriers with average Likert scores of 2.67, 2.24, and 2.17 respectively. This was also confirmed by literature. According to the Mayo Clinic National Health Check-up, (Plumbo, 2016) 22% of Americans surveyed listed their work schedule as a barrier to remaining healthy. There are approximately 26,000 farms and ranches in North Dakota

(North Dakota, 2022). Agriculture often leads to longer hours that don't align with common business or clinic hours. Hours often increase during times of increased busyness including planting, harvesting, haying, and calving seasons. Further, according to Leone et al. (2017) masculinity was found to be a barrier to men seeking regular healthcare. Iwamoto et al. (2018) found that the pressure to maintain a masculine appearance including avoiding the appearance of being emotional or feminine causes men to take part in more risky behaviors. Leone et al. (2017) further found that regularly seeing a healthcare provider and reporting symptoms can be thought of as weak and feminine in the minds of males.

Only one barrier, "I have difficulty finding transportation to the clinic", received twelve 1-point or "not at all" scores on the Likert scale leading coinvestigator to label the item as not a barrier. According to the Rural Health Information (RHI) Hub (2021), a major barrier to healthcare in rural areas is access/transport to appointments. The RHI Hub cited distance to providers, the cost to drive, and time away from work as reasons for the barrier. The discrepancy may be explained by looking at the PIP volunteer population as well as the participating community. The average age of participants was 43.9 years old. At this age, individuals are likely still independent and able to transport themselves to and from appointments. The participating community also had clinic, hospital, therapy, and pharmacy services, resulting in patients not having to travel long distances for healthcare.

Objective Two

The second objective of the PIP was to increase healthcare professionals' knowledge of the barriers to seeking annual preventative care among adult males in the community. Objective two was met. All six of the healthcare professionals (100%) who participated in the educational presentation reported that they "strongly agree" that the information increased their knowledge

of actual and perceived barriers of adult males (age 19-65) living their service area. Additionally, all six of the healthcare professionals (100%) felt the content and quality of the information, as well as the performance of the presenter was excellent. Improving the knowledge of practicing providers is importance because until barriers are known, they cannot be removed. Rovito et al. (2017) described several steps for improving dialogue around men's health. The first step is to acknowledge that the current men's health trends are not normal and should not be thought of as such. The second step was determining that these disparities will not fix themselves. By identifying barriers to care in their community, healthcare professionals will be better suited to work towards removing these barriers.

Not only did the survey results and education session increase perceived knowledge of barriers to men seeking care among health professionals, but the intervention may also impact practice. Two health professionals (33.3%) responded the information will 'very likely' impact their practice and change how they approach engaging men in the primary care setting, while three health professionals (50%) responded 'likely' and one health professional (16.7%) responded 'somewhat likely' to this question. This is important because as stated above, the first step in removing the actual and perceived barriers is by determining that the barriers and health disparities are present (Rovito et al., 2017).

Objective Three

The third objective of the practice improvement project was to implement at least two recommendations to improve healthcare utilization and/or reduce barriers within the rural clinic by the end of the project implementation. Primary barriers discovered in the barrier survey implicated poor healthcare education as men were found to not understand the seriousness of healthcare issues and assuming that their issues will go away. Recommendations focused on

education at multiple levels including adult males in the community, wives and families, elementary and high school aged students, and healthcare providers. Leone et al. (2017) described men often don't know what services are available to them nor how to access those services. The healthcare professionals were recommended to provide informational fliers to local businesses that were frequented by males with the hope of providing exposure of services and healthcare information.

Further recommendations included implementing educational presentations for school aged children. Auld et al. (2020) found that participation in health education curricula in schools have reduced rates of obesity and improved health promoting behaviors in children. They also found decreased rates of certain diseases, such as Type 2 diabetes, in the communities where there is high importance placed on health education in schools. The North Dakota Department of Public Instruction [NDDPI] does provide health education standards that schools are required to meet regarding health education classes (NDDPI, 2018). These standards provide a guideline for health education information that schools must include in their education plans. Including health education from healthcare professionals, would allow for reinforcement to information received in health education classes.

Objective three was not met as the participating clinic opted to not implement any of the recommended interventions at the time citing the current COVID-19 pandemic and the associated constraints as the contributing factor.

Discussion

The primary barriers discovered during the PIP that many of the male participants indicated that their health problems are not serious, would go away, and/or did not require a clinic visit. These identified barriers may be related to low health literacy and health knowledge

related to the importance of routine screening and health in general, which are similar to barriers identified in the literature. Teo et al. (2016) found that a lack of knowledge of disease and common screenings among men is a barrier to seeking healthcare. Clouston et al. (2017) further found that 47.5% of men had a poor health literacy compared to 39% of women. Poor health literacy can lead to individuals seeking care for acute situations versus preventatively and waiting longer to seek healthcare, as well as having an inability to describe symptoms, ask appropriate questions of the providers, and fully understand a healthcare plan (Clouston et al., 2017).

Secondary barriers identified were men not wanting to appear emotional or discuss their feelings. These results also align with findings in the literature review. Leone et al. (2017) and Milner et al. (2019) identified masculinity as barrier to men seeking regular healthcare services. Unfortunately, regularly seeing a provider and reporting symptoms can be thought of as weak and feminine in the minds of some males (Leone et al., 2017). The pressure to maintain a masculine persona may contribute to increased risk taking or unhealthy activities, increased rates of depression, and higher rates of suicide (Iwamoto et al., 2018; Spence, 2019).

Another common barrier identified through the project was that the clinic hours conflict with work responsibilities. Clinic hours at the participating facility were 9 am to 5 pm on Monday-Thursday and 9am to 4 pm on Friday. The clinic is closed on the weekend. The participating community is primarily an agriculture community, and these communities are known for their long working hours with few days off. This is especially true during times of increased business including calving, planting, and harvesting and haying seasons. To combat this, some clinics have resorted to expanding office hours (Health, 2022). Telemedicine visits have also become more widely used to allow patients to at the least, come in contact with a

healthcare provider (Haleem et al., 2021). These interventions would allow for more clinic availability for patients. However, they may not be feasible in that they would require increased providers/clinic staff to man the increased hours and increased technology services to implement telemedicine visits.

Further barriers discussed in the literature review included socio-economic status [SES], unfamiliarity with providers, and lack of male-focused healthcare initiatives (Arpey et al., 2017; Sagar-Ouriaghli et al., 2019; Teo et al., 2016). Nine participants (75%) identified cost as a 'moderate' or 'slight' barrier to seeking care. Approximately 11.7% of the participating community lives at or below the poverty level (United States Census Bureau, 2019). Individuals with lower SES are more likely to have poorer health and chronic health conditions (Arpey et al., 2017). They are also less likely to seek healthcare and have shorter life expectancies (Tumin et al., 2018; Volberding, 2018). On the other hand, a majority of the participants (n=10; 83.3%) felt the clinic was responsive to their needs, so unfamiliarity with providers was not identified as a significant barrier. The barrier survey did not discuss male-focused health initiatives, although the participating clinic did not currently utilize any specific male-focused initiatives.

A similar PIP was conducted by Seibold (2020) and identified comparable barriers to regular preventative care by men in a rural community. In the PIP, Seibold found an apparent low health education level, a reluctance to discuss personal feelings and emotions, a fear of lack of privacy, and a fear of looking unintelligent as barriers to healthcare among men in rural ND. The primary barriers identified in Seibold's study included reluctance to discuss feelings and appearing emotional. Although completed in a different rural ND community, Seibold's results appear to mirror results of the current PIP.

Recommendations

An important step in improving the health of male community members is to bring the issue of the current disparities in care seeking behaviors to light. There are known evidence-based interventions that can increase the utilization of primary care and preventative health among men (Auld et al., 2020; Baker, 2019; Hooper & Quallich, 2016; Hussain, et al., 2020; Leone et al., 2017; Mellor et al., 2017; Pederson et al., 2019; Rovito et al., 2017; Singh & Banerjee, 2018). Unfortunately, many clinics have not implemented these interventions, including the participating rural clinic in North Dakota. North Dakota is a largely rural state and implementing interventions that have the potential to increase participation in health maintenance visits among men within these communities is essential. Additionally, nurse practitioners are on the forefront of providing care to these rural and underserved communities and can implement identified strategies to increase the utilization of their services by the men who live in our communities.

Participating Clinic

Implementation of all of the provided recommendations may be financially and practically unfeasible for a rural clinic; however, education at different levels throughout the community may be a beneficial initial intervention. In fact, recommendations provided to the clinic focused on education at multiple levels. For example, providing educational presentations to elementary school-aged children on the importance of developing healthy habits has shown to increase the likelihood of continuing those habits later in life (Auld et al., 2020). Follow-up with students as they approach high school graduation may also be completed with focus on college-age preventative measures and screening. This would ideally be a low cost and effort

intervention to help instill healthy habits and trust in healthcare at an earlier age among men living in the participating rural community.

Another recommended intervention is to provide education to adult and elderly males in the community on the importance of regular primary care and screening and the effects of not partaking in them. Men have been found to have lower health literacy levels and lower overall understanding of healthcare than females (Clouston et al., 2017; Teo et al., 2016). Increasing knowledge of available services can go a long way in improving utilization of healthcare services (Leone et al., 2017). This can be done with educational pamphlets or posters placed at areas commonly utilized by the target group. This can also be done with educational presentations at local businesses, community gatherings, and/or church gatherings. Education can also include the financial effects of poorly managed health and how it can affect the other family members. According to Baker and Shand (2017), premature morbidity and mortality among males are estimated to cost approximately 479 billion dollars annually in the United States. These statistics may go a long way in rural, farming communities such as the participating community where 11.7% of the population lives below the poverty level and 3.6% do not have health insurance (United States Census Bureau, 2019).

Future Practice Improvement Projects

The current disparities between male and female health, as well as those present in rural ND, are not likely to resolve without interventions (Carnahan et. al., 2018; Garcia et al., 2019; Hing & Albert, 2016; Xu et al., 2018). This being said, future PIPs on this topic are likely. The PIP provides a small amount of information on the perceived and actual barriers among men in a rural ND community. Unfortunately, the coinvestigator ran out of time prior to any meaningful intervention implementation. Ideally, more male volunteers would be recruited to complete the

survey. A larger sample number would allow for a more comprehensive assessment of community barriers. In a PIP by Seibold (2020), the coinvestigator offered hand grip strength tests to entice male volunteers, which produced 16 total male volunteers. While financial incentive in the form of money may also entice more male volunteers, this tactic may not be financially feasible for a graduate student's PIP.

Secondly, a future project may be more effective if implemented over a longer period of time. The project allowed for one month of time after providing education to health professionals for the clinic to implement interventions and then no other follow up by the coinvestigator. Providing eight to twelve weeks for the clinics to implement interventions likely would increase the number of interventions implemented by the clinic. A future project may also focus on monitoring the number of male patients seen in the clinic prior to and following implementation of interventions by the clinic, which may better demonstrate effectiveness of the project. Additionally, ensuring buy-in of clinic managers and stakeholders may increase the possibility that at least two recommendations may be incorporated into the clinic practice.

Finally, recruitment of volunteers to participate in the PIP was challenging. The coinvestigator attended community gatherings and set up an educational booth in populous areas, but there was no advertisement of the project. Future coinvestigators may find more success if they attend smaller community gatherings with prior advertisement of the project. Smaller groups, such as men's church groups, town hall meetings, and/or school gatherings may allow for more discussion and then participation. Recruitment may also be more effective if done at gatherings with involvement of the participating clinic, as this would allow for the community members to see familiar faces versus the unfamiliar coinvestigator.

In his PIP, Seibold (2020) recommended that future investigators implement projects as early in the PIP process as possible to allow for more time to assess effectiveness of recommended interventions. He further recommended comparing the number of male clinic visits prior to PIP to visit numbers post intervention implementation at monthly intervals. This would allow for a more accurate assessment of the effectiveness of the PIP. These recommendations likely would not be feasible in DNP PIPs due to the time constraints of the program. These recommendations would be helpful for community or clinic organized projects with longer timelines.

Dissemination

Dissemination of the results of the PIP began in September 2021 at the North Dakota Nurse Practitioner Association Pharmacology Conference. At that conference, attendees were able to view the project poster, ask questions, and provide feedback to the coinvestigator. A second opportunity for dissemination occurred when the coinvestigator had the opportunity to record a short educational presentation for NDSU second year Doctor of Nursing Practice [DNP] students. Survey results and recommendations were also disseminated to the participating clinic during the educational presentation.

Additional opportunities for dissemination include a poster presentation at NDSU in the spring of 2022. Results will also be disseminated to fellow NDSU DNP classmates and instructors during informal classroom discussion. Copies of the completed PIP will also be disseminated to stakeholders at the participating clinic. Additionally, the coinvestigator also selected two peer-reviewed journals for potential future publication including *The Journal of Family Nursing* and *The Annuls of Family Medicine.* These journals were selected based on their

top ten rankings by the Scimago Journal and Country Rank [SJR] in the category of family practice medicine (SJR, 2021).

Strengths and Limitations

Barrier Survey

Several strengths and limitations were discovered during the implementation of the PIP. The first limitation was the limited number of completed barrier surveys. With just 12 completed surveys, a thorough evaluation of the barriers in the community was insufficient. The participating rural town has a population of approximately 574 people, 258 of whom were male (United Census Bureau, 2019). This means that only approximately 4.7% of the males in the community completed the survey. Barriers to regular healthcare for the remainder of the male population in the community may be drastically different than those identified in the PIP. One strength of the sample was the range of ages of the participants. The lowest age was 22 years old and the oldest was 61 years old. The average age of participants was 43.9 years old.

A related barrier identified was the limited timeframe of the PIP. The coinvestigator completed two site visits to the rural community over the course of the fall of 2021. A larger sample size may have been recruited with an increased number of site visits over a longer period. One of the site visits included attending the annual Octoberfest. The community gathering is known to attract visitors from outside of the participating community. Information on place of residence was not collected in the barrier survey. Based on this, one cannot conclude that only residents of the participating community completed the survey. As such, results may indicate barriers to regular healthcare not pertinent to the participating community.

Other potential limitations of the survey include privacy and unfamiliarity of the coinvestigator. As determined by results of the barrier survey, men are wary of their personal

information being kept private. Eight of the participants (66.7%) responded at least slightly to the barrier of "privacy is important to me, and I don't want other people to know about my problems," and six participants (50%) responded at least slightly to "I'm concerned that other people might find out information in my clinic medical records." The fear of personal information being made public may have prevented some interested males from participating in the PIP. This may have been expanded by the fact that the coinvestigator was not from the participating community and thus, not familiar to the potential participants.

Finally, the current COVID-19 pandemic may have limited participant recruitment. Avoiding large gatherings or common gathering places, such as restaurants, may have led to fewer men being present during the two community visits by the coinvestigator. COVID-19 may also have prevented men from approaching the coinvestigator, who they were not familiar with.

Educational Presentation

The primary limitation of the educational presentation was that it was not completed in person. Initially, the presentation was to be completed at the participating clinic with all clinic staff and providers present. Due to inclement weather, the presentation was completed via Zoom, as the meeting could not be rescheduled due to clinic demands. All clinic staff were present except for the clinic physician who was not in clinic that day. The full educational presentation was completed. All participants did compete the post-presentation survey via an electronic copy of the survey immediately after the presentation.

Intervention Implementation

Initially, the coinvestigator was to complete a two-month post-presentation site visit to determine if any of the recommended interventions had been either implemented or planned to be implemented. Due to time constraints for completion of the PIP, the timeframe had to be

changed to a one-month post-presentation visit, which decreased the time available for the clinic to plan and implement recommended interventions. Contributing factors to the time constraints included the coinvestigator's graduation timeline. Ideally, multiple post-presentation site visits at 8-12 weeks, six months and one year after the education would have been competed, allowing ample time for the clinic to implement interventions. The COVID-19 pandemic proved to be a limitation for intervention implementation as well. The clinic cited the financial, staff, and resource limitations related to the pandemic as the prime deterrent to implementing interventions.

Conclusion

Gaps in utilization of regular primary care currently exist between males and females. This has led to men suffering more from chronic disease, having shorter life expectancies, and placing a financial burden on their families and the country at large (Baker & Shand, 2017; CDC, 2021b; Murphy et al., 2021; Xu et al., 2018). These disparities appear to increase in rural areas, as healthcare can be harder to access and attitudes toward healthcare varies (Carnahan et. al, 2018; Henley et al., 2017). Strategies discussed throughout this paper have been shown through literature review to positively impact utilization of regular primary care services by men. Although small in results, the PIP appears to align with barriers and interventions found in literature review and those discovered in a prior PIP. By utilizing the results of the project, healthcare providers in a largely rural state, such as North Dakota, can potentially identify common barriers to seeking care among men in their communities and implement male-focused interventions to improve utilization of their services and enhance the health of men in their communities.

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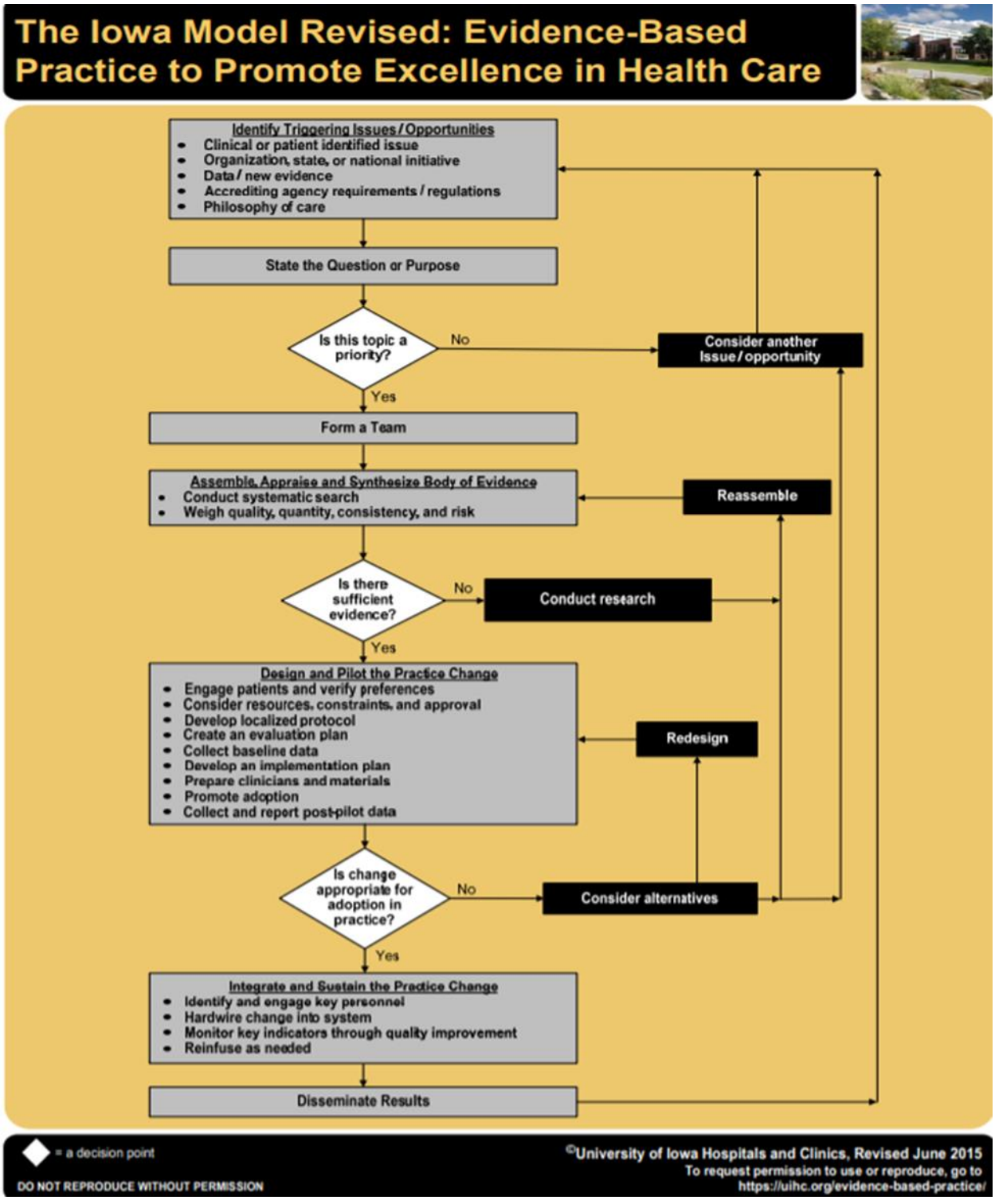
APPENDIX A: IOWA MODEL OF EVIDENCE-BASED PRACTICE



APPENDIX B: PERMISSION TO USE IOWA MODEL

Permission to Use The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care

KJ Kimberly Jordan - University of Iowa Hospitals and Clinics <survey-bounce@survey.uiowa.edu>
To Johnson, Stan

Reply | Reply All | Forward | ...
Thu 1/7/2021 7:15 PM

You have permission, as requested today, to review and/or reproduce *The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care.* Click the link below to open.

The Iowa Model Revised (2015)

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Citation: Iowa Model Collaborative. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing, 14(3), 175-182. doi:10.1111/wvn.12223*

In written material, please add the following statement:
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Please contact UIHCNursingResearchandEBP@uiowa.edu or 319-384-9098 with questions.

APPENDIX C: CONSENT FORM

NDSU | SCHOOL OF NURSING

Barriers to Seeking Preventative Care for Men Living in Rural North Dakota

My name is Stan Johnson, and I am a graduate student in the Doctor of Nursing Practice program at North Dakota State University (NDSU). I am doing a practice improvement project to identify perceived barriers to seeking regular primary and/or preventative healthcare by adult aged men living in rural North Dakota by use of a survey.

Purpose of this project:

- To determine perceived barriers for adult aged males, living in rural areas, to seeking regular primary or preventative healthcare
- To educate healthcare providers of perceived barriers in their practicing area
- To implement evidence-based interventions to remove perceived barriers

Because you are an adult male living in rural North Dakota, you are invited to participate in this project. If you agree to participate, you will be asked to:

- Complete the Modified Barrier Survey

Your results will be kept confidential. The information provided on the Modified Barrier survey will be analyzed and provided in a presentation to the Ashley Medical Center Clinic with the intent to remove perceived barriers to seeking regular primary and/or preventative healthcare by adult aged men living in the clinic service area.

If you choose to participate, please do not write your name or other identifying information on the questionnaire. Your information will be kept confidential, and you will not be identifiable in the overall results. Your results and information will be combined with other participants' information. The results will be part of my Doctor of Nursing Practice dissertation at NDSU and may be published in a professional journal, but again, no personal or identifying information will be used.

Participation in the project is voluntary. There will be no cost to you, nor will you receive payment for participation. The total expected time commitment for participation is 10 minutes. If you feel uncomfortable in any way while filling out the questionnaire or screening tools, you have the right to decline to answer any question(s) and/or stop at any time without consequence.

If you have any questions about completing the survey or participation, please feel free to contact me at 701-320-6260 or stanley.johnson.3@ndsu.edu. You can also contact my advisor, Dr. Allison Peltier at allison.peltier@ndsu.edu.

You have rights as a project participant. If you have questions about your rights or complaints about this project, you may talk to the me or contact the NDSU Human Research Protection Program at 701-231-8995 or 855-800-6717, by email at ndsu.irb@ndsu.edu, or by mail at NDSU HRPP Office, NDSU Dept. 4000, and P.O. Box 6050, Fargo, ND 58108-6050.

Thank you for your time and consideration.

Sincerely,

Stanley Johnson RN, BSN, DNP-Student

APPENDIX D: MODIFIED BARRIER SURVEY

Age:				
Please indicate level of education completed	**NO** high school diploma	High school diploma or G.E.D.	Some college, no degree	2-year or higher college degree
Please indicate the degree to which each potential barrier hindered your use of health care on a 4-point scale with 1 indicating "not at all," 2 "slightly," 3 "moderately," and 4 "very much	1: Not at all	2: Slightly	3: Moderately	4: Very much
I don't trust doctors or nurses.				
Clinic staff members are not responsive to my needs.				
I have difficulty finding transportation to the clinic.				
The nearest clinic is too far away.				
I have to pay more than I can afford at the clinic.				
The clinic hours conflict with my parenting responsibilities.				
The clinic hours conflict with my work responsibilities.				
I had to wait too long to get an appointment at the clinic.				
The clinic is for people who are different sex than me.				
The clinic doesn't feel comfortable for my age, race, or sex.				
My problems aren't a big deal; they will go away in time.				
I am not sick enough to be seen in the clinic.				
I don't want to overreact; my problems aren't serious				
I don't like to get emotional about things.				
I don't like other people telling me what to do.				
I don't like to talk about my feelings.				
I would think less of myself for needing help.				
Privacy is important to me, and I don't want other people to know about my problems.				
I don't want to look stupid for not knowing how to figure these problems out.				
I'm concerned that other people might find out information in my clinic medical records.				

APPENDIX E: TOOL APPROVAL

To Seibold, Shaun; Johnson, Stan

Sun 4/11/2021 5:14 PM

Yes of course you can use it. Good luck with your project.

Shaun E. Seibold

--
Sent from my Android phone with mail.com Mail. Please excuse my brevity.
On 4/11/21, 5:00 PM "Johnson, Stan"

> Shaun,
>
> Good evening. Thank you for the feedback that you provided. I am progressing well with my dissertation on this topic. I would like to request your permission to use the Modified Barrier Survey tool that you modified for your PIP. Dr. Peltier and I think that it would work well for my project due to the similarity to yours.
>
> Thank you,
>
> Stan Johnson

APPENDIX F: PROVIDER SURVEY

	Very Likely: 1	Likely: 2	Somewhat Likely: 3	Not at All: 4
The information provided will impact the way you practice				
The information presented will change how you approach engaging men in the primary care setting.				
You will incorporate 2 of the recommendations provided into practice.				
More men will participate in routine primary visits due to the proposed interventions.				
	Excellent: 1	Above Average: 2	Average: 3	Poor: 4
Please rate the content and quality of the information provided.				
Please rate the performance of the presenter.				
	Strongly Agree	Agree	Disagree	Strongly Disagree
This presentation increased my knowledge of actual and perceived barriers of adult males (age 19-65) living in my service area				

APPENDIX G: PROVIDER CONSENT

NDSU | SCHOOL OF NURSING

Barriers to Seeking Preventative Care for Men Living in Rural North Dakota

My name is Stan Johnson, and I am a graduate student in the Doctor of Nursing Practice program at North Dakota State University (NDSU). I am doing a practice improvement project to identify perceived barriers to seeking regular primary and/or preventative healthcare by adult aged men living in rural North Dakota by use of a survey.

Purpose of this project:

- To determine perceived barriers for adult aged males, living in rural North Dakota, to seeking regular primary or preventative healthcare
- To educate healthcare providers of perceived barriers in their practicing area
- To implement evidence-based interventions to remove perceived barriers

Because you are a healthcare provider practicing in rural North Dakota, you are invited to participate in this project. If you agree to participate, you will be asked to:

- Complete the Provider Survey

Your results will be kept confidential. The information provided on the Provider survey will be analyzed and included in the complete dissertation paper titled Barriers to Seeking Preventative Care for Men Living in Rural North Dakota with the intent to evaluate the effectiveness of information provided and the healthcare provider's knowledge of perceived barriers to preventative care for men living in rural North Dakota prior to and after the educational presentation.

If you choose to participate, please do not write your name or other identifying information on the questionnaire. Your information will be kept confidential, and you will not be identifiable in the overall results. Your results and information will be combined with other participants' information. The results will be part of my Doctor of Nursing Practice dissertation at NDSU and may be published in a professional journal, but again, no personal or identifying information will be used.

Participation in the project is voluntary. There will be no cost to you, nor will you receive payment for participation. The total expected time commitment for participation is 10 minutes. If you feel uncomfortable in any way while filling out the questionnaire or screening tools, you have the right to decline to answer any question(s) and/or stop at any time without consequence.

If you have any questions about completing the survey or participation, please feel free to contact me at 701-320-6260 or stanley.johnson.3@ndsu.edu. You can also contact my advisor, Dr. Allison Peltier at allison.peltier@ndsu.edu.

You have rights as a project participant. If you have questions about your rights or complaints about this project, you may talk to the me or contact the NDSU Human Research Protection Program at 701-231-8995 or 855-800-6717, by email at ndsu.irb@ndsu.edu, or by mail at NDSU HRPP Office, NDSU Dept. 4000, and P.O. Box 6050, Fargo, ND 58108-6050.

Thank you for your time and consideration.

Sincerely,

Stanley Johnson RN, BSN, DNP-Student

APPENDIX H: IRB APPROVAL

NDSU NORTH DAKOTA STATE UNIVERSITY

09/07/2021

Dr. Allison Evelyn Peltier
Nursing, Sanford Bismarck

Re: IRB Determination of Exempt Human Subjects Research:
Protocol #IRB0003837, "Barriers to Seeking Preventative Care for Men Living in Rural North Dakota"

NDSU Co-investigator(s) and research team:

- Allison Evelyn Peltier
- Stan Johnson

Approval Date: 09/07/2021
Expiration Date: 09/06/2024
Study site(s): Research will be conducted in Ashley, ND. This is a rural ND town in south central ND. Co-investigator will make multiple visits over the course of the fall to seek male volunteers.
Funding Agency:
The above referenced human subjects research project has been determined exempt (category 1,2) in accordance with federal regulations (Code of Federal Regulations, Title 45, Part 46, *Protection of Human Subjects*).

Please also note the following:

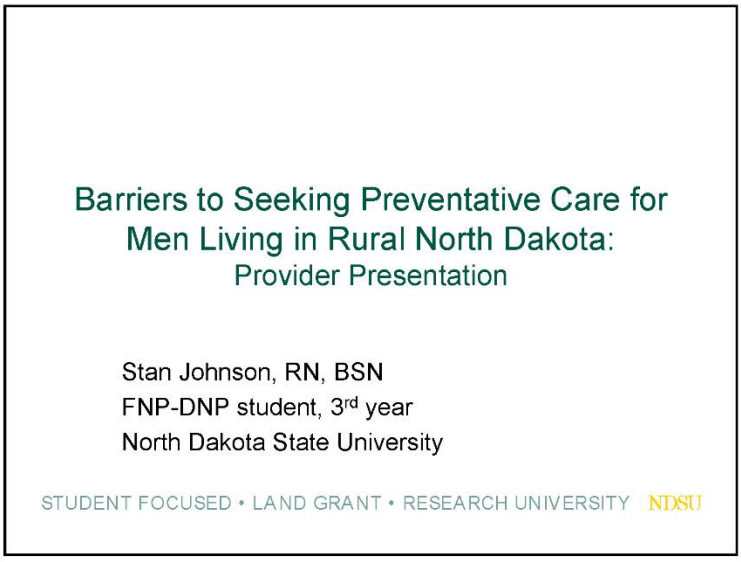
- The study must be conducted as described in the approved protocol.
- Changes to this protocol must be approved prior to initiating, unless the changes are necessary to eliminate an immediate hazard to subjects.
- Promptly report adverse events, unanticipated problems involving risks to subjects or others, or protocol deviations related to this project.

Thank you for your cooperation with NDSU IRB procedures. Best wishes for a successful study.

NDSU has an approved FederalWide Assurance with the Department of Health and Human Services: FWA00002439.

APPENDIX I: EDUCATIONAL PRESENTATION

1



2

Professional Introduction

- Graduated with BSN in 2015 from the University of Mary
- Work experience:
  - RN on Progressive Care/Telemetry unit at CHI St. Alexius Health, 2015-present
  - Clinical supervisor, PCU/Telemetry at CHI St. Alexius Health, 2018-2020
- North Dakota State University
  - Graduate with DNP-FNP in May, 2022

3

Presentation Objectives

1. Provide a brief overview of my practice improvement project [PIP].
2. Present PIP data collected from target demographic.
3. Provide evidence-based recommendations to remove perceived barriers to seeking preventative and primary care by target demographic.

4

Literature Review

General health status

- Woman currently have an average life expectancy that is approximately 5 years longer than that of men (Xu et al., 2018).
- Men also lead women in 13 of the 15 most common causes of death in the United States (Murphy, et al., 2021).
- In North Dakota, men have a higher incidence of a variety of diseases compared to women, including skin cancer, hypertension, obesity, and cardiovascular disease (Sagynbekov, 2017).

Lifestyle behaviors

- In North Dakota, 21.9% of men are current tobacco users compared to 15.4% of females (Sagynbekov, 2017).
- Men are more likely than women to drink alcohol, binge drink alcohol, drink alcohol heavily, regularly use tobacco products, and use illegal substances (McHugh, et al., 2018).
- Thirteen percent of men report using illicit substances in the past 30 days compared to 7% among females (McHugh et al., 2018).

5

Literature Review

Barriers to healthcare utilization by men

- Health literacy and health knowledge
- Socioeconomic status
- Discomfort with healthcare providers
- Masculinity
- Lack of male focused health initiatives

6

Problem Statement

- **Problem statement:**

  Disparities exist among adult men when compared to women in regard to seeking preventative health screenings or following regularly with a primary care provider. These disparities exist further in rural areas where available services are typically spread farther apart.

- **Purpose:**

  The focus of this evidence-based practice project is to identify barriers to seeking preventative healthcare by men living in rural areas. This information can then be used to educate the practicing providers in these areas on ways to increase utilization of preventative health in the target demographic

Project Objectives

1. Identify actual and perceived barriers to seeking annual preventative care examination and screening by adult males, ages 19-65
2. Increase healthcare providers' knowledge of the barriers to seeking annual preventative care among adult males in the community
3. Implement at least two recommendations to improve healthcare utilization and reduce barriers within the rural clinic by the end of the project implementation

Project Design

Practice Improvement Project

Setting: Rural ND community; associated rural ND clinic

Sample: 19-65 y.o. men, living in rural ND; providers at rural ND clinic

- Recruited at community gatherings; free BP and BMI screenings

Intervention: Identify perceived barriers and communicate barriers and recommended interventions to remove barriers to providers at rural ND clinic

Tool: 20 question barrier survey; provider survey

- Data collected during fall/winter of 2021

9

Protection of Human Subjects

- IRB approval sought and obtained prior to project initiation
- Verbal consent to participate obtained for all participants
- No identifying information collected
- Participants can remove selves from project at any time with no repercussions
- No risk of harm to patients

10

Modified Barrier Survey

Age:				
Please indicate level of education completed	NO high school diploma	High school diploma or G.E.D.	Some college, no degree	2-year or higher college degree
Please indicate the degree to which each potential barrier hindered your use of health care on a 4-point scale with 1 indicating "not at all," 2 "slightly," 3 "moderately," and 4 "very much	1: Not at all	2: Slightly	3: Moderately	4: Very much
I don't trust doctors or nurses.				
Clinic staff members are not responsive to my needs.				
I have difficulty finding transportation to the clinic.				
The nearest clinic is too far away.				
I have to pay more than I can afford at the clinic.				

11

MBS cont.

	1: Not at all	2: Slightly	3: Moderately	4: Very much
The clinic hours conflict with my parenting responsibilities.				
The clinic hours conflict with my work responsibilities.				
I had to wait too long to get an appointment at the clinic.				
The clinic is for people who are different than me.				
The clinic does not feel comfortable for my age, race, creed.				
	1: Not at all	2: Slightly	3: Moderately	4: Very much
My problems aren't so big that they will go away in time.				
I am not told enough to be open in the clinic.				
I don't want to overburden my problems and worries				
I don't like to rely on anyone but myself.				
I don't like others telling me what to do.				
	1: Not at all	2: Slightly	3: Moderately	4: Very much
I don't like to talk about my feelings.				
I would think less of myself for needing help.				
Privacy is important to me, and I do not want other people to know about my problems.				
I don't want to look stupid for not knowing how to figure this problem out.				
I'm concerned that other people might find out information in my clinic medical records.				

12

Results

Age: Mean = 43.9; High = 61; Low = 22				
Please indicate level of education completed	**NO** high school diploma **0**	High school diploma or G.E.D. **3**	Some college, no degree **4**	2-year or higher college degree **5**
Please indicate the degree to which each potential barrier hindered your use of health care on a 4-point scale with 1 indicating "not at all," 2 "slightly," 3 "moderately," and 4 "very much	1: Not at all	2: Slightly	3: Moderately	4: Very much
I don't trust doctors or nurses.	**7**	**3**	**2**	**0**
Clinic staff members are not responsive to my needs.	**10**	**2**	**0**	**0**
I have difficulty finding transportation to the clinic.	**12**	**0**	**0**	**0**
The nearest clinic is too far away.	**6**	**5**	**1**	**0**
I have to pay more than I can afford at the clinic.	**3**	**6**	**3**	**0**

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13

Results cont.

	1: Not at all	2: Slightly	3: Moderately	4: Very much
The clinic hours conflict with my parenting responsibilities.	**5**	**7**	**0**	**0**
The clinic hours conflict with my work responsibilities.	**0**	**5**	**6**	**1**
I had to wait too long to get an appointment at the clinic.	**5**	**6**	**1**	**0**
The clinic is for people who are different se xthan me.	**10**	**2**	**0**	**0**
The clinic doesn't feel comfortable for my age, race, or sex.	**11**	**1**	**0**	**0**
	1: Not at all	2: Slightly	3: Moderately	4: Very much
My problems aren't a big deal; they will go away in time.	**0**	**0**	**5**	**7**
I am not sick enough to be seen in the clinic.	**0**	**1**	**1**	**10**
I don't want to overreact; my problems aren't serious.	**0**	**1**	**6**	**5**
I don't like to get emotional about things.	**1**	**8**	**3**	**0**
I don't like other people telling me what to do.	**2**	**7**	**3**	**0**
	1: Not at all	2: Slightly	3: Moderately	4: Very much
I don't like to talk about my feelings.	**1**	**6**	**4**	**1**
I would think less of myself for needing help.	**6**	**5**	**1**	**0**
Privacy is important to me, and I don't want other people to know about my problems.	**4**	**6**	**2**	**0**
I don't want to look stupid for not knowing how to figure these problems out.	**9**	**3**	**0**	**0**
I'm concerned that other people might find out information in my clinic medical records.	**6**	**6**	**0**	**0**

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14

Results cont.

- Highest scoring barriers:
  1. "I am not sick enough to be seen in the clinic"
  2. "My problems aren't a big deal; they will go away in time"
  3. "I don't want to overreact; my problems aren't serious"

15

Results cont.

- BP's:
  - < 120 SBP – 3
  - 120-129 – 4
  - 130-139 – 3
  - 140+ – 2
- Age's:
  - Average – 43.9 y.o.
  - High – 62; Low – 22
- B.M.I's:
  - 18.5-24.9 – 4
  - 25-29.9 – 3
  - ≥30 – 1

16

Literature Review

Strategies for improving utilization

1. Bring the issue to light
2. Make available services known
3. Improved health education
4. Better communication

17

Recommendations

- Bring the issue to light
- Education is key
- Distribute informational flyers to local businesses detailing the importance of preventative care
- Informational flyers in the mail
- Yearly visit to local schools
- Male focused health initiatives
  - If there are current male specific programs, make them known

18

Recommendations cont.

- Health literacy
- Increasing male specific topics in waiting rooms
- Stress privacy of information
- Ensure time for questions prior to ending visit
- Provide male centered education during visit and on after visit summaries

19

Limitations

- Small number of participants (12)
- Short timeframe for project
- Financial limitations for interventions

20

Provider Survey

	Very Likely: 1	Likely: 2	Somewhat Likely: 3	Not at All: 4
The information provided will impact the way you practice				
The information presented will change how you approache aging men in the primary care setting.				
You will incorporate 2 of the recommendations provided into practice.				
More men will participate in routine primary visits due to the proposed interventions.				
	Excellent: 1	Above Average: 2	Average: 3	Poor: 4
Please rate the content and quality of the information provided.				
Please rate the performance of the presenter.				
	Strongly Agree	Agree	Disagree	Strongly Disagree
This presentation increased my knowledge of factual and perceived barriers of adult males (age 18-65) living in my service area				

21

Thank you!

Questions?

*References available upon request

22

APPENDIX J: EXECUTIVE SUMMARY

Barriers to Seeking Preventative Care for Men Living in Rural North Dakota

Purpose

The purpose of this evidence-based practice improvement project is to identify perceived barriers to seeking primary and preventative healthcare by males aged 19-65 years old living in a rural North Dakota community. Identified barriers were communicated to health professionals in the community along with suggested interventions to reduce these barriers with the goal of increasing the use of primary and preventative services by their male population.

Project Design

This PIP was completed in a rural ND community along with the attached community clinic and healthcare professionals. The coinvestigator attended two community gatherings and recruited male volunteers between the ages of 19 and 65 to complete the Modified Barrier Survey. Health screenings, blood pressure and body mass index were offered to recruit participants.

Identified barriers were then communicated to healthcare professionals at the participating rural clinic. Along with barriers, evidence-based interventions to reduce or eliminate the barriers were also provided. A one-month post-presentation visit was then completed to determine if any of the recommended interventions were implemented.

Barriers Identified

- Poor health literacy/education
- Clinic hours conflicting with work responsibilities
- Masculine ideals/not wanting to discuss personal feelings or appear emotional
- Cost of healthcare

Recommendations

- Educational flyers in areas frequented by males; sent to community in mail
- Education provided to elementary and high school students
- Male-focused clinic/community health initiatives
- Male specific topics in waiting rooms
- Male centered education during visit and on after visit summaries
- Stress privacy of information
- Provide education at appropriate health literacy levels

Impact

The participating clinic opted not to implement recommended interventions to improve utilization of services by males in their community. Clinic cited the current COVID-19 pandemic and associated time and resource limitations as reasons for not implementing interventions. The clinic will look to readdress the information provided at a later date.

Conclusion

Gaps in utilization of regular primary care currently exist between males and females. This has led to men suffering more from chronic disease, having shorter life expectancies, and placing a financial burden on their families and the country at large (Baker & Shand, 2017; CDC, 2021; Murphy et al., 2021; Xu et al., 2018). These disparities appear to increase in rural areas, as healthcare can be harder to access and attitudes toward healthcare varies (Carnahan et. al, 2018; Henley, et al., 2017).

This PIP appears to show that there are common barriers to seeking regular preventative healthcare by men living in the participating rural North Dakota community. These barriers are likely common to the many other similarly rural communities throughout North Dakota. The knowledge gained from this PIP can help healthcare providers become more cognizant of the barriers in their communities. Being aware of common barriers to care in their communities, healthcare providers can take steps to reduce and remove these barriers to improve the health of the men, women, and children in their communities.