

PROMOTING TOBACCO CESSATION IN A RURAL NORTH DAKOTA PRIMARY CARE
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Taylor Ann Mueller

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By

Taylor Ann Mueller

The Supervisory Committee certifies that this *disquisition* complies with North Dakota State University's regulations and meets the accepted standards for the degree of

DOCTOR OF NURSING PRACTICE

SUPERVISORY COMMITTEE:

Tina Lundeen, DNP, FNP-BC

Chair

Kelly Buettner-Schmidt, PhD, RN, FAAN

Dean Gross, PhD, FNP-BC

Lisa Montplaisir, PhD

Approved:

April 1, 2019

Date

Carla Gross, PhD, RN

Department Chair

ABSTRACT

Tobacco use is a monumental public health problem in the United States; 15 % of American adults report using tobacco products. Tobacco negatively affects the health of individuals, families, communities, and the environment. Primary care providers (PCPs) interact with more than 80% of tobacco users yearly, as such, can play a pivotal role in promoting tobacco cessation.

The American Academy of Family Physicians Treating Tobacco Dependence Manual provided the blueprint for the project development and design. The project objectives included: 1) create an environment that promotes a tobacco-free culture, 2) improve the approach to tobacco cessation counseling using the *Ask, Advise, and Refer* approach, and 3) simplify provider documentation of patient tobacco use, counseling, and referral.

The project took place in a rural primary care clinic over eight-weeks. Prior to implementation, clinic staff and providers were educated on project objectives and the *Ask, Advise, Refer* behavioral intervention approach. An environmental assessment of the clinic indicated that a tobacco-free culture would require environmental changes. In the second phase, tobacco users completed a tobacco inventory (*Ask*), which prompted providers to *Advise* about tobacco cessation, and *Refer* interested tobacco users to NDQuits. To simplify provider documentation of patient tobacco use, interest in cessation, and referral, two *dot phrases* were created and integrated in the clinic electronic medical record (EHR).

The project objectives were met. The clinic environment was altered to reflect the desired tobacco free culture by the addition of tobacco cessation messages in the form of posters, signs, brochures, and tear-off sheets. Twenty-one tobacco users completed the tobacco inventory, 20 reported an interest in cessation, and seven participants were referred to NDQuits.

One of the seven participants reported successful tobacco cessation. Providers felt that documentation was simplified with EHR integration of dot phrases.

Tobacco use is the leading cause of death and disease in adults over age 18. The United States Public Health Services (USPHS) recommends that every patient who smokes is acknowledged, advised to quit, and is provided with evidence-based treatment by every healthcare provider at every visit.

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Thank you to my parents, Pam and Curt; your love, support, and encouragement has been my saving grace throughout this process. Thank you for always reminding me of my strength and ability to achieve anything, despite any hurdles that may stand in my way. You both have taught me how to be the best version of myself as a student, as a mother, as a wife, and as an individual.

DEDICATION

I would like to dedicate this disquisition to my husband, Kurt, and our son, Axel. Kurt, through all the tears, stress, and bad moods, you have continued to build me up and encourage me. You have been my person since the day we met and I am so blessed to have you by my side. Axel, thank you for constantly reminding me of why I chose to become a nurse practitioner so that we could create a life in which you could excel and do all the things we hope for you. You will always be our greatest adventure and I hope you always remember that you are strong, brave, and loved beyond measure. Although this process has been nothing short of a wild ride, I hope that I have made you both proud.

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CHAPTER 1. INTRODUCTION

Overview of Tobacco Use

Tobacco use in the United States has been a concern for decades. In adults age 18 and older, tobacco use is the number one preventable cause of death and disease (Centers for Disease Control and Prevention [CDC], 2018). Smoking cigarettes causes 480,000 deaths per year in the United States alone (CDC, 2018). Additionally, more than 41,000 people die each year from secondhand smoke exposure (CDC, 2018). Not only is tobacco use concerning due to the increase in mortality, tobacco use also contributes significantly to chronic illness. Tobacco use has been linked to the development and deterioration of many diseases including coronary heart disease, stroke, cancer, blood clots, and chronic obstructive pulmonary disease (CDC, 2017). The number of individuals in the United States negatively affected by tobacco use is alarming.

Tobacco use is not only causing the United States population their health, but it is also costing the healthcare system billions of dollars. Medical care for smoking related illness costs \$170 billion each year and more than \$156 billion is lost in productivity (CDC, 2018). Although the cost of tobacco use is high, tobacco cessation programs have shown to be cost effective for institutions; for every dollar spent on tobacco cessation programs, five dollars are saved by reducing tobacco related hospitalizations (“Campaign for Tobacco Free Kids,” 2015). Based on the cost of tobacco related illness and the cost to the healthcare system, it is paramount that tobacco cessation be a priority in creating a healthier society.

Primary Care’s Role in Tobacco Cessation

Primary care is a multidimensional component of the healthcare system in which comprehensive care is provided to individuals in various stages of life with a variety of ongoing healthcare needs (Institute of Medicine [IOM] Committee on the Future of Primary Care, 1996).

Providers within the primary care realm are responsible for, “integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs...and practicing in the context of family and community,” (American Psychological Association [APA] Center for Psychology and Health, 2014, p. 1). Primary care providers must be prepared to manage patients with acute and chronic conditions in addition to social and psychological health problems, all of which may have a behavioral component. Providers require the tools and resources necessary to manage the behavioral element of health.

The purpose of the project was to create a tobacco free culture at a rural community clinic by creating a tobacco free environment rich in cessation messages and resources, designing a process to ask patients about tobacco use, advise patients to quit, and to refer patients for tobacco cessation counseling. The project consisted of two phases.

Phase I: Clinic Environment and Dissemination of Results

- **Step IA:** The clinic environment was assessed for the presence and visibility of tobacco cessation reminders and NDQuits resources.
- **Step IB:** Assessment of patient flow through the clinic.
- **Step IC:** Presentation of project results, as well as recommendations and suggestions for change to the clinic administration and staff.

Phase II: Education and Implementation

- **Step IIA:** Provider and staff education.
- **Step IIB:** Implementation of a standardized approach for tobacco use identification and tobacco cessation counseling.

Phase I

Phase I entailed an evaluation of the clinic environment and patient flow. Phase IA, the environmental assessment, included evaluating if tobacco cessation resources were visible and accessible to patients as they flow from one area to another in the clinic. Patient flow (IB) refers to the path the patient takes from the time the patient enters the building, presents to the registration desk, waits in the lobby, interacts with medical and nursing staff, visits other departments in the clinic, checks out, and finally leaves the building. Following the assessment of clinic patient flow and environment, increased visibility of resources was achieved by adjusting the environment to promote tobacco cessation. Clinic staff and providers were made aware of the environmental assessment results and assisted in choosing tobacco cessation resources for the clinic (IC). By completing Phase I, the clinic was able to develop a workflow and environment that benefited the interaction between patients and providers about tobacco cessation.

Phase II

Phase II represented the heart of the project. In Step IIA, provider education focused on learning a modified 5 A's method and implementation instruction. The IIB implementation step encompassed a process in which the provider implemented the information obtained in phase IIA. To understand the modified version, a familiarity with the 5 A's is essential; the 5 A's approach is an easily used, research supported, and effective method for brief behavioral intervention (Agency for Healthcare Research and Quality [AHRQ], 2012; United States Preventative Services Task Force [USPSTF], 2016). In several studies, providers, counselors, and other healthcare personnel have successfully used the 5 A's approach when assisting

individuals with tobacco cessation, weight loss, and other behavioral changes (AHRQ, 2012; USPSTF, 2016; Vallis, Piccinini-Vallis, Sharma, & Freedhoff, 2013).

In the 5 A's approach, there are five distinct interventions for facilitating change. The name of each intervention begins with the letter A, hence the name 5 A's. The five interventions are *Ask, Advise, Assess, Assist, and Arrange* (USPSTF, 2016). A modified 5 A's approach was chosen for this project. The modified 5 A's uses only three of the five A interventions, *Ask, Advise, and Arrange*. To improve clarity and consistency of medical terminology, the United States Public Health Services (USPHS) and AHRQ chose to change the title of the "arrange" intervention to "refer." Using *Ask, Advise, and Refer*, as opposed to all the 5 A's, fits better with the intent of this project.

Primary Care

Primary care is evolving; there is a downward trend in the number of physicians choosing to practice in primary care. However, the number of nurse practitioners (NPs) has more than doubled since 2007, placing NPs in a position to fill this gap (American Association of Colleges of Nursing, 2018). The increased number of Americans with health insurance, the percent of the population that is elderly, and the overall growth of the United States' population has increased the demand for primary care providers (Health Resources & Services Administration [HRSA], 2016). The HRSA has predicted the need for primary care providers (PCPs) to increase 81% by 2020 (HRSA, 2016). The number of adults over the age of 65 is projected to rise to 98 million by the year 2060 (Mather, 2016). According to the National Institute on Aging (2017), 60% of older adults have two or more chronic conditions and require more care and follow-up than the non-elderly population. Scholars believe the chronic health care problems and complexities of older adults is a contributing factor to provider shortage (Ljungbeck & Forss, 2017).

Nurse Practitioners

Nurse practitioners may be the answer to the shortage of providers. As of 2016, NPs constituted 25% of providers in rural and 23% in nonrural practices (Barnes, Richards, McHugh, & Martsof, 2018). According to the American Association of Nurse Practitioners' (AANP) (2018) fact sheet, NPs are choosing to practice in primary care at higher rates than physicians or physician assistants. In 2017, 14.5% of physicians and 87% of NPs were family practice certified, and 78% of NPs were practicing in primary care (AANP, 2018). NPs are capable and competent health care providers who can manage the majority of patients seen in primary care (Stanik-Hutt et al., 2013). Furthermore, by utilizing the NP model of health promotion and disease prevention, complications from current illness can be controlled (Stanik-Hutt et al., 2013), prevention of further deterioration of health can be achieved, and healthcare costs to individuals and institutions are more manageable (Fund & Swanson-Hill, 2014).

According to the AANP, what sets NPs apart from other health care providers is the NPs focus on holistic care (n.d.). Holistic care encompasses the physical, psychosocial, and environmental factors that affect health. For example, the psychosocial factors that influence one's overall health, such as, stress, financial concerns, physical environment, safety, and social support, are enmeshed with physical health and illness. NP care is patient-centered. The IOM (2001) defines patient centered care as "Providing *care* that is respectful of and responsive to, individual *patient* preferences, needs and values, and ensuring that *patient* values guide all clinical decisions (p. 3)." The patient is not defined by their illness or a condition in patient centered care (Epstein & Street, 2011). The 5 A's behavioral intervention model is also patient-centered. In the 5 A's approach, the patient is the central focus, not the patient's behavior or

need to change, and interventions encompass the patient's readiness to change, personal goals, and perceived barriers to change (Health Protection Agency, 2016).

Tobacco Cessation Counseling in Primary Care

Tobacco cessation counseling is an essential aspect of behavioral intervention in primary care as providers interact with more than 80% of all tobacco users per year (Health Protection Agency, 2016). Discussions involving behavior change, such as tobacco use, are key to the NP practice. Behavior change and adjustments to current health habits can alter the disease process and improve patients' health.

The number of behavioral change tools available to primary care providers is vast. Providers are educated about facilitating behavior change; however, they have neither the tools or time to organize a patient's visit to provide effective, timely behavioral interventions (Cohen et al., 2011; Searight, 2009). Without formal education in brief behavioral interventions, providers struggle with counseling patients who would truly find behavior change beneficial (Smith, Sellick, Brink, & Edwardson, 2009).

Significance of the Problem

Illness and disease influence behavior. Tobacco use is a behavior that has a negative effect on every organ in the body (CDC, 2018). Tobacco use is linked to the development of multiple types of cancer, heart disease, chronic obstructive pulmonary disease, and stroke (CDC, 2017). Further, tobacco use is the single largest cause of preventable disease in the United States and in North Dakota (CDC, 2017). Fifteen percent of American adults smoke cigarettes (CDC, 2018). Within North Dakota, 21.2% of adults smoke tobacco and 7.6% use smokeless tobacco (North Dakota Department of Health (NDDoH), 2016). Tobacco use is a substantial problem in North Dakota and significantly contributes to morbidity and mortality throughout the state.

Nicotine use increases the risk for coronary heart disease, stroke, chronic obstructive pulmonary disease, and asthma (CDC, 2017). Smoking is a causative or contributing factor in numerous cancers, including but not limited to, bladder, lung, cervical, colon, esophageal, and kidney cancer (CDC, 2017). In patients diagnosed with cancer, smoking increases their risk of dying from cancer and other comorbid conditions (CDC, 2017).

Tobacco use is a significant contributing factor to morbidity and mortality; thus, tobacco cessation can improve one's health, overall wellness, and life expectancy. Smoking cessation for one year significantly reduces risk for heart attack in patients (CDC, 2017). When an individual stops smoking for two to five years, the risk for stroke equals that of a nonsmoker (CDC, 2017). When smokers quit smoking, their smoking related cancer risk can decrease by as much as 50% within five years of cessation (CDC, 2017). Tobacco cessation has many positive effects on patient health and patients must have the resources and assistance from providers to achieve cessation.

Smoking tobacco is the act of inhaling tobacco, whether it be either smoking cigarettes or using a vaporizer to inhale tobacco. Sixty-eight percent of smokers report an interest in tobacco cessation, and 55.4% have tried to quit in the past year (Babb et al., 2017). Greater than 50% of North Dakota tobacco users have attempted to quit at least once in the past (NDDoH, 2016). Adolescent tobacco users report interest in cessation as well. According to the Morbidity and Mortality Weekly Report, more than 50% of adolescents who smoke tobacco are seeking cessation (Arrazola et al., 2017). The American Cancer Society reports the average number of trials to find success is eight to ten attempts (Chaiton et al., 2016). However, individuals may attempt to quit 30 times before achieving successful cessation (Chaiton et al., 2016). Not

surprisingly, each year only three percent of American smokers are able to achieve smoking cessation long-term (Benowitz, 2010).

The low rate of tobacco cessation is in part due to the addictive nature of nicotine (Benowitz, 2010). Nicotine increases levels of dopamine in the brain by decreasing the number of enzymes available to metabolize dopamine, leading to a feeling of satisfaction associated with nicotine exposure (National Institute on Drug Abuse, 2018). Exposure of the brain to nicotine increases the number of nicotine receptors, which alters the brain's sensitivity to nicotine, and leads to the need for nicotine in greater amounts, also known as addiction. When nicotine exposure is reduced or eliminated, withdrawal symptoms develop (National Institute on Drug Abuse, 2018; World Health Organization (WHO), 2014). Nicotine is not only physiologically addictive, but it is also psychologically and socially addictive (Benowitz, 2010). Many tobacco users are addicted to the feel, smell, and sight of their chosen tobacco product and the process of using tobacco leads to a craving (National Institute on Drug Abuse, 2018). The tobacco user's daily activities are coordinated to include tobacco use, leading to a social addiction as well (WHO, 2014). The addictive nature of nicotine must be considered when planning behavioral and pharmacological interventions. Brief behavioral intervention, if provided effectively, can assist patients in understanding their relationship with tobacco and encourage understanding of the effects of the addiction.

The internet is laden with advice on how to quit smoking. In fact, when searching the internet with the phrase "resources for tobacco cessation in North Dakota," the search yielded more than 300,000 results. Despite the high volume of web links, some of which are not of high quality, tobacco use continues to be cause for concern in North Dakota. Primary care providers

and clinics must provide smoking cessation counseling and resources for their patients to prevent and lessen the long-lasting effects of tobacco use.

Motivational interviewing (MI) and the 5 A's approach are evidence-based counseling methods used to assist patients with behavior change. Despite identification of the patients' smoking status each clinic visit, U.S. providers are counseling patients on tobacco cessation at only 20% of patient office visits (Caplan, Stout, & Blumenthal, 2011). Why are providers consistently having difficulty supporting patients in their tobacco cessation efforts? There are several barriers that prevent providers from consistently using the 5 A's approach. In a longitudinal study conducted by Laschober, Mullenburg, and Eby (2015), investigating the relationship between substance use disorders and evidence-based tobacco cessation tools, providers disclosed a lack of education and training was the most significant barrier to providing brief behavioral interventions. Additional barriers reported included time restraints and discomfort discussing behaviors with patients (Cohen et al., 2011; Searight, 2009).

Transtheoretical Model of Health Behavior Change

The Transtheoretical Model (TTM) of Health Behavior Change is a well-known, often used theory of behavioral change (Cahill, Lancaster, & Green, 2010). The premise of the TTM is that behavior change occurs over time and in stages (Cahill et al., 2010). The TTM breaks down behavior change into six fluid stages. Identification of the tobacco user's current stage of change allows providers to individualize behavioral interventions (Cahill et al., 2010). Understanding the stages of change and efficiently using a patient-centered and patient-specific behavioral intervention method is critical to successful behavioral change.

The objectives of the project included evaluating the current practice for identifying tobacco use and identifying available cessation resources (IA, IB, IC), developing a positive

environment that promotes a tobacco free culture (IIA), implementing a project to encourage tobacco cessation (IIB) and developing an efficient and simple way to document smoking cessation in the patient's electronic medical record (IIB). The results of the project were shared with clinic staff and providers, who were encouraged to continue to ask all patients about tobacco use, discuss cessation strategies, and refer interested patients to NDQuits.

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Literature Review and Synthesis

Methods

A systemic literature review was performed over a three-month period to develop an in-depth understanding of the 5 A's, as well as the barriers and benefits of using the 5 A's approach to behavioral intervention. The specific area of concern investigated was tobacco use, related to its high prevalence and significant impact on overall health and quality of life. The databases searched included the Cochrane Central Register of Controlled Trials, the Cumulative Index to Nursing and Allied Health Literature, and PubMed. The Guide to Community Preventative Services, the United States Public Health Services website, the Centers for Disease Control and Prevention (CDC) website, and NDquits.org provided up to date and reliable information on changing behavior and smoking cessation.

To establish the most current and pertinent data possible, only articles from within the past ten years were reviewed. There is a significant amount of information available regarding the use of the 5 A's as a brief behavioral intervention. Articles that were closely related to the topic of the project were limited to the following keywords and terms: *5 A's approach, brief behavioral intervention; 5 A's approach, primary care; 5 A's approach, tobacco cessation; tobacco cessation, counseling*. The term *primary care* was included to narrow the search to outpatient primary care. The search inclusion criteria included peer-reviewed academic journals, randomized control trials, meta-analyses, systemic reviews, and clinical practice guidelines. Following the search, the information was synthesized to develop a comprehensive review of literature and projects.

The 5 A's Approach to Behavioral Intervention

There are many behavioral intervention tools available. The 5 A's approach (*Ask, Advise, Assess, Assist, and Arrange*) is a highly effective health promotion behavioral intervention tool (AHRQ, 2012). The 5 A's approach to behavioral intervention was initially created for use in tobacco cessation by the National Cancer Institute (Strayer et al., 2011). Providers have historically struggled to counsel patients in an effective manner regarding tobacco use. The 5 A's approach was intended to assist providers in developing a consistent, structured approach for tobacco cessation counseling (Strayer et al., 2011). Although the 5 A's approach was created for tobacco cessation counseling, over time the approach has been used effectively for changing a multitude of behaviors (AHRQ, 2014). The 5 A's is an evidence-based brief behavioral intervention that can be used by providers who want to promote a healthier lifestyle and behavioral change.

Most research on the use of the 5 A's approach uses the term "providers" as opposed to nurse practitioner (NP) or physician specifically. The NP role and the emphasis upon health promotion and disease prevention make the NP a key element in tobacco cessation counseling. The NP curriculum focuses on educating future providers regarding counseling techniques, health education for patients, as well as patient centered care tactics (AANP, n.d.; Hitsman, Baker, & King, 2017). Advanced practice providers, such as NPs, work towards developing positive relationships with patients and consistently following up with patients regarding chronic conditions (Hitsman et al., 2017). The NP is more likely to view tobacco dependence as a chronic condition that requires long-term management and consistent behavioral intervention for relapse prevention (Hitsman et al., 2017). NPs are well prepared to be leaders in brief behavioral interventions, including the 5 A's approach.

The 5 A's approach is an evidence-based model for behavior intervention supported by the Agency for Healthcare and Quality (AHRQ), the United States Public Health Service (USPHS), and the United States Preventative Services Task Force (USPSTF)(AHRQ, 2012; USPSTF, 2016). According to a randomized control trial conducted by Pollak et al. in 2016, the 5 A's approach should take approximately three minutes out of a typical 20-minute patient encounter. Providers may be concerned that if the patient has additional comorbidities, the behavioral intervention will take longer. The World Health Organization reports using the 5 A's in a primary care setting should not take longer than five minutes, regardless of comorbid conditions (2014). A variable not considered when factoring in the length of time taken to use brief behavioral interventions was patient diversion of the conversation. However, providers can take advantage of the 5 A's approach to appropriately redirect the conversation.

There are numerous barriers and benefits of using of the 5 A's identified within the literature. The key benefit of the 5 A's is the ability to engage in consistent and effective brief behavioral intervention (Caplan et al., 2011; Lancaster & Stead, 2017). Additionally, the 5 A's approach can be used by a variety of providers, such as nurses, providers, dentists, and counselors, all who may be involved in discussing behavior changes with patients (Anders & Waugh, 2010; Roberts, Kerr, & Smith, 2013). An abundance of tobacco cessation research has incorporated the 5 A's approach for intervention. The literature review also focused on the barriers and benefits of using the 5 A's approach by primary care providers, including NPs.

Behavioral Intervention in Tobacco Cessation

The 5 A's approach has been the benchmark in tobacco cessation counseling for patients of all ages since 1996 (Anders & Waugh, 2010; Laschober et al., 2015). According to Larzelere and Williams (2012), interventions directed towards tobacco users must consider the age of the

patient as well as the sensitive nature of the situation. Tailoring brief behavioral interventions to the age of the patient allows providers to engage in patient-centered behavioral intervention counseling (Larzelere & Williams, 2012). Patient-centered interventions promote health and wellbeing, as well as increase the ability of patients to manage their own personal health (Delaney, 2018).

Identification of individuals using any tobacco product is important because tobacco use is a major public health issue that kills up to half of users (WHO, 2014). The 5 A's approach encourages providers to ask each patient about current tobacco use at every visit (Roberts et al., 2013). Identification of tobacco use should include the use of smokeless tobacco and electronic cigarettes, as well as traditional cigarettes. Roberts et al., (2013) indicated that upon identifying an individual as a tobacco user, brief behavioral intervention, such as the 5 A's, is warranted by the provider.

Ebbert, Elrashidi, and Stead (2015) conducted a systematic review of the studies involving behavioral interventions and pharmacological interventions for smokeless tobacco cessation in the primary care setting. Ebbert et al., (2015) contrasted and compared the success of non-behavioral interventions and behavioral interventions for tobacco cessation. Non-behavioral interventions included the use of several pharmacological agents, including nicotine replacement therapy, bupropion, and varenicline. Nicotine replacement therapy, including the nicotine patch and nicotine gum, did not significantly reduce tobacco use. Bupropion use alone showed no significant impact on long-term tobacco cessation. Lastly, the use of varenicline in two separate trials yielded a mild increase in tobacco cessation after six months of medication use when compared to a placebo group (Ebbert et al., 2015).

Ebbert et al. (2015) reviewed 17 trials that exclusively used behavioral interventions for tobacco cessation, with a focus on smokeless tobacco. The behavioral interventions included brief behavioral advice, self-help information, telephone support, website access, or a combination of interventions. Eight trials showed that behavioral interventions significantly increased tobacco cessation, six had inconsistent results, but could not rule out benefit, and three studies found no benefit or harm from behavioral intervention. Significant heterogeneity existed amongst the trials regarding the type of behavioral interventions used. Interestingly, seven of the eight trials that boasted success in tobacco cessation efforts used a telephone support program. A significant finding of the Ebbert et al. (2015) systematic review was that a standardized approach for tobacco counseling does not exist. In addition, providers often placed the responsibility of tobacco cessation counseling upon public health entities by encouraging the use of online and telephone resources. Online and telephone resources are an option for tobacco cessation, however, providers must be knowledgeable regarding how to refer patients to these resources and how to follow up on patient progress.

Similarly, a systematic review completed by Stead, Koilpillai, Fanshaw, and Lancaster (2016) investigated the impact of brief behavioral intervention and pharmacotherapy on tobacco cessation in smokers. Fifty-three studies were included in the systematic review, with 25,000 participants (Stead et al., 2016). According to the systematic review, combined intervention of counseling and pharmacotherapy may increase cessation rates by 70 to 100% (Stead et al., 2016). The interventions seen in the studies reviewed were similar to those in the systematic review completed by Ebbert et al., (2015). Motivational interviewing, follow-up phone calls, behavioral counseling, and pharmacotherapy were included in studies within each review. Thus, combined therapy is appropriate for smokeless tobacco users, as well as individuals who smoke cigarettes.

Benefits of the 5 A's Approach

There are several benefits to using the 5 A's approach for brief behavioral intervention. The 5 A's approach allows a variety of providers to discuss with patients consistently and effectively behaviors that affect their health status (Anders & Waugh, 2010; Roberts et al., 2013). Due to the nature of tobacco's effect on the entire body, a collection of healthcare providers is often involved in patient care and included in the tobacco cessation discussion. Every person giving care to the patient should ask the patient about tobacco use. Repeatedly asking about tobacco use encourages the patient to think about tobacco's effect on overall health and quality of life (Roberts et al., 2013).

A variety of healthcare providers can use the 5 A's approach in diverse settings. For example, nurses in inpatient settings (as well as outpatient) use the 5 A's approach with patients who smoke (Smith, Sellick, & Spadoni, 2012). Dentists have also reported using the 5 A's when individuals present with concerns about the effect of tobacco on their teeth, mouth, and gums (Ebbert et al., 2015). The 5 A's are also used by counselors and providers working for quit lines and government sponsored tobacco cessation programs (USPSTF, 2016). The collaboration by providers increases the number of times an individual hears the information, leading to continuity of care and improved patient outcomes (McLean, 2008).

Tobacco cessation is difficult. The 5 A's, when used consistently and correctly, improves quit rates among tobacco users (Anders & Waugh, 2010; Searight, 2009). After a systematic review including 49 trials with 19,000 participants, Lancaster and Stead (2017) concluded that individualized behavioral counseling, including the 5 A's, resulted in better success in tobacco cessation efforts by patients. Quit rates improved between 40% and 60% with individualized counseling (Lancaster & Stead, 2017). Caplan et al., (2011) found that when patients were

advised by their provider to quit smoking, they were 1.6 times more likely to quit smoking than those who were not advised to quit. Providers need not feel discouraged if patients are unsuccessful in tobacco cessation efforts after advisement, as the discussion continues to encourage patients to think about the possibility of cessation, and as such, move within the stages of TTM.

An additional benefit of using the 5 A's approach is the ability to encourage patients to identify what would personally motivate them to change an unhealthy behavior. Studies have shown that assisting patients in identifying how tobacco cessation would benefit their own life is an effective tactic to improve motivation (Laschober et al., 2015). The 5 A's approach encourages patients to understand the effect tobacco use has on their health and life. Advising the patient on all the benefits of tobacco cessation alone will not motivate patients to quit (Laschober et al., 2015). However, patient motivation increases when providers assist the patient to find a personal reason or reasons to quit smoking.

Although providers may have apprehension regarding time spent counseling patients, perceived loss of productivity and revenue should not be of concern (Bardach & Schoenberg, 2012). Providers can code visits to reflect the counseling done during the visit, and thus receive reimbursement. Coding is a system in which different diagnoses are assigned different numerical codes, which assists in billing patients and insurance companies (American Academy of Professional Coders, n.d.). If providers are using the 5 A's efficiently and coding appropriately, they should be able to achieve adequate reimbursement for counseling (Bardach & Schoenberg, 2012; Caplan et al., 2011; Morris, Miller, & Mahalik, 2011). By using an efficient, prompt, and brief intervention, providers can help patients achieve positive outcomes and receive reimbursement for the time spent on counseling activities.

Barriers to the 5 A's in Primary Care

The largest barrier to using the 5 A's is that many educational programs are not educating providers on how to counsel patients on behavior change (Caplan et al., 2011). Although providers are given information on counseling methods during their education, providers continue to report feeling unprepared to provide counseling to patients (Cohen et al., 2011; Searight, 2009). Not only do providers feel unprepared, they also report feeling nonconfident (Smith et al., 2012). A research study performed by Laschober et al. (2015), found that providers are 1.87 times more likely to use the 5 A's approach to tobacco cessation if they have received higher levels of training than those who have not had additional training on the 5 A's approach.

Another barrier to the use of the 5 A's is the perceived lack of time providers have for patient counseling in the primary care setting (Asselin, Osunlana, Ogunleye, Sharma, & Campbell-Scherer, 2015; Cohen et al., 2011; Tucker et al., 2018). Factors that lead to perceived lack of time include patient demand for time, lack of providers, and a push for increased productivity and increased reimbursement. Printed handouts and online resources are free for patients and require far less documentation for the provider, making this an appealing alternative to face-to-face brief behavioral intervention. The provider can document the patient was given both written and verbal education on tobacco cessation and does not need to document any further. The task of behavioral intervention may seem overwhelming and time consuming (Cohen et al., 2011; Searight, 2009). Providers may however choose to ask patients about their tobacco use and cease the conversation before it becomes too overwhelming or lengthy. By not utilizing a standardized approach, these appointments can become tedious and lead to lower quality outcomes. When used appropriately, the 5 A's approach should only take about five

minutes. Thus, five minutes of a twenty-minute visit is feasible and appropriate to dedicate to brief behavioral interventions.

The final barrier to using the 5 A's approach as a behavioral intervention for patients is that providers believe there is difficulty in working the 5 A's into a conversation with patients (Asselin et al., 2015; Pollak et al., 2016). The difficulty identified by providers stems from discomfort in talking about tobacco use with patients. Providers are missing an easily followed process to discuss tobacco use and cessation with patients, leading to lost opportunities to provide resources.

There are many benefits to using the 5 A's approach, however, the perceived barriers continue to inhibit providers from using brief behavioral interventions. Providers are barraged with educational information upon entering practice, creating a high learning curve. The large amount of information provided to individuals can become overwhelming and prevent learning. A continued lack of education regarding how to apply the 5 A's approach to practice will lead to fewer behavior conversations and fewer individuals achieving successful behavior change. Education and increasing knowledge regarding the 5 A's will be effective in encouraging behavioral conversations. A three-minute conversation using the 5 A's approach increases the likelihood of behavioral change by 14% (McLean, 2008). The 5 A's approach to brief behavioral intervention is the best option for the limited time providers have in a clinic setting and is easier to master than other alternative behavioral interventions.

The 5 A's Approach and Motivational Interviewing

The 5 A's and motivational interviewing (MI) are provider based, patient centered, brief behavioral interventions that encourage patients to find their own personal motivation for behavior change (AHRQ, 2014). MI, intended for counseling patients about tobacco use, has

utility for a wide variety of behavioral interventions (VanBuskirk & Wetherell, 2014). In a meta-analysis of the literature on MI, 272 articles were identified, 12 of which met the inclusion criteria and were included in the analysis; nine of the twelve studies indicated positive results when MI was used with patients for a variety of reasons, including substance abuse, weight management, and physical activity (VanBuskirk & Wetherell, 2014).

A barrier to using MI is the difficulty providers experience when patients lack motivation to make behavioral changes (Codern-Bove et al., 2014). MI and the 5 A's are designed to help the patient to find motivation to make behavior changes and to identify the impact of such changes. Resistance encountered during behavior change discussions discourages providers, which can lead to providers halting the conversation all together (Codern-Bove et al., 2014). Individuals who have low motivation to change behaviors require repeated conversations regarding their behaviors, as motivation can fluctuate (Hall, Gibbie, & Lubman, 2014).

Another barrier to using MI is the lack of understanding of overall use. One study found that only 17.7% of providers felt comfortable with MI (Addo, Maiden, & Ehrenthal, 2011). The investigators stated the importance of advanced training on brief behavioral interventions to improve provider effectiveness of behavioral counseling (Addo et al., 2011). The inadequacy of provider education regarding brief behavioral interventions prior to practice needs the attention of educational institutions and healthcare organizations as prevention increasingly becomes a priority in health care.

Increasing the amount of training on both the 5 A's and MI approach during education programs and while in practice improves providers' ability to engage in behavior change discussions with patients (Addo et al., 2011). The 5 A's approach in particular, is an effective behavioral intervention for use in most settings; however, the approach is often condensed for

use in primary care due to the limited time for patient interaction (North Dakota Department of Health [NDDoH], 2018). In the condensed version of the 5 A's, the first two A's (*Ask, Advise*), are unchanged, the remaining A's (*Assess, Assist, Arrange*) are replaced by *Refer*. The *Ask, Advise, Refer* approach is consistent with the verbiage in the CDC and the USPHS guidelines and is more efficient for tobacco intervention in a brief primary care visit (NDDoH, 2018).

Treating Tobacco Dependence Practice Manual: A Systems-Change Approach

The project uses the Treating Tobacco Dependence Manual as a guide for development. The practice manual uses the USPHS clinical practice guideline, *Treating Tobacco Use and Dependence: 2008 Update* to make recommendations for creating a culture in which tobacco cessation is a priority (Theobald et al., 2017). The key components of the practice manual, based on the USPHS guideline include creating a system to identify tobacco users, providing training and resources to healthcare professionals, and encouraging staff dedication to tobacco use treatment (Theobald et al., 2017). Further, the practice manual presents several approaches for creating a change in practice to achieve the key aspects of the USPHS guideline (Theobald et al., 2017).

Theoretical Framework

The Transtheoretical Model (TTM) of health behavior change provides a framework for understanding the change process. The primary premise of the TTM is that individuals move through predictable stages of change and that change is a process, which occurs over time (Singer, 2007). In the TTM an individual progress through six stages to adopt a healthy behavior or stop an unhealthy one. The TTM recognizes that behavioral change happens over time and is a process as opposed to an easily attainable goal (Singer, 2007). Furthermore, the TTM supports that behavior change is a process, which includes milestones individuals need to reach to achieve

behavioral change (LaMorte, 2016). When providers understand the TTM, they can identify the stage the patient is in and assist the patient in moving to the next stage of change. The 5 A's approach (more specifically ask, advise, and arrange, or refer) can be used in conjunction with the TTM and the processes of change within each stage. Healthcare providers should ask all individuals about their tobacco use and subsequently advise them to quit, regardless if they are in the precontemplation stage or the action stage. The approach of the 5 A's has shown to be effective for modifiable risk factors as a lifestyle counseling outline in primary care (Roberts, Standage, Olaoye, & Smith, 2015). Further, the modified version of the 5 A's, *Ask, Advise, Refer* provides a timely way to address brief behavioral intervention for patients in the different stages of the TTM.

Use of the TTM Framework & Ask, Advise, Refer

TTM Precontemplation Stage

The precontemplation stage occurs when the patient has no interest in behavior change in the next six months (LaMorte, 2016). Individuals who are in the precontemplation stage of change are not prepared for behavioral interventions or long-term behavior change. Identification of where the patient falls within the TTM begins with the first *A* or *Ask*. The provider asks the patient about the behavior and the degree to which they are engaging in said behavior. *Assessing* the effect of the patients' behaviors on their health and the patients' openness to discuss behavioral change is essential. The other key *A* within this stage is *Advise*. The provider advises and educates all patients about how a particular behavior may negatively affect health and promote illness. Patients are more likely to respond positively to advice if it follows asking about and assessing the patient's readiness to accept advice (Vallis et al., 2013).

TTM Contemplation Stage

The next stage is the contemplation stage, during which the individual plans to make behavior change in the next six months (LaMorte, 2016). During the contemplation stage, *Ask*, *Assist*, and *Arrange (5A's) or Refer (in modified 5A's)*, are used. Asking questions about readiness for change is key within each stage. During the contemplation stage, the provider can assist patients to understand how they view themselves and assist them to set a date by which they hope to make the behavior change. Patients are encouraged to find personal motivators for behavior change, including why they have continued a behavior and what they will find as encouragement to quit. Arranging for follow-up or referring the patient to appropriate resources can assist the patient in the journey towards successful cessation.

TTM Preparation Stage

During the preparation stage, individuals are ready to make behavioral changes in the near future and may have already developed a plan to make behavior changes (Singer, 2007). Here, providers can *Assess* the patient's readiness, commitment, and motivation to make behavior change. The provider can *Assist* patients to see multiple ways to reach their goals and set their plan into motion. By helping patients see multiple ways of addressing the negative behavior during behavior change talk, patients will be more likely to commit to behavior change (LaMorte, 2016).

TTM Action Stage

The action stage is when patients have chosen to make lifestyle or behavioral modifications (Singer, 2007). Discussing processes of change are key during the behavior change talk if the patient is in the action stage. Contingency management is a process of change during which the individual recognizes consequences of change (LaMorte, 2016). Providers will

Ask patients to identify their helping relationships within their life. Helping relationships involve trust, openness, and support (LaMorte, 2016). Helping relationships may involve the individual's social circle but may also include the provider engaging in behavior change talk with the patient. The *Assist* stage helps the patient to understand the behavior and assists them in finding motivation to learn how to use healthier behaviors in place of the negative behavior. Arranging frequent follow-up is important for the sustained success of patients who are within the action stage.

TTM Maintenance Stage

During the maintenance stage, individuals are working towards preventing relapse, but are not using processes of change as often (LaMorte, 2016). Individuals who are attempting to prevent relapse require support and encouragement for their positive behavior change (Singer, 2007). Providers will *Assist* patients within this stage to succeed in continued behavior change. The discussion of temptation and resistance to temptation is also beneficial with patients in this stage of behavior change.

TTM Termination Stage

The final stage in the TTM is the termination stage. During this stage, patients have moved past their poor habits and have succeeded in behavior change (LaMorte, 2016). Individuals may still be responsive to positive reinforcement of how far they have come in recognizing their behaviors (LaMorte, 2016).

Identifying the stage which the patient is currently in is essential in order to tailor the change talk to them individually. Patients often move back and forth between and amongst the stages within the TTM, thus asking all patients about tobacco use and advising all tobacco users on cessation is essential. Individuals in each stage may benefit from discussion regarding current

behaviors, the effect it is having on one's health status, and personal motivators to engage in behavior change.

Tobacco cessation is a challenge for most. Providers lack a consistent approach to brief behavioral counseling, leading to missed opportunities in the primary care setting. Using the *Ask, Advise, Refer* approach provides the provider with an organized approach for facilitating patient behavioral change. The barriers and benefits of using the 5 A's approach were addressed in order to achieve success during the project by encouraging resource use and creating an environment to ensure identification of tobacco use and thorough follow up.

CHAPTER 3. PROJECT DESIGN

Project Design

This multifaceted project included implementation of evidence-based (EB) guidelines, a systems change method, a research supported quality improvement model, and a brief intervention approach recommended for helping patients quit tobacco use. The American Academy of Family Physicians (AAFP) *Treating Tobacco Dependence Practice Manual: A Systems Change Approach* (Theobald et al., 2017) was created for healthcare organizations to “make sure every patient who uses tobacco is identified, advised to quit and offered evidence-based treatment” (Theobald et al., 2017, p. 1). The manual was the “roadmap” for implementation of this tobacco cessation project in a rural primary care clinic. The AAFP practice manual incorporates the evidence based clinical practice guidelines developed by the United States Public Health Service (USPHS) for treating tobacco use and dependence (Theobald et al., 2017). The Iowa Model of Evidence-Based Practice worked well as the framework for project design, implementation, and evaluation. The *Ask, Advise, Refer*, which is a condensed version of the 5 A’s, was chosen as the intervention strategy for the project. The condensed version requires less training and is easily implemented in a small community setting (WHO, 2013).

The Iowa Model of Evidence-Based Practice

The Iowa Model of Evidence-Based Practice is a commonly used framework for translating current research and applying evidence in the practice setting (Buckwalter et al., 2017). The integration and support of an evidence-based change, such as an organized approach to reducing tobacco use in a healthcare system, is challenging and not always successful (Titler, 2008). The Iowa Model provides an organized approach to integrating EBP into a healthcare

setting and increases the likelihood of successful integration. The Iowa Model is a widely used, research supported, and validated guide for EBP projects and as such, chosen to guide this project. The University of Iowa Hospitals and Clinic (Appendix B) granted approval for use of the Iowa Model. See Appendix C for a project specific visual representation of the Iowa Model.

Topic Selection

The initial step in the Iowa Model is the identification of triggers and opportunities within an organization to deliver the highest quality of care, and thus improve patient outcomes (Buckwalter et al., 2017). Twenty-one percent of adults in North Dakota smoke cigarettes (NDDoH, 2016). The clinic has not tracked the number of patients who are smokers. However, a clinic provider believes that tobacco use in the community is concerning, and the percent of smokers likely equals, or exceeds, the state percent of individuals smoking (A. Gotvaslee, personal communication, May 23, 2018). The clinic did not have a consistent process to assist patients with tobacco cessation. Furthermore, the clinic did not have resources, such as written information, available at the clinic to promote tobacco cessation.

Purpose

The purpose of the project was to design a process for identifying patients who use tobacco, advising tobacco cessation, and referring patients for counseling and support at a rural clinic. The clinic environment was evaluated for ease of accessing tobacco cessation literature and pamphlets, along with the visual cues, such as posters and signs advertising smoking cessation and the resources available. Following the initial environmental evaluation, the coinvestigator and clinic personnel discussed the gaps and opportunities for promoting patient and visitor tobacco cessation.

Organization Priority

The organization must have considered tobacco cessation for patients a priority and must have been fully on board with improving patient quit rates for the project to be successful (Buckwalter et al., 2017). Many health care organizations are making tobacco cessation a priority for several reasons. Organizations including the World Health Organization (WHO), the Joint Commission, American Heart Association, Centers for Disease Control and Prevention (CDC), and the Agency for Healthcare Research and Quality (AHRQ) have been working to reduce the number of patients who use tobacco products. The Joint Commission made tobacco use a quality measure in 2012 (Fiore, Goplerud, & Schroeder, 2012). According to the Centers for Medicare and Medicaid Services (CMS), quality measures comprise a means to monitor and measure healthcare processes, patient and organizational outcomes, and patient perceptions for the purpose of assuring quality care (2017). There are three quality measures within the “Tobacco Performance Measure Set.” The measures are tobacco use screening, tobacco use treatment, and tobacco use treatment management (American Lung Association, n.d.). The project addressed the CMS measures by using *ask* (screening), *advise* (treatment), *refer* (treatment management) to improve the process by which the clinic and providers identify and promote tobacco cessation.

Another reason tobacco cessation is a priority in healthcare organizations, including the participating clinic, is because tobacco use is a quality measure linked to reimbursement for services. Reimbursement for services has created a culture in which providers are reimbursed based on the quality of care provided instead of the quantity of care. Tying reimbursement to quality creates an incentive for organizations and for providers to perform well on quality measures. Organizations and providers want fair reimbursement for the services provided,

including tobacco cessation counseling. Personal communication with clinic providers revealed an inconsistent tobacco cessation counseling, referral, and documentation process. A consistent, well-defined process for identifying, documenting, and managing patients who use tobacco can improve the quality of care as well as reimbursement from third party payers.

Team Assembly

The next step in the Iowa model is to develop a team for the project (White & Spruce, 2015). The project team consisted of a North Dakota State University (NDSU) Doctor of Nursing Practice (DNP) student, a DNP faculty member with an interest in behavioral interventions, a PhD faculty member with an extensive research background in the 5 A's and tobacco cessation, a DNP faculty member with an interest in the proposed project, and an NDSU professor of Biological Sciences and Education.

The DNP faculty member with interest in behavioral interventions served as the committee chair and primary investigator. The student served as the coinvestigator. The coinvestigator developed the proposal, which included a literature review and synthesis, project design, implementation and evaluation, evaluation of risks to human subjects and worked in partnership with other committee members. Each committee member made a valuable contribution to project development, guidance, and evaluation.

Assemble, Appraise, and Synthesize the Body of Evidence

The next step in the Iowa Model is to Assemble, Appraise, and Synthesize the Body of Evidence (Buckwalter et al., 2017). The search engines Cochrane Central Register of Controlled Trials, the Cumulative Index to Nursing and Allied Health Literature, and PubMed were used to conduct a literature review using the following search criteria: 5 A's approach, MI, tobacco cessation, quality measures, CMS reimbursement, systems change, Iowa Model, and behavioral

intervention. All research published prior to 2007 were excluded from the review of the literature. Considerable research supports the use of the 5 A's approach in promoting tobacco cessation. Motivational interviewing (MI) was also included in the literature review and synthesis due to the strength of evidence about the effectiveness in affecting behavior change.

Design and Pilot the Practice Change

The next step in the Iowa Model of Evidence-Based Practice is to design and pilot the proposed change in practice. The coinvestigator, with the committee's guidance, designed the project and reviewed the plan with the clinic staff and providers prior to implementation. Suggestions and concerns about components of the project were taken into consideration; no additional changes were necessary. The project was designed for a small rural clinic that is a satellite of a larger healthcare system. A detailed description of the steps is outlined previously.

Engage patients and verify preferences. Staff and providers at the clinic are familiar with the patients and were a crucial resource for planning patient engagement. Patient engagement occurred in a variety of ways. Staff and providers met in the morning to discuss the schedule for the day and identified known tobacco users on the schedule. Providers and staff routinely met at the beginning of each day to discuss the patient schedule in order to anticipate and plan for patient needs. As part of the project, tobacco users on the schedule were discussed and flagged, similar to other patients with intervention opportunities. The receptionist offered the Patient Tobacco Use Inventory form to patients identified as tobacco users. The patient gave the nurse the completed Patient Tobacco Inventory Form, the nurse then reviewed the form and placed the information into the patient's electronic health record. The nurse placed the paper copy of the Patient Tobacco Inventory Form outside the exam room with the patient's rooming

information for the provider to review upon entering the room. The Patient Tobacco Inventory Form is in Appendix E.

Resources, constraints, and approval. There were several resources needed for success of the project. The expertise of the dissertation committee members was key to the development and success of the project. Cooperation and a willingness of clinic staff and providers to take part in the implementation of the project were also essential. However, the most critical component of the project was patient engagement. Additional resources include the AAFP Tobacco Cessation Manual, USPHS guidelines, the NDQuits referral form, and participation of counselors at NDQuits. Potential constraints were the number of patients who use tobacco products that agree to consider tobacco cessation and referral, participation of clinic staff, and budget. Budget concerns were minimal. NDQuits provides pamphlets, posters, and counseling free of charge. There were minimal paper and printing costs; the cost to fax at the clinic is \$1.00 per fax. There is a web-based referral option for providers as well; however, the project utilized the fax option to maintain consistency throughout the project. Approval for the project was obtained from the dissertation committee, clinic providers and staff, and clinic administration. The investigators obtained NDSU IRB approval prior to implementation. The IRB approval letter is in Appendix A.

Localized protocol. The protocol was based upon the AAFP Tobacco Cessation Manual and the USPHS guideline with adjustments to best serve the small rural community clinic.

Evaluation plan. The project outcomes were evaluated in several ways. Evaluation of the environment and workflow occurred prior to and after project implementation. The coinvestigator had regular, informal communication with clinic providers and staff to assess the progression and barriers.

Staff from NDQuits sends a confirmatory fax to the clinic when they receive the fax referral form. The receptionist scanned the written patient forms into the associated patient's electronic health record and the original forms went in a folder at the front desk of the clinic and reviewed by the coinvestigator. Composite data were shared with staff at a meeting after project completion.

The coinvestigator attempted to contact patients referred to NDQuits approximately four to six weeks post referral. Patients contacted by telephone were asked if they had quit using tobacco products for at least one day. The standardized script for the follow-up phone call can be found in Appendix M. The data were analyzed and synthesized to evaluate the impact of the project on the process of identification of tobacco users and subsequent referral to NDQuits.

Baseline data. The coinvestigator completed clinical hours at the site of implementation and had observed patient flow, personnel, and providers. The preliminary observation included finding what resources the clinic had available for patients on tobacco cessation and the NDQuits program.

Implementation plan. Implementation of the project and clinical practice guidelines were achieved by enlisting the help of clinic staff and providers to support the tobacco cessation project. Implementation began on August 15, 2018. Discussion with providers regarding the importance for a well-developed approach to tobacco cessation for patients is crucial for adoption of a systems change project. Implementation strategies used to encourage sustainability and acceptance are derived from the Iowa Model's Implementation Guide and included creating awareness and interest, building knowledge and commitment, promoting action and adoption, and pursuing integration and sustained use (White & Spruce, 2015).

Prepare clinicians and materials. Participants were briefed on the project prior to implementation during a meeting over lunch hour on August 14, 2018. Providers and staff listened to an educational presentation on *Ask, Advise, Refer*, and motivational interviewing. Handouts with examples of 5 A's and MI language were given to participants (Appendix J, Appendix K). The participating clinic was given the USPHS guideline for tobacco cessation. The clinic received a supply of educational information from the NDQuits website that was easily referenced and used in practice. The resources were discussed with providers to identify the best fit for the clinic. Emphasis was placed on choosing resources that would reflect the importance of tobacco cessation for the overall health and wellness of the community.

Promote adoption. The workflow document discussed in the project design served as a reminder for providers within the clinic to ask about tobacco use and encourage cessation. The coinvestigator encouraged staff and providers to discuss any potential barriers that may inhibit effective implementation of the project prior to implementation. The coinvestigator also discussed the importance of tobacco cessation in the community and the impact cessation has on overall health of clinic patients and the community.

Collect and report post-implementation data. Clinic staff and providers were given data about the number of patients who received the *Ask, Advise, Refer* intervention, those patients who spoke with NDQuits, and patients who were successful in tobacco cessation. The data were analyzed, organized, and the results presented to available staff during a lunch meeting at the clinic on December 20, 2018. The meeting was set up via individual emails for a date on which all staff would be available. Two providers were on call and had to leave prior to the meeting. Providers unable to attend the meeting received the presentation information and handouts via email. The results of the environmental assessment and resulting changes to the

environment were also shared at the meeting. Specifically, the changes discussed included information about the posters, pamphlets, and cards placed strategically in the clinic.

Integrate and Sustain the Practice Change

After presentation of the project data, a discussion with staff and providers ensued about whether the integration of the *Ask, Advise, Refer* protocol was sustainable for the clinic.

Providers and staff felt equipped with enough information and resources to sustain the project post implementation. The presentation included information about how to obtain additional resources from NDQuits, use of the pre-populated fax referral form (Appendix F), and utilization of the dot phrases within the electronic health record. Results were provided to the clinic to reiterate the importance of asking patients about tobacco use, advising on cessation, and following up with patients.

Dissemination of Results

The final step in the Iowa Model of Evidence-Based Practice is the dissemination of results. Data were collected and analyzed, and results were presented to staff and providers at the clinic during a lunch break by presentation of tables and charts along with written information. Dissemination also includes a planned poster presentation April at NDSU and in September 2019 at the North Dakota Nurse Practitioner Association Pharmacology Conference in Bismarck, ND. Lastly, a manuscript will be submitted for publication.

Congruence of the Project to the Organization's Strategic Plan/Goals

Providers at the rural community family practice clinic identified a need for improved identification of tobacco users and increased resources for cessation. There was a lack of a consistent workflow to promote identification of tobacco use and encourage cessation at the clinic. Further, the documentation of tobacco use and cessation counseling is time consuming,

leading to providers foregoing documentation and future reimbursement. The concerns verbalized by providers have led to missed opportunities for referral and future cessation contributing to continued health disparities and illness. The project addressed concerns and encouraged improvement of sustained practice change for tobacco use identification and advisement for cessation.

Participants and Setting

The project implementation took place at a small primary care clinic in rural North Dakota. The clinic is owned by a large healthcare system and is affiliated with a local Critical Access Hospital. The clinic is open Monday through Friday and hours are 8:30 am-5:00 pm. Staff at the clinic includes: one receptionist, one certified nursing assistance (CNA), two registered nurses (RN), three family NPs, two physical therapists and one support staff in coding and billing. There is significant overlap of duties among the receptionist, CNA and RNs. The project delineated specific roles for every team member. The coinvestigator presented the project during an hour-long lunch meeting.

Protection to Human Subjects

There are no ethical concerns to participants of the project. North Dakota State University Institutional Review Board (IRB) provided approval for the project prior to implementation. The IRB approval letter is in Appendix A. This is a quality improvement project, without manipulation of the environment or direct observation of patient response.

Project Objectives

The purpose of the project was to create a tobacco-free culture at rural community clinic by creating a tobacco-free environment rich in cessation messages and resources, designing a

process to ask patients about tobacco use, advise patients to quit, and to refer for tobacco cessation counseling. The specific project objectives are:

1. To create a clinic environment that promotes a tobacco-free culture.
2. To improve the clinic process to identifying and counseling tobacco users on cessation and referring patients interested to appropriate resources.
3. To simplify provider documentation of tobacco use identification, cessation counseling, and referral to appropriate cessation resources.

CHAPTER FOUR. EVALUATION

The evaluation of the project is essential to identify the success of the project. Evaluation of the project can also help in explaining the “what,” the “why,” and the “how” (Elmi, 2012). The evaluation determines if the project contributed to patient care and if there is a benefit to implementing the project at additional sites. The following chapter describes the evaluation completed for each objective of the project.

Project Objective One

Objective one sought to create a clinic environment that promotes a tobacco-free culture. Evaluation was completed by using the environmental assessment document created based on the American Academy of Family Physicians (AAFP) environmental evaluation form (2017). The form provided a systematic approach to identify if the clinic had any NDQuits resources, such as posters, pamphlets, or cessation cards. The patient flow form was used to evaluate how patients move throughout the clinic to identify areas where they may be exposed to tobacco cessation visual cues; the form is in Appendix H. The environmental assessment preceded education and resource allocation. The environmental assessment form used is in Appendix G.

Upon completion of the initial environmental assessment, the coinvestigator informally interviewed providers and staff at the clinic regarding the types of resources they believed would benefit the clinic. Resources identified by staff and providers were ordered from the NDQuits website. The coinvestigator also discussed areas where visual cues would be most visible and most beneficial to patients. Clinic providers and staff were able to place the resources where they chose, with recommendations by the coinvestigator. After obtaining materials from NDQuits and discussing placement with providers, the coinvestigator completed a second environmental assessment. The completed environmental assessment form is in Appendix I.

Project Objective Two

The second objective was to improve the clinic approach for identifying and counseling tobacco users on cessation and referring patients interested in quitting to appropriate resources. The new process was implemented on August 16, 2018. Two flow charts were used for identification of tobacco users and further steps. The flow chart detailing the process of identifying and discussing tobacco use with patients is found in Appendix J. The *Ask, Advise, Refer* flow chart can be found in Appendix L. Providers and clinic staff were given both documents.

Providers and staff were encouraged to ask every patient about tobacco use and advise all tobacco users on cessation. Patients were identified as tobacco users upon checking into the clinic for appointments by reception staff. Tobacco users received an informed consent form to review and sign prior to participation. Patients who were identified as tobacco users and signed the consent form were given the Patient Tobacco Inventory Form to complete, which asked about tobacco use and tobacco use habits. The patient inventory form is in Appendix E. Administering the Patient Tobacco Inventory Form to tobacco users fulfills the first step in the *Ask, Advise, Refer* protocol. Providers were encouraged to advise tobacco users to quit and to refer the patient to NDQuits for further assistance. The RN completed the NDQuits fax referral forms for patients interested in referral and placed the completed form outside the room for providers. The coinvestigator collected the completed inventory forms and NDQuits referral forms.

Data collection included the number of patients referred to NDQuits and if contact had occurred. Additionally, the coinvestigator made follow-up phone calls four to six weeks after patients were referred to NDQuits to identify tobacco use and habits after referral. Discussion

with providers and staff was also completed after implementation to identify how effective the change was and if providers felt it was easier to identify and refer patients who use tobacco products.

Evaluation and sharing of results was completed by discussing information obtained after the project with providers and clinic staff on December 20, 2018. Adoption of the *Ask, Advise, Refer* protocol was encouraged by ensuring the clinic was equipped with resources from NDQuits, information regarding how to obtain additional resources, and by providing them with pre-populated NDQuits fax referral forms. The project was discussed in order to ensure the protocol was effective and easy to adopt based on provider and staff feedback.

Project Objective Three

The third objective was to simplify provider documentation of tobacco use identification, cessation counseling, and referral to appropriate cessation resources. Two dot phrases were created to improve ease of documenting tobacco cessation counseling and referral. The coinvestigator and a provider from the clinic discussed the dot phrases and what to include, then worked together to integrate the phrases into the electronic health record (EHR). The phrases were added to the EHR on October 15, 2018. The tobacco cessation dot phrase includes all necessary information for reimbursement purposes set forth by the Centers for Medicare and Medicaid Services (CMS), including time spent counseling the patient on tobacco cessation. The referral dot phrase simplifies documentation of the patient cessation plan in the EHR. Evaluation of Objective Three occurred via a discussion with providers to solicit feedback about the ease, use, and utility of the dot phrases in the electronic health record.

CHAPTER FIVE. RESULTS

This project is a multifaceted tobacco cessation and awareness project that was divided into two phases. The first phase included a pre-project and a post-project environmental assessment. The second phase included provider education regarding *Ask, Advise, Refer* and implementation of the project. The setting of the project was a rural North Dakota family practice clinic.

The environmental assessment form, Patient Tobacco Inventory Form, and the NDQuits fax referral form were used to collect information about the clinic environment and tobacco users that presented to the clinic. In phase one, the environmental assessment form was used to collect information about tobacco use messages patients were exposed to while at the clinic. The coinvestigator completed the environmental assessment form to assess the visibility of tobacco cessation information within the clinic. The first step of the project was an environmental assessment; after changes were made to the environment, a second assessment took place.

In phase two, consenting participants completed the Patient Tobacco Inventory Form (Appendix E). The purpose for the participants' clinic visit varied from acute illness management, chronic illness follow-up, or annual physical examination. Participants had an appointment with at least one of the three nurse practitioner providers at the clinic.

The intent of the Patient Tobacco Inventory Form was to collect information about participants' tobacco use and tobacco habits. The form consisted of five questions regarding the type of tobacco used, the frequency of tobacco use, personal interest, the importance of tobacco cessation, and the imminence of tobacco cessation. Twenty-one individuals chose to complete the Patient Tobacco Inventory Form. Participants who completed the form, as well as expressed an interest in tobacco cessation, received an invitation for referral to NDQuits. Fourteen

participants declined referral, and seven participants received a referral to NDQuits.

Demographic data was collected from participants referred to NDQuits. Of the seven completed referrals, four participants identified as female and three males, ranging in age from 20 to 59 years.

Objective One Results

Phase IA and IB

Objective number one was met. The first objective of the project was to create a clinic environment that promoted a tobacco -free culture. The environmental assessment form (Appendix G) allowed an organized method for scanning the environment for the presence of tobacco-free campus signage, patient education, and promotional materials about tobacco cessation. The initial environmental assessment was completed on August 14, 2018, which included a visual inspection of patient care areas inside and outside of the clinic building. Clinic patient flow has patients entering the clinic through a glass door, walking through a small entryway, and entering the clinic through a second glass door. Upon entering the clinic, the waiting area is directly to the patients' right, and the reception desk is to the patients' left. After the patients complete registration, they are directed to the waiting room until nursing staff call them. Nursing staff guide patients from the waiting area where they walk down a hallway and pass a patient bathroom before stopping at the scale to weigh. After weighing, patients proceed to one of four patient exam rooms. Beyond the exam rooms, there is a hallway leading to provider offices and a provider-only bathroom.

The clinic lacked smoke free signage inside and outside of the building. There were no ashtrays or receptacles for tobacco products outside the facility. The clinic did not have posters, tear-off sheets, or a written policy for a tobacco-free campus. *Five Smoke-Free North Dakota*

brochures from NDQuits were found in a non-patient use area located near the provider-only bathrooms. The brochure holder was on the wall facing the provider bathroom. The smoke-free information seemed randomly placed among other patient education brochures. The other brochures in the holder contained information about acute illness and chronic diseases, including diverticulitis, cholecystitis, and pancreatitis. There were 20 tobacco cessation cards on a small table directly to the right of the patient scale between patient exam rooms. No other tobacco cessation or tobacco-free resources for patients were observed in the patient waiting room or elsewhere in the clinic. The environmental assessment form and patient flow form is in Appendix G and H, respectively.

Phase IB

After initial evaluation of the environment, resources from NDQuits were ordered on August 20, 2018. After staff received the NDQuits brochures, tear-off sheets, palm cards, and posters, a repeat assessment of the environment was completed on September 4, 2018, using the environmental assessment form. Changes to the clinic environment included a “this is a smoke-free environment” window sign on the two main doors of the clinic. A *Tobacco-Free Campus* window cling was also present on the main door outside of the clinic. In the entryway of the clinic and between two glass doors, a single *ND Smoke-Free Law* brochure was found on a bulletin board. An NDQuits poster was present in the waiting room on the coffee table, strategically placed to be visible to all patients in the waiting room. New additions found in the clinic included two NDQuits displays and a wall poster with tear-off slips of paper containing information and contact numbers for NDQuits in the waiting room. Also new were 10 NDQuits patient information palm cards on the receptionist’s desk with an additional 20 behind the desk to replenish if needed. Furthermore, 20 NDQuits and 10 *ND Smoke-Free Law* brochures were in

the holders located next to the provider-only bathrooms. Each provider had an *NDQuits Pocket Guide* on the desk in the providers' personal office space. The completed pre and post implementation environmental assessment form can be found in Appendix I.

Phase IC

Providers and staff were presented with findings from Phase IA during a brief lunch meeting at the clinic. After discussion, providers and staff viewed available resources from NDQuits and requested pamphlets, cards, and brochures were ordered for the clinic. After integration of NDQuits resources into the clinic, providers and staff were presented with Phase IB results. The coinvestigator, providers, and staff discussed and compared the pre and post environmental assessments during the meeting.

Objective Two Results

Phase IIA

Objective two was met. The second objective was to improve the clinic approach for identifying and counseling tobacco users and referring patients interested in quitting to appropriate resources. Providers and clinic staff received information regarding *Ask, Advise, Refer*, which was the project approach for promotion of smoking cessation at the clinic. *Ask, Advise, Refer* is adapted from the 5 A's approach to brief behavioral intervention. Providers and staff received education about *Ask, Advise, Refer* and written examples of communication and counseling techniques using the *Ask, Advise, Refer* method in counseling tobacco users about cessation. Providers and clinic staff received education on the Patient Tobacco Use Inventory Form (Appendix E). Additionally, the education included instructions about integrating the form into patient visits by advising patients about tobacco cessation and the referral process for NDQuits. The educational presentation occurred during a scheduled one-hour meeting at the

clinic on August 14, 2018, over the lunch break. Following the education, providers and staff had the opportunity to ask questions and voice concerns. Providers and staff expressed approval and plans for engagement in the project.

Phase IIB

Twenty-one participants completed the Patient Tobacco Use Inventory Form over eight weeks. Completed patient inventory forms, NDQuits fax referral forms, and patient consent forms were stored in a folder in a locked drawer behind the check-in desk. The coinvestigator retrieved and sorted the completed tobacco inventory forms by participants who declined referral and those referred to NDQuits. Two thirds (n=14) of participants declined referral to NDQuits. Participant responses to the patient inventory form are summarized in Table 1.

Table 1

Non-referred participant responses to patient inventory form

Question	Possible Responses	Number of responses N=14	Total percent (%)
Do you use any type of tobacco products?	Every day	13	92.9
	Some days	1	7.1
	Never	0	0.0
What kind of tobacco products are you current using?	Cigarettes	10	71.4
	Cigars/Cigarillos	0	0.0
	Smokeless tobacco	2	14.3
	Electronic cigarettes	2	14.3
Are you interested in tobacco cessation?	Yes	4	28.6
	No	1	7.1
	Maybe	9	64.3

Table 1. *Non-referred participant responses to patient inventory form (continued)*

Question	Possible Responses	Number of Responses n=13	Total percent (%)
How important is it to you to quit using tobacco?	Very important	4	28.6
	Moderately important	3	21.4
	Slightly important	6	42.9
	Not at all important	0	0.0

One participant responded “no” when asked about interest in tobacco cessation. The participant stopped the patient inventory form at question three and did not answer the questions regarding interest in cessation or importance of cessation. Therefore, n=13 is used for two questions on the form, including the importance and imminence of cessation. Imminence of tobacco cessation responses of non-referred participants are summarized in Figure 1.

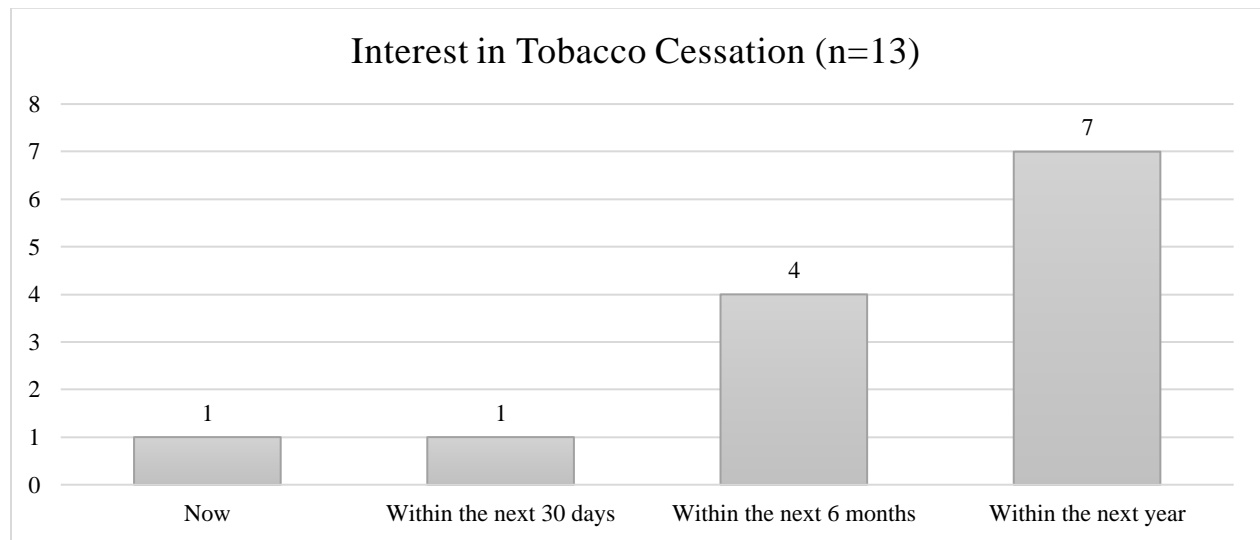


Figure 1. Imminence of interest in tobacco cessation in non-referred participants

One-third of participants (n=7) agreed to a referral to NDQuits. Inventory responses of referred participants are summarized in Table 2.

Table 2

Referred participant responses to patient inventory form

Question	Response	Number of respondents n=7	Total percentage (%)
Do you use any type of tobacco products?	Every day	6	85.7
	Some days	1	14.3
	Never	0	0.0
What kind of tobacco products are you current using?	Cigarettes	6	85.7
	Cigars/Cigarillos	0	0.0
	Smokeless tobacco	1	14.3
	Electronic cigarettes	0	0.0
Are you interested in tobacco cessation?	Yes	5	71.4
	No	0	0.0
	Maybe	2	28.6
How important is it to you to quit using tobacco?	Very important	2	28.6
	Moderately important	5	71.4
	Slightly important	0	0.0
	Not at all important	0	0.0

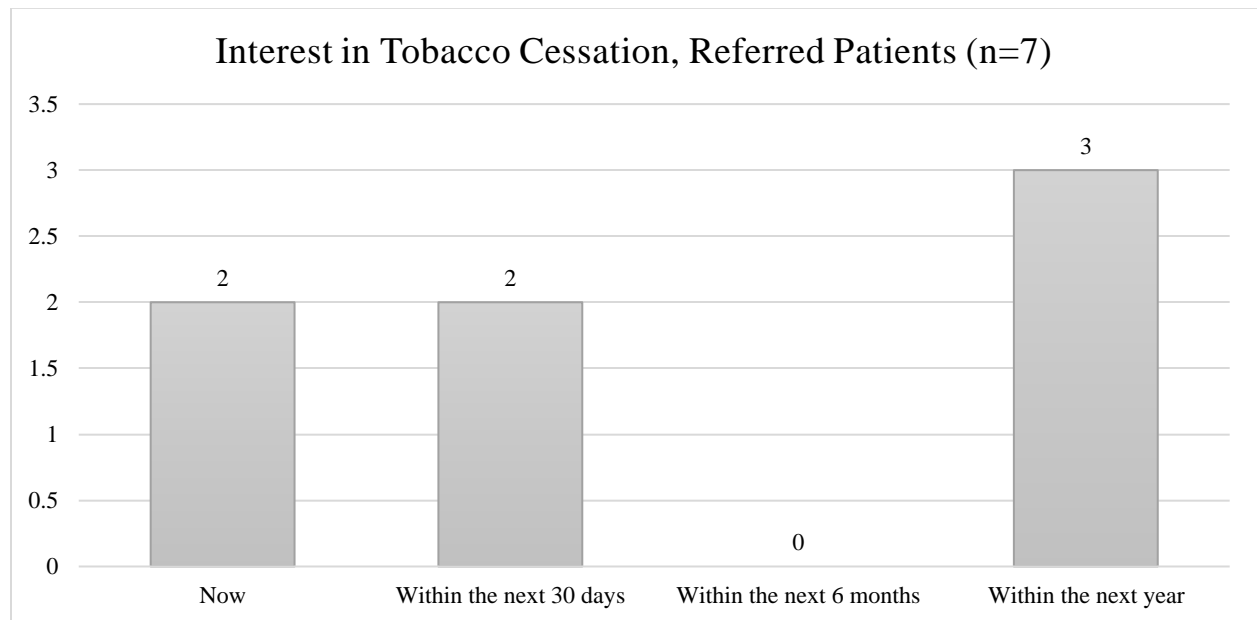


Figure 2. Imminence of interest in tobacco cessation in referred participants

Of the participants referred to NDQuits, two participants reported interest in cessation immediately, whereas one of the non-referred participants reported interest in cessation immediately. In both groups, the largest number of participants was interested in cessation within the next year. In non-referred participants, seven patients expressed an interest in cessation within the next year; three of referred participants expressed interest within the next year. Responses to the question regarding imminence of interest in tobacco cessation of referred participants are summarized in Figure 2.

The coinvestigator attempted follow-up phone calls to the seven individuals referred to NDQuits. The phone script used for phone calls is in Appendix M. One individual did not provide a phone number on the NDQuits fax referral form and, therefore, did not receive a call. Three attempts to contact a second individual went unanswered. Of the remaining five individuals, all reported a continued interest in tobacco cessation. Four individuals spoke with NDQuits staff as the result of the referral. One individual successfully stopped using smokeless tobacco for eight days. Three individuals denied a tobacco cessation attempt. However, one individual “cut back” on his tobacco use. Unfortunately, three individuals experienced lost phone contact with NDQuits prior to call completion due to poor wireless service in the area. One individual received a prescription for Chantix from their primary care provider, however, due to poor insurance reimbursement; the individual thought that the prescription was too costly. The individual planned to contact NDQuits for prescription assistance. The individual requested and received the NDQuits contact information during the follow-up phone call.

The clinic staff was contacted every two weeks via phone call or face-to-face interaction during the project to identify barriers and to answer staff or provider questions. The coinvestigator had informal discussions with clinic staff and providers regarding identification

and referral of tobacco users. Paraphrased and summarized feedback from the informal discussion with clinic providers and staff includes:

- Reception staff impression was the number of tobacco users identified during the project was not significantly different from prior to the project.
- Nursing staff report completion of the Patient Tobacco Inventory Form while waiting to be roomed provided additional time for the patient to think about tobacco use and tobacco cessation.
- Overall, staff reported they did not feel the number of referrals to NDQuits increased.

After implementation of the project was complete, staff and providers were invited via email to review project results during a lunch break session at the clinic on December 20, 2018. One provider, one receptionist, two registered nurses, and one certified nursing assistant attended the project results review. Two providers were not able to attend due to being on call at neighboring facilities. The clinic will continue to have the information regarding *Ask, Advise, Refer* and MI language for tobacco cessation as a reference for future use.

Objective Three Results

Project objective three was met. The aim of objective three was to simplify provider documentation of tobacco identification, cessation counseling, and referral to appropriate resources. The clinic uses an electronic medical record; therefore, creation of documentation short cuts with two dot phrases abbreviated and simplified provider documentation. Providers are able to edit the dot phrases to individualize patient information, as well as the amount of time spent on tobacco cessation counseling. The first dot phrase allows the provider to document the patient was asked about tobacco use and advised to quit. The dot phrase also includes how much

time the provider spent counseling the patient. The second dot phrase simplifies documenting for patients referred to NDQuits. To use the dot phrases, provider type the phrase .tobaccoaccess and .tobaccorefer, respectively; the phrase then automatically populates into the chart. Dot phrases can be found in Appendix N. Further, providers received the appropriate Current Procedural Terminology (CPT) codes for tobacco cessation counseling.

Providers at the clinic reported integration of the dot phrases into the electronic health record after implementation of the project. After the dot phrases were placed into the electronic health record, providers reported increased documentation of tobacco cessation counseling and tobacco cessation referrals. Providers deny any noticeable change in reimbursement at this time related to the short duration of the project implementation.

CHAPTER SIX. DISCUSSION AND RECOMMENDATIONS

Promoting Tobacco Cessation in a Rural Clinic

Tobacco use in the United States is a major health concern, economic concern, and community concern. Nationwide, 17.1% of Americans report tobacco use; in North Dakota, tobacco use rates are even higher at 19.8% (Truth Initiative, 2018). Due to the high rates of tobacco use, primary care providers must be prepared to help patients on their tobacco cessation journey. The American Academy of Family Physicians (AAFP) has encouraged providers to treat tobacco dependence by using a modified version of the evidence-based 5 A's, also known as *Ask, Advise, Refer* (2017). Providers are encouraged to ask all patients about tobacco use, advise on cessation, and refer to appropriate cessation resources. Quit lines are a common and effective referral resource that provide tobacco cessation counseling and interventions for tobacco users (North American Quitline Consortium, 2010). Provider-driven referrals, referrals in which the provider completes necessary paperwork and provides the quit line with the patients' information, increase the likelihood that a contact will be made (WHO, 2011).

Discussion and Interpretation

The objective of the pilot project was to create an environment that reflected a tobacco-free culture, and to create a system change that improved the clinic approach for identifying patients' tobacco use, promoting tobacco cessation, and creating a referral process. The third objective was to simplify provider documentation of tobacco cessation counseling and referral. Use of the AAFP (2017) *Treating Tobacco Dependence Practice Manual*, a systems change approach, guided project design. Specifically, the *Ask, Advise, Refer* approach provided an organized method of ensuring "that every patient who uses tobacco is identified, advised to quit,

and is offered evidence-based treatments” (AAFP, 2017, p. 2) to aid clinic providers and staff. The project was implemented in a rural North Dakota clinic in the fall of 2018.

Objective One

Objective one encompassed creating a clinic environment that promoted a tobacco-free culture. NDQuits supplies tobacco cessation resources free of charge, however, the clinic had not taken advantage of the benefit upon implementation of the project. The AAFP tobacco inventory form allowed a structured approach to conduct an environmental assessment and identification of areas in need of improvement. The pre-project clinic environment did not reflect a tobacco-free culture or messages about how tobacco use affects health and well-being.

The first step of the Iowa Model for Evidence-Based Practice is recognition of opportunities for improvement. Analysis of the information gathered via the tobacco inventory supported the hypothesis that the clinic tobacco culture needed several changes. The coinvestigator sought to create an environment that reflected the clinic’s tobacco-free stance by adding visual cues and patient tobacco educational materials. The second step in the Iowa Model is prioritizing the proposed change and assembling a team. The newly assembled team of clinic staff and providers chose NDQuits resources to order and later placed the resources within the clinic. After placement of posters, referral cards, and brochures, the team verbalized that the clinic environment appeared more conducive to encouraging patients to consider personal tobacco use and to contemplate tobacco cessation.

According to the World Health Organization (WHO), there are two distinct methods to connect patients with tobacco cessation referral resources. The first is a patient-driven referral (2011). A patient-driven referral involves having cessation resources available and accessible so that patients can self-refer. Resources may include contact cards or informational brochures,

with an email address, web page address, or phone number so that individuals can contact referral organizations (WHO, 2011). The new tobacco-free environment provides visual cues to encourage patients in the precontemplation stage of the TTM to move into the contemplation stage and find their motivation for cessation. Important to note, TTM is a fluid process and individuals can move back and forth between stages at various times in their cessation journey.

The coinvestigator re-inventoried the redesigned environment after the intervention, which is the next step in the Iowa Model of Evidence-Based Practice. The second inventory included a visual inspection of the clinic based on patient flow. All patients enter the clinic through the main visitor door in the front of the building. Upon entry, patients walk through a small entryway that connects to a second main visitor door prior to checking-in at the reception desk. The smoke free environment signs and the tobacco-free campus window cling are now visible to all patients entering the clinic. The ND *Smoke-Free Law* brochure placed in the entryway, among other tobacco resources, is easily visualized by all who enter the clinic.

Once in the clinic, all patients register at the front desk with the receptionist. The palm cards are conveniently found in the window at the front reception desk. The palm cards are an added cue for patients to begin thinking about tobacco cessation, even if patients choose not to take a card. After registering for an appointment, most patients remain in the waiting room until taken to an exam room. In plain sight, tear-off sheets of paper with smoking cessation information are strategically placed on the coffee table that sits in the center of the waiting room. These tear-offs further entice patients to start thinking about their tobacco use and the possibility of future cessation (North Dakota Department of Health [NDDoH], 2018).

In a study investigating whether patients read patient health information materials, such as those placed in the clinic, results indicated individuals are receptive to informative brochures

and pamphlets (Moerenhout et al., 2013). Of the 852 participants in the study, 94% reported reading the patient health information materials found throughout health care facilities (Moerenhout et al., 2013).

The next step in the Iowa Model is to integrate and sustain the change. The coinvestigator had an informal discussion with staff and providers about the redesigned tobacco-free culture in the clinic. Discussion included the possibility of engaging an individual in the clinic as the “tobacco cessation champion” responsible for ensuring tobacco cessation resources are reordered and available to patients. Providers and staff reported plans to support an environment that promotes tobacco cessation and will ensure that there is a multitude of printed resources available for patients.

Objective One limitations. Success and completion of objective one was not without limitations. There continues to be several areas of missed opportunity for tobacco cessation resources within the clinic, specifically, in the patient bathrooms, the hallway walls on the way to patient exam rooms, and the exam rooms themselves. Three of the four exam rooms are designated adult exam rooms at the clinic. The exam rooms lack significant counter space for tobacco cessation resources and the walls do not have posters on them of any kind. Patients rarely travel past the provider bathrooms, thus are unlikely to see the patient brochures in the wall rack just past the bathroom. Providers often take brochures from the wall rack and give them to patients; however, access to the brochures would improve if placed in a patient traffic area. Despite limitations, the success and perceived ease of sustainability of the tobacco-free culture by providers and staff in the clinic is positive and encouraging.

Objective Two

The second project objective encompassed a process change that included the *Ask, Advise, Refer* approach to promote tobacco cessation. *Ask*: At registration, the receptionist asked consenting patients to complete the Patient Tobacco Inventory Form. *Advise*: The providers counseled patients on tobacco cessation. *Refer*: Patients interested in quitting tobacco products received a formal referral to NDQuits. The *Ask, Advise, Refer* process promotes provider-driven referral (WHO, 2011). In provider-driven referrals, the patient does not have to make the first call, which may improve contact between patient and quit line personnel (WHO, 2011). Unfortunately, very few patients chose to complete the inventory and accept a referral to a quit line. However, patients who chose to participate indicated they were contemplating cessation. According to the CDC, as well as the American Lung Association, two out of three smokers are interested in tobacco cessation (2017; 2017). In this project, twenty out of twenty-one participants (95.2%) identified as *interested* or *possibly interested* in cessation.

The clinic did not have a clearly defined method to ask about tobacco use, discuss cessation, and refer patients interested in cessation, identifying an opportunity for improvement, the first step in the Iowa Model. The coinvestigator met with the provider and staff team to educate the team about the project, as well as the *Ask, Advise, Refer* approach. Education included the importance of an evidence-based approach, such as *Ask, Advise, Refer*. Providers and staff agreed to the project, and a plan for implementation.

Seven of the 21 participants consented to a formal referral to NDQuits. Six of seven, participants referred to NDQuits were successfully contacted for a follow-up telephone call. Based on personal conversations with six referred participants, the largest issue for referrals included poor cell phone reception and resultant dropped calls when speaking to NDQuits staff.

The WHO found that an average of 60% of persons referred to quit lines had contact with quit line staff post referral (2011).

Providers and staff had mixed reviews about the impact the project had on everyday practice within the clinic. Providers reported improved understanding of the *Ask, Advise, Refer* process, as well as improved access to cessation resources. Staff and providers conjectured that the number of referrals to NDQuits did not rise because of the project. Unfortunately, the number of referrals prior to the project is not known, therefore a statistical analysis of the effect of the project on the number of referrals is not possible. Collection of referral information for three to six months prior to project implementation may have allowed for better evaluation of project success.

After completion of the project implementation phase, the team met to discuss the project at an informal lunch hour meeting in December 2018. One nurse practitioner, two registered nurse, one certified nursing assistant, and one reception staff were present at the meeting during which the coinvestigator answered questions and addressed concerns the staff and providers had about the project. The team discussed project sustainability and continued tobacco cessation promotion at the clinic. Dissemination is discussed in greater depth in the dissemination section of this chapter.

Objective Two limitations. There were several limitations in achieving success of objective two. The first limitation is the lack of data obtained due to the small sample size. Despite there being a population of patients seen at the clinic who use tobacco products, twenty-one individuals chose to take part in the study. Half of North Dakota residents live in rural communities and rural residents are more likely to use tobacco products (NDDoH, 2018). Additionally, only seven of 21 participants were referred to NDQuits. Due to the lack of data

obtained prior to implementing the project, it is difficult to ascertain if the number of individuals referred to NDQuits increased as a result of the project. Although the sample size was small, there was success with those who chose referral to NDQuits. All individuals who chose to participate in the project were offered evidence-based counseling for tobacco cessation. Another limitation within the project was the small sample size of the clinic staff and providers. If the project had been conducted over several months, or at multiple locations, there would have been more participants and data yielded.

Another limitation was the difficulty in reaching participants referred to NDQuits. The coinvestigator made follow-up phone calls with a personal cell phone with a North Dakota area code. The Federal Communications Commission has urged individuals not to answer phone calls from telephone numbers that they do not recognize to reduce the risk of becoming a victim of a scam (2018). One way to increase the likelihood of individuals answering the call may have been to present the number that would be contacting them on the consent form so participants would know whom the phone call was coming from. Not only was there difficulty in reaching participants by the coinvestigator, the concern of dropped calls also created a limitation in reaching participants. The dropped calls may have contributed to participants not receiving the contact necessary to be successful in tobacco cessation.

The success of objective two was also limited by not addressing alternative treatment options for tobacco cessation. In addition to asking and advising, behavioral therapy and pharmacotherapy in combination have been shown to be effective for tobacco cessation (Stead, Koilpillai, Fanshawe, & Lancaster, 2016). The Patient Tobacco Inventory Form, or the electronic health record, could have an added question about interest in either, or both, options for tobacco cessation.

Additionally, participation from clinic staff presented a limitation in piloting the system change. The coinvestigator was able to provide impromptu education to staff intermittently throughout the implementation of the project. During informal staff discussion with the coinvestigator, staff reported they were more likely to encourage patient participation in the study when the coinvestigator was available. Support staff suspected that if the coinvestigator had been available to administer the patient inventory forms and to answer patient questions, there might have been greater participation. Another way to address the limitation of coinvestigator unavailability may have been to engage one or more individuals working at the clinic as “tobacco cessation champion(s)” who could take on the lead role during the project.

The timing of the project may have played a role in low participation by staff. A part of the project took place between October and January, “flu season,” so there was increased traffic throughout the clinic. The increased volume of individuals entering and leaving the clinic each day for flu vaccine injections made the added step of administering the Patient Tobacco Inventory Form to patients more difficult and increased the workload for staff and providers. By altering the initiation of the project to a less “busy” season, the clinic may be able to become acclimated to the change and be more likely to follow the project plan and incorporate it into practice. Alternatively, implementing the project during flu season may have been practical timing. The increased traffic in the clinic may have resulted in heightened patient exposure to the recently added visual cues. Additionally, individuals who use tobacco products are at increased risk for hospitalization and complications from influenza infection (Godoy et al., 2016). Complications include, but are not limited to, pneumonia, septic shock, and multisystem organ failure (Godoy et al., 2016). Thus, it is essential for tobacco users to receive the influenza vaccine and further consider tobacco cessation. Preparing the clinic staff and providers for the

increased traffic while emphasizing the impact influenza can have on tobacco users may help address difficulty staff saw in the additional steps with implementation.

The final limitation that may have inhibited the success of the pilot project was the time allotted for project implementation. The expected length of implementation was one month, however, at one month there was insufficient participation. Lack of participation called for an extension of the project; the extension granted was four weeks. The coinvestigator met informally with staff on multiple occasions to encourage support and participation. To achieve meaningful outcome data, three months or longer would be ideal. Furthermore, follow-up phone calls with patients to discuss cessation efforts six months after implementation may have provided additional insight about the participants' and the project's success. An evaluation plan to assess the long-term project impact could have been built into the project and completed by clinic staff to provide feedback about success. The lack of a pre-implementation chart review of tobacco use in the clinic population also limits the ability to measure long-term impact of the project.

Objective Three

The final project objective set out to create an efficient method of documentation of tobacco cessation counseling in the patients' medical records. Tobacco cessation counseling can be time consuming for the provider, creating an opportunity for improvement. To combat the difficulty of documentation, the coinvestigator and a provider discussed requirements and what may be beneficial to include in the *dot phrase*. The Centers for Medicare and Medicaid Services (CMS) website was used to identify required information for documentation. The coinvestigator then added two *dot phrases* into the electronic health record to streamline provider

documentation. The coinvestigator trained providers on use of the *dot phrases* and discussed the rationale for documenting tobacco cessation counseling.

Feedback from providers about the dot phrases included: “I feel like I can now document that I discussed tobacco cessation with patients without it taking such a long time. Patients benefit too because I am no longer worried about time for documenting.” Additionally, providers received information about insurance reimbursement benefits of accurate documentation for tobacco cessation counseling. Providers verbalize plans for continued use of the dot phrases in daily practice.

Objective Three limitations. The main limitation in measuring the success of objective three was that providers were not surveyed about use or efficiency of use of the dot phrases. For a retrospective review, support from the organization’s informational technology staff, approval from NDSU IRB to amend the protocol, as well as consent of the clinic administration and providers would need to be obtained. A retrospective review nor ongoing data collection was not feasible given the steps required and time constraints. Data collected on the number of times a provider used one or both of the dot phrases in the EHR would have allowed for objective evaluation of objective three outcome. Moreover, provider use of CPT codes 99406 and 99407 (smoking and tobacco use cessation counseling visit) would have informed clinic administration and providers about the financial implications of documenting tobacco counseling in the EHR.

Recommendations for Project improvement

A recommendation for future tobacco cessation projects is to enlist a “tobacco cessation champion” or project leader at the clinic. The champion should receive training, online or in person, on tobacco cessation and the responsibilities of the role. The AAFP, the CDC, the American Lung Association, and a multitude of other organizations offer education and support

for the office champions. Responsibilities of the tobacco cessation champion could include advocating and maintaining a tobacco-free environment, ordering and restocking educational material and visual cues, oversight of referrals to a Quitline, organizing support groups; becoming the ‘go-to’ person for tobacco cessation questions or concerns at the clinic.

Encourage healthcare organizations to make tobacco cessation a priority. Use of a tool like the Patient Tobacco Inventory Form, can prompt patients and providers to have a conversation about tobacco use and interest in cessation. Patients should be asked about their tobacco use at each clinic visit, advised to quit and provided with the tools and support to quit. Future projects could include a treatment component, including behavioral and pharmacologic therapy. Pharmacotherapy in combination have been shown to be effective for tobacco cessation. Stead, Koilpillai, Fanshawe, and Lancaster (2016) found that the addition of behavioral therapy and/or pharmacotherapy to asking and advising to be effective.

An additional recommendation includes adding the telephone number of the person making the follow-up call on to the Patient Tobacco Inventory Form. Making individuals aware of the number of the caller may increase the likelihood that patients will answer the call. The importance of follow-up cannot be understated, as contact is another opportunity to consider tobacco use and the next stage of change.

To address the issue of dropped phone calls and reluctance to answer the phone if the caller is unknown, I would recommend adding questions to the Patient Tobacco Inventory Form about the patient’s preferred method of contact, the best time to contact, and if communication via text message or other electronic means would be acceptable to the patient. If available, contact via messaging programs connected to the EHR, allow another layer of security and confidentiality. Dropped calls and the unreliability of cell phone service may continue to be

problematic for research in rural communities, therefore securing information from the patient about preferred and alternative methods of communication could prove invaluable.

Another recommendation for future projects, track documentation of tobacco cessation counseling and reimbursement, not only to quantify project outcomes, increased income may incentivize providers and clinic administration. Include an IT person on the project team or as a consultant to assist with data collection from the EHR. Data collection should include tracking provider documentation, coding, and reimbursement.

Implications for Advanced Practice Nursing

Tobacco use is a major health problem despite the known impact tobacco use has on individuals, families, and communities (Laurant et al., 2018). In 2015, there were 990.8 million physician office visits in the United States; 51% of visits were to primary care providers (National Center for Health Statistics, 2015). Nurse Practitioners are more likely to practice in rural and underserved areas than other primary care providers are, in fact, one in four primary care providers in rural communities are nurse practitioners (Parry, 2018). A systematic review found nurse practitioners spend more time with patients and have higher patient satisfaction scores than physicians (Laurant et al., 2018).

Nurse practitioners in the primary care setting are a force to promote evidence-based practice and NPs excel in health promotion and disease prevention. Tobacco cessation results in improved health and prevention of disease. The emphasis placed on patient-centered and individualized care is a true attribute of the nurse practitioner model of care. Individualization of patient care is essential as tobacco cessation success. The motivation for quitting is as individual as the tobacco user. The NDDoH has taken on the task of decreasing tobacco use and increasing tobacco quit rates and encouraging tobacco cessation across the state. NDQuits, a subdivision of

NDDoH, is the preferred referral method for the North Dakota Comprehensive Tobacco Prevention and Control State Plan (2018). The project and continued implementation are consistent with the NDDoH aims to improve tobacco use rates and cessation in the state of North Dakota.

Tobacco use is an independent quality measure monitored by the Centers for Medicare and Medicaid Services, but also is a quality measure in other disease processes, including diabetes and vascular management (Institute for Clinical Systems Improvement, 2018). When patients use tobacco products and have comorbid conditions, reimbursement from the employer, CMS, and/or private insurance agencies is affected (Institute for Clinical Systems Improvement, 2018). Encouraging tobacco cessation continues to be important for patient health outcomes, but also for quality measures for providers.

Dissemination

The last step in the Iowa Model of Evidence-Based Practice is dissemination (Melnyk & Fineout-Overholt, 2015). By disseminating results, adoption of evidence-based practice and advancement of professional practice is encouraged (Melnyk & Fineout-Overholt, 2015). The coinvestigator presented the project results to staff and providers at a scheduled lunch meeting and in informal individual conversations.

The coinvestigator will present a poster on the project at an NDSU poster session in the spring of 2019 in Fargo, ND. The NDSU poster session is an event at which undergraduate nursing students and DNP students present evidence-based practice and practice improvement projects to classmates, preceptors, nurses, administrators, and individuals from the community who are interested in NDSU Nursing projects. Additionally, the coinvestigator will apply to present a poster at the 2019 North Dakota Nurse Practitioner Association pharmacology

conference. The conference is an ideal place to disseminate results, as the conference has an annual attendance of more than 300 NPs annually, and the majority of NP attendees practice in North Dakota. The focus of dissemination of the project results attempts to encourage potential future implementation of similar system change projects at primary care facilities.

Seventy percent of tobacco users see a provider each year and 51.5% of all physician visits are to primary care providers (AAFP, n.d.; National Center for Health Statistics, 2015). Thus, family practice providers have a wonderful opportunity to make a difference on their patients' tobacco use (AAFP, n.d.). In fact, 42,000 lives could be saved if providers would advise 90% of smokers to quit using and offer them medication or additional assistance (AAFP, n.d.). The tobacco use issue in the United States must be a priority and the state of North Dakota must continue to work towards becoming a tobacco-free state.

Conclusion

The primary objective of the project was to develop a tobacco-free culture in which tobacco identification, advisement, and referral for patients was a priority. The assessment of the environment and obtainment of tobacco cessation resources created a more positive environment that encourages individuals to begin thinking about tobacco use and cessation. The patient inventory form stimulated patients to identify their own tobacco use and consider future cessation. Although the number of participants and compliance with the project was lower than anticipated, patients were consistently asked about their tobacco use and providers received education on the importance of advising patients on cessation. The *Ask, Advise, Refer* protocol will continue to be a useful tool in the clinic; providers and staff have been encouraged to continue using the *Ask, Advise, Refer* method as a guide for identification of tobacco use and promoting cessation. The project has concluded that providers and staff are competent in

continuing to ask patients about tobacco use, provide advice for cessation, and encourage referral for assistance in cessation efforts. Further, patients will continue to be exposed to positive messages regarding tobacco cessation as they move throughout the clinic and will be knowledgeable about their resources for cessation.

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APPENDIX A. IRB APPROVAL



August 13, 2018

Dr. Tina Lundeen
School of Nursing

IRB Approval of Protocol #PH19018, "Promoting Tobacco Cessation in a Rural North Dakota Family Practice Clinic"

Co-investigator(s) and research team: Taylor Mueller

Protocol Reviewed: 8/7/2018 Protocol Expiration: 8/6/2019
Continuing Review Report Due: 7/1/2019

Research site(s): CHI Washburn Family Clinic Funding Agency: n/a
Review Type: Expedited category # 7

IRB approval is based on the protocol submission (received 7/27/2018). Please utilize the approved consent form submitted on 7/27/2018.

Additional approval from the IRB is required:

- o Prior to implementation of any changes to the protocol (Protocol Amendment Request Form).
- o For continuation of the project beyond the approval period (Continuing Review Report Form). A reminder is typically sent approximately 4 weeks prior to the expiration date; timely submission of the report the responsibility of the PI. To avoid a lapse in approval, suspension of recruitment, and/or data collection, a report must be received, and the protocol reviewed and approved prior to the expiration date.

Other institutional approvals:

- Research projects may be subject to further review and approval processes.

A report is required for:

- o Any research-related injuries, adverse events, or other unanticipated problems involving risks to participants or others within 72 hours of known occurrence (Report of Unanticipated Problem or Serious Adverse Event Form).
- o Any significant new findings that may affect risks to participants.
- o Closure of the project (Protocol Termination Report).

Research records are subject to random or directed audits at any time to verify compliance with human subjects protection regulations and NDSU policies.

Thank you for cooperating with NDSU IRB procedures, and best wishes for a successful study.

Sincerely,

A handwritten signature in purple ink that reads "Kristy Shirley".

Kristy Shirley, CIP, Research Compliance Administrator

For more information regarding IRB Office submissions and guidelines, please consult www.ndsu.edu/irb. This Institution has an approved FederalWide Assurance with the Department of Health and Human Services: FWA00002439.

INSTITUTIONAL REVIEW BOARD

NDSU Dept 4000 | PO Box 6050 | Fargo ND 58106-6050 | 701.231.8995 | Fax 701.231.8098 | ndsu.edu/irb

Shipping address: Research 1, 1735 NDSU Research Park Drive, Fargo ND 58102

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**APPENDIX B. PERMISSION TO USE THE IOWA MODEL OF EVIDENCE-BASED
PRACTICE**

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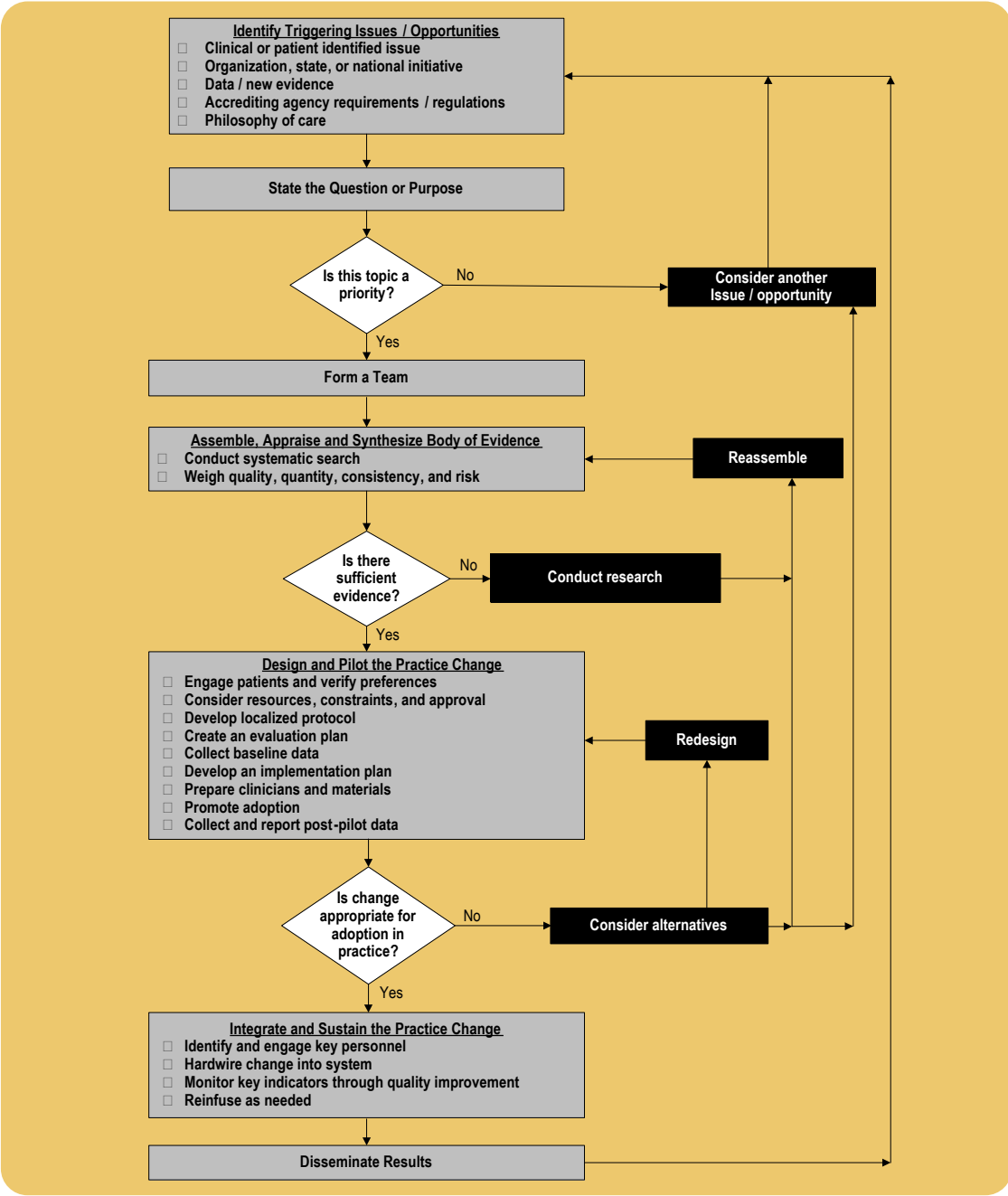
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Please contact UIHCNursingResearchandEBP@uiowa.edu or 319-384-9098 with questions.

APPENDIX C. THE IOWA MODEL REVISED

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



APPENDIX D. CONSENT FORM



Department of Nursing
1919 University Drive North, D102
Fargo, ND 58108-6050
701-231-7395

Promoting Tobacco Cessation in a Rural North Dakota Family Practice Clinic

This study is being conducted by: Taylor Mueller, NDSU DNP Student (701-226-5778, taylor.bethke@ndus.edu) and Dr. Tina, Lundeen, DNP, FNP-BC (701-231-7747, tine.lundeen@ndsu.edu).

Key Information about this study:

This consent form is designed to inform you about the study you are being asked to participate in. Here you will find a brief summary about the study; however, you can find more detailed information later on in the form.

- This is a voluntary study regarding tobacco use in rural North Dakota.
- You can participate if you are over the age of 18 years old and use any type of tobacco product.
- If you are interested in tobacco cessation, the information you provide on the following form will be used for referral to the NDQuits organization.
- Your name and phone number will be used to perform a follow up phone call in one month to identify if you have been called by NDQuits and to ask you if you have been successful in quitting tobacco for one day.
- Your name and phone number will be seen only by the individual conducting the study and will be destroyed after completion of the study.

Why am I being asked to take part in this study?

Quitting tobacco use is a difficult task and many individuals require some type of assistance in order to be successful. The study is seeking to promote tobacco cessation in the rural community clinic in which you are being seen. The study is looking to identify the number of tobacco users that are being seen and to create a process that makes referral to cessation resources easier. You are being asked to participate in this study as you have been identified as a tobacco user who is over the age of 18.

What will I be asked to do?

You are asked to complete the patient inventory form. You will then talk to the clinic staff regarding if you are interested in quitting tobacco use. If this is something that interests you, the staff will complete the NDQuits referral form, fax the form to them and the NDQuits organization will contact you by phone to assist you in quitting efforts.

Where is the study going to take place, and how long will it take?

The patient inventory form for you to fill out will take approximately 3 minutes and can be done before the nurse takes you into the patient room.



What are the risks and discomforts?

There are minimal risks to patients and providers associated with the study.

It is not possible to identify all potential risks in research; however, reasonable safeguards have been taken to minimize known risks. If new findings develop during the course of the research which may change your willingness to participate, we will tell you about these findings.



What are the expected benefits of this research?

Individual Benefits: You will receive access to the NDQuits organization and resources by participating in the study. You will also receive the support of the NDQuits organization for tobacco cessation.

Do I have to take part in this study?

Your participation in this research is your choice. If you decide to participate in the study, you may change your mind and stop participating at any time without penalty or loss of benefits to which you are already entitled.

What are the alternatives to being in this study?

Instead of being in this research, you may choose not to participate.



Who will have access to my information?

The information you provide today on the patient inventory form will be seen only by the coinvestigator of the study. If you decide you are interested in quitting tobacco use and would like referral to the NDQuits organization, they will be given your name and phone number to contact you and provide you with resources and assistance for cessation. Your personal information will not be used for data analysis, within the results of the study or for presentation

purposes. Your personal information will be destroyed upon completion of the study in approximately one month.

How will my information be used?

Your information will be used to for the NDQuits organization to contact you and for the coinvestigator to perform one follow up phone call to identify if you were able to quit using your chosen tobacco product for at least one day. Your information will be destroyed upon completion of the study.

? What if I have questions?

Before you decide whether you'd like to participate in this study, please ask any questions that come to mind now. Later, if you have questions about the study, you can contact Tina Lundeen at 701-231-7747 or tina.lundeen@ndsu.edu, or Taylor Mueller at 701-226-5778 or taylor.bethke@ndus.edu

What are my rights as a research participant?

You have rights as a research participant. All research with human participants is reviewed by a committee called the *Institutional Review Board (IRB)* which works to protect your rights and welfare. If you have questions about your rights, an unresolved question, a concern or complaint about this research you may contact the IRB office at 701.231.8995, toll-free at 855-800-6717 or via email (ndsu.irb@ndsu.edu).

Documentation of Informed Consent:

You are freely making a decision whether to be in this research study. Signing this form means that

- 1. you have read and understood this consent form
- 2. you have had your questions answered, and
- 3. you have decided to be in the study.

You will be given a copy of this consent form to keep.

Your signature

Date

Your printed name

Date

Signature of researcher explaining study

Date

Printed name of researcher explaining study

APPENDIX E. PATIENT INVENTORY FORM

1. Do you use any type of tobacco products?

- Every day
- Some days
- Never


*If you answered, *Every day* or *Some days*, please continue.

2. What kind of tobacco products are you currently using?

Product	Yes	No
Cigarettes		
Cigars/Cigarillos		
Smokeless tobacco (chew, snuff, dip)		
Electronic Cigarettes (E-cigarettes)		

3. Are you interested in quitting tobacco?

- Yes
- No
- Maybe

*If you answered *NO* to question 3.  here.

3. If you answered *yes* or *maybe* to question 3, how soon would you like to quit using tobacco?

- Now
- Within the next 30 days
- Within the next 6 months
- Within the next year

4. How important is it to you to quit using tobacco?

- Very important
- Moderately Important
- Slightly important
- Not at all important

APPENDIX F. NDQUITS REFERRAL



NDQUITS REFERRAL
 NORTH DAKOTA DEPARTMENT OF HEALTH
 TOBACCO PREVENTION AND CONTROL
 SFN 59499 (4-2016)



**Please fax to NDQuits 1.855.997.8487 (1-855-99 QUITs) or NDHIN Direct e-mail
 NDDOH.NDQuits@direct.nddoh.ndhin.com**

REFERRING PROVIDER INFORMATION			Date Fax or Direct E-mail Sent	
			Telephone Number	
Provider Name		NDHIN Direct E-mail Address (see pg 2 for details)		County
Name of Clinic/Facility		City	State	ZIP Code
		Fax Number		

You may receive an Outcomes Report via fax documenting results of your patient referral to the program. In order to receive a Participant's Outcome Report, you must be a HIPAA-Covered Entity. Please complete the information below to receive an Outcomes Report:

I am a HIPAA-Covered Entity: (Please check one) Yes No I Don't Know

PATIENT INFORMATION

Patient Name		Date of Birth	Gender <input type="checkbox"/> Male <input type="checkbox"/> Female	Pregnant? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Address		City	State	ZIP Code
Best Telephone Number to Call: <input type="checkbox"/> Cell <input type="checkbox"/> Home <input type="checkbox"/> Work		Alternate Telephone Number to Call: <input type="checkbox"/> Cell <input type="checkbox"/> Home <input type="checkbox"/> Work		
What is the best time of day for NDQuits to call you?		Language <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> ASL <input type="checkbox"/> Other (specify): _____		

NDQuits is open 7 days a week and call attempts are made during the hours of 7:00am to 9:00 pm CT.

MEDICATION CLEARANCE (to be completed by provider)

Patient is approved to use over-the-counter Nicotine Replacement Therapy, if deemed eligible to receive medications from the NDQuits program. Please see list of contraindications and useful information on Page 2.
 Yes No

CONSENT AND AUTHORIZATION TO RELEASE INFORMATION (to be completed by patient)

I, the above-named:

Hereby authorize my provider and clinic or hospital to release the information provided in this form to NDQuits.
 Confirm that I am ready to quit using tobacco within the next 30 days or have recently quit. I authorize NDQuits to contact me to help me with my quit.
 Authorize NDQuits to send a note back to my provider to identify the status of my enrollment.
 Understand that this information will be treated professionally and confidentially in accordance with federal and state regulations.
 Confirm that my provider has discussed the risk of medication if medical clearance has been provided above.

_____ (Initial) I give permission to the program to leave a message when contacting me.

This consent is subject to written revocation at any time except to the extent that action has already been taken upon this consent. This consent will automatically expire 6 months from date of signature below. NDQuits services will not be provided without signature on this form and a copy provided to the program.

Patient Signature <input type="checkbox"/> Electronic verbal consent on file with referring provider (for Direct e-mail only)		Date
Witness		

This faxed information is intended only for the use of the individual or entity to which it is addressed and contains information that is confidential. Furthermore, this information may be protected by Federal law relating to confidentiality (42 CFR Part 2) prohibiting any further disclosure. If the reader of this message is not the intended recipient or the employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that any review, dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and destroy the original message. Thank you.

APPENDIX G. ENVIRONMENTAL ASSESSMENT FORM

What	Present		Waiting Room		Exam Room		Other areas	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Poster								
Tear off Sheet								
Brochures								
Wallet Cards								
Palm Cards								
Fold over Cards								

Other environmental scan findings:

- 1. Is there smoke-free signage inside the building?**
- 2. Are there smoke-free signs on all doors on the building?**
- 3. Are there ashtrays and other receptacles for tobacco products outside the facility?**

(Buettner-Schmidt, Miller, Maack, Orr, & Mills, 2017)

APPENDIX H. EVALUATION OF PATIENT FLOW

1. Where do patients check in when they walk into the clinic? What do they see as they walk into the clinic in regard to tobacco use?
2. What do patients see prior to going into the exam room? What do patients see in the exam room?
3. What questions are being asked while the patient's vital signs are being taken?
4. What information is gathered prior to being seen by the provider?
5. How do providers evaluate tobacco use? How do they support cessation?
6. How is tobacco cessation documented?
7. What is in place to remind providers to address tobacco use and encourage cessation?
8. How do patients exit the clinic? Do they stop to speak with staff prior to leaving?

APPENDIX I. COMPLETED ENVIRONMENTAL ASSESSMENT FORM

What	Present		Waiting Room		Exam Room		Other areas	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Poster								
Tear off Sheet		X		X				
Brochures	X	X		X			X	X
Wallet Cards	X	X	X	X				X
Palm Cards		X		X				X
Fold over Cards		X						

Other environmental scan findings:

- 1. Is there smoke-free signage inside the building?**

Pre: NO

Post: YES

- 2. Are there smoke-free signs on all doors on the building?**

Pre: NO

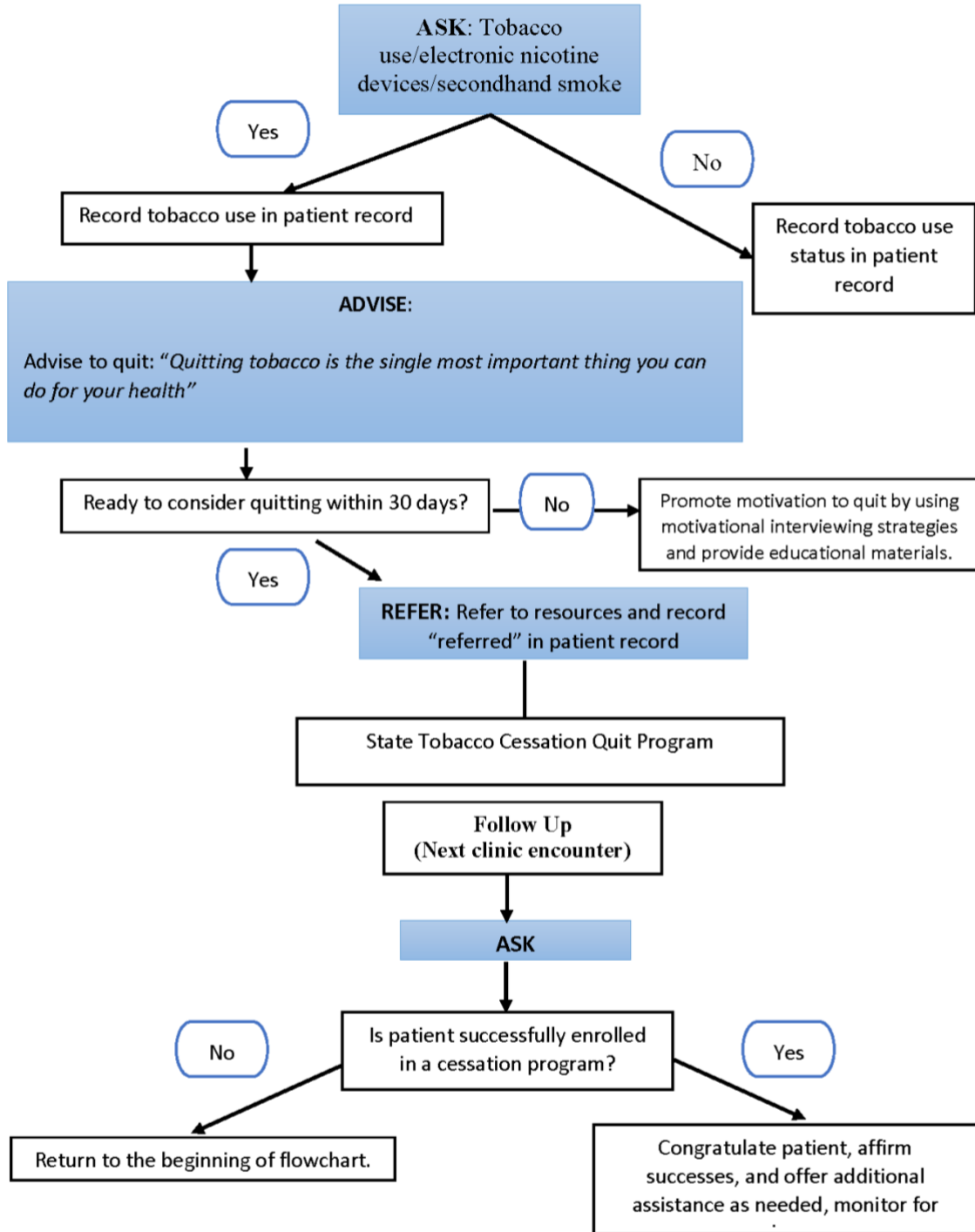
Post: YES

- 3. Are there ashtrays and other receptacles for tobacco products outside the facility?**

Pre: NO

Post: NO

APPENDIX J. ASK, ADVISE, REFER WORK FLOW



(Buettner-Schmidt, Miller, Maack, Orr, & Mills, 2017)

APPENDIX K. MI LANGUAGE TO CONSIDER

Ask: Identify or verify and document tobacco use status of every patient at each new episode of care or at every visit.

“I see that on the intake you indicated you use tobacco products, tell me more about your tobacco use?”

“On the intake you indicated you use tobacco products, what do you already know about how tobacco use is affecting your _____?” (pain, healing, health).

“I take time to ask all of my patients about tobacco use – because it is an important part of your health. Do you currently smoke or use other forms of tobacco?”

Advise: In a strong, clear, personalized manner, urge every tobacco user to quit.

“Quitting tobacco is the single most important thing you can do for your health”

“The most important thing you can do to improve your health is to quit smoking, and I have resources that can help. What is your level of interest in quitting within the next 30 days if I provide help for you?”

“As your health care provider, I strongly encourage you to quit.”

“What is your level of interest in quitting in the next 30 days, if I provide help for you?”

Refer: If the patient is interested in quitting, provide resources to quit and assist in referral process.

“NDQuits is a phone or internet based counseling service specifically created to help people quit smoking for free. After enrolling, you will be connected with a personal counselor who will help you develop a quit plan, as well as help connect you with any over-the-counter medications (i.e. patches, gum, lozenges) which will help with the quitting process.”

“We can refer you to NDQuits here in the pharmacy; then NDQuits will contact you soon, how does that sound to you?”

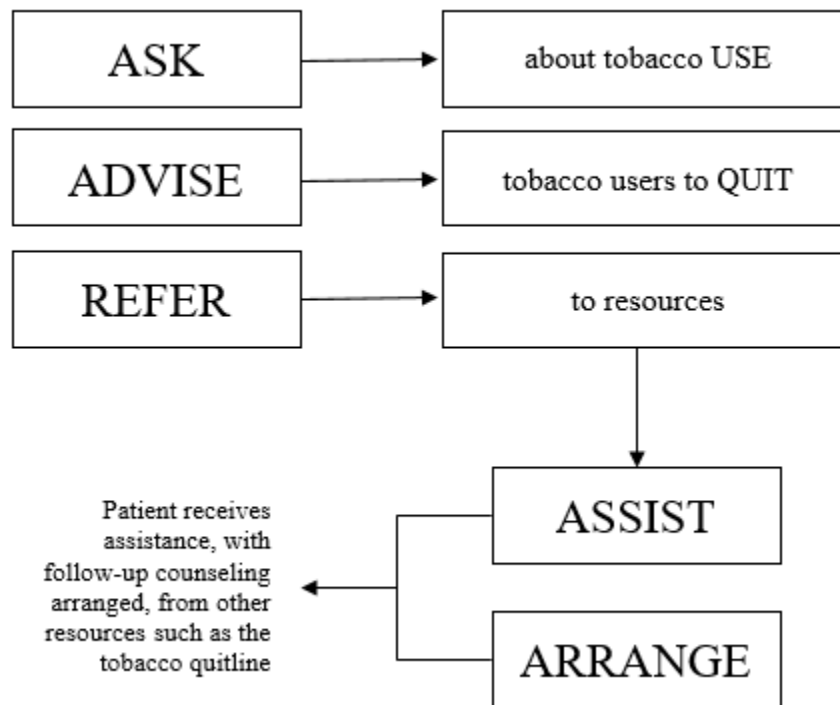
“You will be due for your refill in __ months. We will check in to see how your quit attempt is going. If you have any questions, or if there are ways we can support your quit attempt, please contact us at any point. We are here to help and support you.”

If unwilling to quit at this time: Provide brief motivational messages (motivational interviewing) to increase the likelihood of a future quit attempt.

“If you ever change your mind, here is a number you can call to get support. (Provide handout).”

“I hear you saying you’re not ready to quit right now. I’m here to help when you’re ready.”

APPENDIX L. ASK, ADVISE, REFER FLOW CHART



(United States Public Health Services, 2018)

APPENDIX M. FOLLOW UP PHONE CALL SCRIPT

Hello, _____. My name is Taylor Mueller, I am an NDSU Doctor of Nursing Practice student who has been working with the Washburn Family Clinic regarding a tobacco cessation project. You were recently seen there and filled out a form regarding tobacco use. You had consented for the NDQuits organization to contact you regarding your cessation efforts. Can I ask you a few questions about that, it will take less than 2 minutes. *(if yes, proceed to questions; if no, proceed to thank you statement)*.

Are you still interested in quitting tobacco?

- Yes
- No

Has the NDQuits organization been in contact with you?

- Yes *(if yes, proceed to following question)*
- No *(if no, proceed to follow question)*

Have you quit using tobacco products, for at least one day, since you filled out the form in the clinic?

- Yes *(if yes, proceed to following question)*
- No *(if no, proceed to thank you statement)*

How long have you quit using tobacco products?

- One day
- More than 1 day, less than 1 week
- More than 1 week, less than 1 month

Thank you for your time today. If you have any questions regarding the project or your future tobacco cessation efforts, please feel free to contact the clinic and they will be able to assist you or get in touch with me.

APPENDIX N. DOT PHRASES

.tobaccocess

Patient reports tobacco use. The patient *** ready to quit in the next 30 days. Provider advised patient on smoking cessation today. The patient was made aware of the available resources for cessation and potential risks associated with continued tobacco use at this time. *** minutes were spent counseling the patient on tobacco cessation.

.tobaccorefer

Patient would like referral to NDQuits for tobacco cessation at this time. Provider completed referral form. NDQuits referral form faxed to NDQuits organization. Follow up will be completed at the organization's discretion.