TOBACCO CESSATIONPROGRAM

UTILIZATION

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ABSTRACT

Purpose: Every year in the United States, tobacco use kills more people than alcohol, AIDS, car crashes, illegal drugs, murders, and suicides combined. In Montana, 440 million dollars a year are spent on illnesses directly related to tobacco use and 1,600 adults die from smoking-related illnesses. The American Lung Association Freedom from Smoking Program (FFSP) is an evidence-based, gold-standard tobacco cessation program in place at a medical facility in Helena, Montana but is not being utilized due to a cumbersome referral process and lack of provider knowledge about this program. The aim of this quality improvement (QI) project is to increase providers' knowledge about the FFSP and create a streamlined electronic medical record (EMR) referral process to increase the utilization of the FFSP.

Methods: A new referral process in the existing EMR was created and information about the FFSP and the new ordering process was disseminated to all relevant providers.

Results: The number of results to the FFSP was tallied each week for five weeks. At the end of five weeks, there were 21 referrals, up from zero before the start of this QI project. Twenty-one referrals are only 8% out of the average 240 smokers seen at this medical facility per month.

Implications: Referrals to the FFSP will occur if providers have knowledge and buy-in about the importance of the program and access to an easy-to-use referral system in the existing EMR.

CHAPTER ONE

TOBACCO CESSATION PROGRAM UTILIZATION

Background and Significance

Worldwide, tobacco use causes more than seven million deaths per year and remains the leading preventable cause of disease and death in the United States, leading to more than 480,000 deaths each year (U.S. Department of Health and Human Services [HHS], 2014). Smoking kills more people than alcohol, AIDS, car crashes, illegal drugs, murders, and suicides combined and causes cancer, heart disease, stroke, lung disease, diabetes, and chronic obstructive lung disease (Tobacco Free Kids, 2021; HHS, 2014). The immediate adverse health effects of smoking include oxidative stress; depletion of selected bioavailable antioxidant micronutrients; increased inflammation; impaired immune status; altered lipid profiles; poorer self-rated health status; respiratory symptoms, including cough, phlegm, wheezing, and dyspnea; and nicotine addiction (Bonnie & Stratton, 2015).

The United States spends more than $300 billion a year on smoking-related illnesses, including more than $225 billion in direct medical care for adults and $156 billion in lost productivity (Centers for Disease Control and Prevention [CDC], 2021). A change in smoking behavior has an immediate, positive effect on healthcare costs. A 10% relative drop in smoking in every state is predicted to be followed by an expected $63 billion reduction in healthcare expenditure in the following year. These results are more significant when there are state and national policies which incentivize reducing smoking (Lightwood & Glantz, 2016).

Approximately 34 million American adults currently smoke cigarettes, and it is a daily habit for the majority of them (HHS, 2020). Socioeconomic status has a negative correlation with smoking status. People with annual household incomes less than $35,000 had a smoking percentage of 21.4%, and incomes higher than $100,000 had a smoking percentage of 7.1% (CDC, 2022. Education levels also play a role in tobacco usage, with the highest rate of those who smoke being adults with a GED education (35.3%) and the lowest having a graduate degree (4%) (CDC, 2015). Low socioeconomic status characterized by low incomes, low levels of education, unemployment, and blue-collar and service industry workers equates to an increase in tobacco habit and decrease in smoking reduction speed. (Garrett et al., 2015). Low levels of education may make it hard to understand information conveyed in cessation campaigns and the health ramifications of tobacco usage. (Peretti-Watel et al., 2013). Poverty shrinks one's ability for future-oriented thought and instead concentrates one's focus on the here and now and on overcoming each successive obstacle. Smoking is used as a coping mechanism for current hardships, and this immediate gratification may underestimate, and far outweigh, future smoking-related health hazards (Peretti-Watel et al., 2013). Individuals with mental illness smoke at nearly two times the general population 's rate and are reported to consume almost half the cigarettes sold in America (Himelhoch et al.,2014).

According to the Montana Department of Public Health and Human Services (DPHHS, n.d.), an estimated 187,000 adults and 20,000 youth are current tobacco users in Montana. Each year, 1,600 adults in Montana will die from smoking-related illnesses, and annual health care costs directly caused by smoking are $440 million, with each household spending $1,000 on smoking-caused government expenditure (Tobacco Free Kids, 2021). Race, income, access to

healthcare, and other social determinants of health impact the population of Montanans who smoke. In Montana, the number of American Indians who smoke is consistently two to three times higher than white smokers, with 42% of American Indians currently smoking cigarettes. (DPHHS, n.d.). Among the adult population of Montanans who smoke, 34% are Medicaid enrollees, 33% make less than $15,000 per year, and 32% have poor mental health (MDPHHS, n.d.). Seventeen percent of Lewis and Clark County residents report smoking compared to 19% for the state of Montana (Community Health Report, 2021). The detrimental effects of tobacco use are far-reaching and impact tobacco users, healthcare systems, and society as a whole.

Scope of the Problem

Every year, 70% of current adult smokers in the United States want to quit, and 50% of adults who smoke try to quit, but only about 8% successfully stop for 6–12 months (CDC, 2020). Nicotine, the major reinforcing component of tobacco smoke, acts in the brain through the neuronal nicotinic acetylcholine receptors (nAChRs). These receptors have a chemical effect, making them physically and psychologically addictive (Picciotto & Kenny, 2013). Nicotine alone has reinforcing properties, but nicotine's effects on appetite, attention, and mood are also thought to contribute to establishing and maintaining the tobacco smoking habit (Picciotto & Kenny, 2013). Knowledge about tobacco's harmful, addictive effects is prevalent but finding cessation guidance is challenging.

Tobacco cessation programs mitigate the harmful effects of tobacco use, are beneficial at any age, improve health status, enhance the quality of life, and reduce the burden of tobacco use on the healthcare system and society (HHS, 2020). Risks for many adverse health effects,

including reproductive health outcomes, cardiovascular disease, chronic obstructive pulmonary disease (COPD), and cancer, are reduced by smoking cessation (HHS, 2020).

The US Preventive Services Task Force (USPSTF) concluded that the net benefit of behavioral intervention and FDA-approved pharmacotherapy for tobacco use, alone or in combination, have substantial effects on tobacco cessation (Siu & USPSTF, 2015). The combination of these modalities is the gold standard for tobacco cessation programs. The Surgeon General declared FDA approved smoking cessation medications and behavioral counseling are cost-effective cessation strategies, and the combination increases the likelihood of successful quitting (HHS, 2020).

Evidence-based treatment programs use various behavioral modalities, including counseling interventions, in-person group and solo support, counseling, telephone counseling, and self-help materials. Pharmacotherapy evidence-based interventions include nicotine: gum, inhaler, lozenge, nasal spray, and patch. Prescription medications used are bupropion and varenicline (Smoking Cessation Leadership Center [SCLC], 2021).

The American Lung Association Freedom from Smoking Program (FFSP) is an evidence-based, gold-standard program at a medical facility in Helena, Montana. The Wellness Program Developer and Educator implemented the FFSP in January 2020. The 180 providers employed by this medical facility are the primary source of referrals for FFSP patient enrollment. Since its implementation, there have been zero provider referrals to this program. To increase education about FFSP and the referral system, the program director has done lunch and learns, gone to quarterly provider meetings, reached out to top medical providers on the board of the medical facility, and made herself readily available for any questions regarding FFSP (personal

communication, September 10, 2021). Since its implementation, and despite the program director ‘s efforts, enrollment is zero. Referrals to the FFSP are absent due to the provider’s lack of knowledge and confidence about the program and a hard-to-navigate and time-consuming referral process that is not integrated into the current electronic medical record (EMR) system. The following paragraphs detail the reasons for lack of participation and outline how clinical investment in this program could have substantial positive impacts on individual health outcomes.

The U.S. Public Health Service Clinical Practice Guideline recommends that all healthcare providers deliver a brief evidence-based intervention regarding tobacco cessation (Payne et al., 2014). Using the five As to guide brief tobacco cessation interventions have been found to have a modest level of effectiveness: ask about tobacco use at every visit, advise to quit, assess willingness to quit, assist with the quit attempt, and arrange for follow up (Payne et al., 2013). The best practice regarding clinician inquiry about tobacco use, as defined by the USPSTF, is to ask all adults about tobacco use, advise them to stop using tobacco, and provide behavioral interventions and U.S Food and Drug Administration-approved pharmacotherapy (Siu & USPSTF, 2015). Providers trained in tobacco dependency treatment are more likely to deliver evidence-based treatment (5As), and this training could impact long-term practice behavior (Payne et al., 2013).

A study by Himelhoch et al. (2014) found that barriers to providers implementing evidence-based tobacco cessation programs are clinicians’ perception that patients were not interested in quitting (77%) and not having appropriate resources or training to provide smoking

cessation interventions to clients who smoke. These barriers appear to be present at the facility in this QI project.

In 2020, these urgent cares (UCs) had 3,005 self-reported current nicotine users, 2,892 former nicotine users, 8,112 patients who never used nicotine, and 73 patients with unknown nicotine habits. So far in 2021, there are 2,630 current nicotine users, 2,480 former nicotine users, 7,199 never having used, and 97 unknown (A.Carparelli, personal communication, September 21, 2021). In two years, there have been almost 6,000 nicotine users seen at UC, yet wellness has yet to receive a referral.

The FFSP is an effective cessation tool that is currently in place but underutilized, and the resources and benefits of this program are going to waste. This quality improvement (QI) project aims to increase providers' referral rates and the number of participants in the FFSP. Because evidence-based tobacco cessation is effective and cost-saving to the individual, community, and healthcare system, increasing the number of participants will have widespread beneficial and social outcomes.

CHAPTER TWO

TREATMENT MODALITIES AND PROVIDERS' ROLES

Introduction

Tobacco use kills millions of people each year, is responsible for a myriad of health problems, and is one of the most significant financial burdens on the health care system. Yet, 34 million people in the United States continue to use tobacco daily (CDC, 2020). Nicotine is a highly addictive drug, both psychologically and physiologically. Although many tobacco users would like to stop using tobacco products, nicotine's addictive traits make cessation feel like an impossible task, and many people do not have access to the proper tools for this life-changing challenge. Every year, 70% of smokers make quit attempts, and less than 10% of those successfully quit (Truth Initiative, 2021). There are a variety of tobacco cessation programs using different modalities of treatment, with varying success rates.

Self-Help

Self-help is the most widely known and the least effective treatment intervention. Self-help interventions include pamphlets, referrals to 12-step programs, telephone hotlines, and community programs. Because these programs rely solely on tobacco users taking the initiative for program utilization and self-accountability, they have a low success rate of 9–12% (SCLC, 2021). A self-driven approach characterized by on-demand availability to those who reach out is considered reactive and less effective than a proactive approach (West et al., 2015).

In a proactive counseling approach, tobacco users make the initial inquiry, and a second party initiates follow-up counseling services after the initial phone call. Counseling has a 13–17% cessation rate and utilizes practical counseling dealing with problem-solving skills, training, support, and encouragement (SCLC, 2021). The most widely recognized form of this treatment is the national 1-800-QUIT-NOW program. The National Cancer Center established and began operating the toll-free program in 2004. The number links callers to their state-based Quitline and offers individualized counseling, information on current cessation medications, and referrals to other cessation resources (CDC, 2020). State quit lines reach an average of 1% of smokers annually, and in 2020, Montana's quit line received approximately 2,400 calls (CDC, 2020). Two thousand four hundred calls in Montana represent just 1.4 % of Montanans who report using tobacco products. The use of telephone counseling is shown to increase tobacco cessation, but this program is still dependent on the user taking the initiative to make the first call. Fewer than 1% of tobacco users nationwide, and just 2% of users in Montana, utilize the National Cancer Center Quitline, clearly indicating that a large percentage of tobacco users who want to quit are not reaching out.

Prescription Medications

Counseling is effective but the effectiveness is enhanced if coupled with the use of two primary forms of prescription cessation medications: bupropion SR (Wellbutrin) and varenicline (Chantix). In 1997, the FDA approved the use of bupropion SR for tobacco cessation. Wellbutrin is an atypical antidepressant that was the first non-nicotine medication shown to be effective for smoking cessation (SCLC, 2021). Wellbutrin works by involving the brain's dopamine and noradrenaline pathways and may also act as a nicotinic antagonist, helping decrease the intense

hold that nicotine has on the brain (West et al., 2015). Multiple randomized control trials found those who smoked 15 or more cigarettes a day had a 6–12-month continuous abstinence rate 7% higher while using Wellbutrin, compared to a placebo (West et al., 2015). A drawback of Wellbutrin is it can be cost-prohibitive for some individuals. The most significant percentage of tobacco users are those with the lowest socioeconomic status, so this modality's price may seem like a significant prohibiting factor. Wellbutrin is not used in those with seizure or eating disorders as it may exacerbate these issues (West et al., 2015).

Varenicline is a non-nicotine medication approved by the FDA in 2006 to treat tobacco dependency (SCLC, 2021). Varenicline is a partial agonist designed to bind with high affinity to the nicotinic acetylcholine receptors (West et al., 2015). One mg per day is used beginning one week before the designated quit date and then 11 weeks at 2mgs per day. While using varenicline, those who smoked 15 or more cigarettes a day had a 6–12-month continuous abstinence rate 15 % higher compared to a placebo (West et al., 2015). Varenicline is more effective than both nicotine patches and Wellbutrin, but it is associated with side effects that can decrease adherence. In 2008, the FDA warned of side effects including nausea, sleep disturbances, vivid or unusual dreams and depressed mood, agitation, and suicide ideation and attempt (SCLC, 2021). A query of the FDA's Adverse Event Reporting System database from 1998–2010 revealed 3,249 reported cases of suicidal/self-injurious behavior, 2,925 (90%) for varenicline, 229 (7%) for bupropion, and 95 (3%) for nicotine replacement (Moore et al., 2011). Like any medication, it is essential to monitor for adverse side effects and consult a medical professional before and during use. Wellbutrin and Chantix are both prescription medications, so they require the tobacco user to have a provider with prescriptive authority to use this modality

for cessation treatment. Not having a primary care provider can limit these tobacco cessation medications and hamper overall progress toward quitting. This is a significant barrier in a state like Montana where access to healthcare is both a challenge and inequitable.

Most nicotine replacement modalities do not require a prescription, so they are more accessible to those without a primary care provider. Nicotine replacement therapy delivers nicotine to the body without the harmful effects of smoking or ingestion of other toxins. Over-the-counter options are nicotine gum or lozenges in 4mg or 2mg doses and the nicotine patch in 7, 14 or 21mg. Prescription-only nicotine replacement therapy includes the nicotine inhaler with 4mg of delivered nicotine and the nicotine nasal spray with 1mg given with each spray. Nicotine replacement therapy is intended for use up to 12 weeks. Medication combinations such as nicotine patches with inhalers or nicotine patches with Wellbutrin increase long-term quit rates and have a quit rate of 26–36% (SCLC, 2021). Cost and prescriptive authority can limit access to these treatment plans for some.

Best Practice

Among evidence-based interventions of tobacco use, the most effective is a combined counseling and medication approach. Two-thirds of adult cigarette smokers who tried to stop did not use evidence-based treatment (HHS, 2020). In 2008, the HHS performed a meta-analysis of over 3,000 articles on treating tobacco use and dependence. Upon their review, the board came up with recommendations based on the effectiveness of various treatment strategies. A grade A rating was given to the recommendation that counseling and medication are more effective for smoking cessation than either medication or counseling alone (Agency for Healthcare Research and Quality [AHRQ], 2020). A systematic quantitative review of over 900 articles found the

most recommended and fruitful tobacco cessation methods combined nicotine replacement therapy, Chantix, and educational interventions (Heydair et al., 2014). FDA-approved cessation medications used in combination with behavioral counseling significantly enhance treatment outcomes and increase the likelihood of quitting successfully (AHRQ, 2020; CDC, 2020).

Although an evidence-based tobacco cessation program, which represents the most effective cessation approach combining counseling and prescription medication, has already been established at this medical facility in Helena, Montana, it is currently entirely unutilized. The American Lung Association Freedom from Smoking is a program released in 1980 using nicotine replacement therapy, prescription medications, and group therapy. A review of existing programs and research literature found no single quit smoking method effective for all tobacco users. Evidence-based literature found that a combination of pharmacological and psychological principles and practices needed to be utilized together to break the addiction pattern (American Lung Association, 2020).

The FFSP is an evidence-based, gold-standard tobacco cessation program. The program runs for seven weeks and has eight in-person classes, which are approximately 1.5–2 hours in duration. There are clinical pharmacists and behavioral health specialists engaged in the program. The use of prescription tobacco cessation medications is encouraged, and a provider referral is necessary. The American Lung Association also offers an online version of this program, Freedom from Smoking Plus, available without a referral. The major setback and hindrance to this excellent opportunity for cessation treatment is the necessity of provider referral. Lack of referrals and tobacco cessation education by providers is a problem nationwide.

Role of Providers

While medical providers do ask their patients about tobacco use, many do not go beyond this to refer their patients to an appropriate cessation program. The Health Information Technology for Economic and Clinical Health Act of 2009 requires providers to ask about tobacco use status. It reimburses providers for counseling, referral, and medication to assist in tobacco cessation efforts (Karn et al., 2016). Medicare and Medicaid consider tobacco cessation reasonable and necessary and allow providers to use counseling codes in addition to the E/M code for the primary purpose of this visit (American Lung Association, 2021). Cessation counseling is required and reimbursed by insurances, yet four out of every nine adult cigarette smokers who saw a health professional during the past year did not receive advice to quit (HHS, 2020). Research shows that the most prevalent barriers to healthcare workers providing smoking cessation interventions include i) low motivation and confidence and lack of knowledge and training in providing the intervention; ii) preconceived ideas about intervention, such as viewing the intervention as being time-consuming, ineffective or intrusive to patient privacy; and iii) organizational barriers such as the absence of protocols, educational material for the patient, and lack of support from supervisors and co-workers (Andres et al., 2019).

Implementing a new intervention in an already overburdened health care system and asking overworked medical providers to add more to their care plans can feel like an insurmountable task. Still, there are strategies to overcome these barriers. A study of nurses found that satisfaction with tobacco cessation training and a good understanding of the interventions boosted confidence in providing cessation services and increased the importance of the intervention (Fore et al., 2013). For a QI project to be successfully implemented, healthcare

workers must be provided with appropriate training and believe that the project is worthwhile and will have a positive impact. The intervention referral must also be efficient and easy to navigate EMRs fit these needs.

The EMRs increase provider referrals to tobacco cessation programs because of their efficiency, ease of access to patient information, and coordination among complementary services (Fore et al., 2013). This medical facility utilizes EMR for patient charting and mandated tobacco use questioning but not for referrals for tobacco cessation. The current EMR needs an efficient way for providers to refer to the FFSP.

As providers' education about the science-based benefits and success of the FFSP increases, so will their confidence levels and referral rates to this gold-standard cessation program. A referral system that is quickly and easily accessed, such as an EMR, fosters increased referrals. Referral increases lead to more participants in FFSP and, in turn, a decrease of tobacco users in the Helena area and a community that is healthier physically, mentally, and financially.

CHAPTER THREE

QUALITY IMPROVEMENT THEORY

IOWA Model

The FFSP QI project utilized the IOWA Model of Evidence-Based Practice. The IOWA model was developed at the University of Iowa hospitals and clinics in the 1990s to help guide nurses to use research findings to help improve patient care (Cabarrus College, 2021). The model was an eight-step process used as an application-oriented guide for the evidence-based practice (EBP) process (Cabarrus College, 2021). This mode was very relevant to the FFSP QI project.

Step 1: Identify the trigger where an EBP change is warranted. Every year in the United States, 480,000 deaths are caused by tobacco usage, $300 billion is spent on smoking-related illness, and 70% of current adult smokers want to quit, presenting an opportunity for intervention (CDC, 2020, 2021; HHS, 2014). Lack of tobacco cessation education and program referrals, at this organization, were triggers warranting an EBP change

Step 2: Determine if the problem at hand is a priority for the organization, practice, department, or unit. This medical facility had an evidence-based tobacco cessation program that was not utilized, and referrals were not being made. Lack of tobacco cessation program referrals had a negative impact on reducing tobacco usage and tobacco-related health care expenditure in Montana. This medical facility strove to provide gold-standard health care to the surrounding community. One way in which to achieve this high standard of care and stewardship for the community was to have a successful implementation and utilization of this tobacco cessation program.

Step 3: Form a team that will develop, evaluate, and implement the EBP change. This fluid team consisted of the head of the wellness program, information technology and informatics, the providers and nurses at UC, and the author of this project.

Step 4 and 5: Gather and analyze the research related to the desired practice change, critique and synthesize the research discovered during the literature search. The previous two chapters of this scholarly project were a testament to the depth of literature related to the importance of tobacco cessation and the role of the providers in this referral process.

Step 6: Stop and decide if there is sufficient research to implement a practice change. Clinical practice guidelines recommend that healthcare providers deliver a brief evidence-based tobacco cessation intervention, yet four out of every nine adult smokers who saw a healthcare provider during a year did not receive advice to quit (Payne et al., 2013; HHS, 2020). A review of the literature showed conclusive evidence to implement a practice change.

Step 7: Implement a pilot program change and change one or two smaller areas/units for evaluation. Small steps were taken to implement a change to the current tobacco cessation referral program. Numerous conversations regarding the need for this intervention and changes to the referral process occurred with the head of wellness, nurses and providers at UC, and informatics. A pre-intervention survey was sent to all medical staff at both UCs to gauge the baseline level of knowledge about the importance of tobacco cessation and the current resources available. Feedback from this survey was used to highlight which areas of the intervention needed the most importance placed on it. These changes were well thought out and trialed before final implementation.

Step 8: Evaluate results. Evaluation of results was a multi-tiered process intervention with increased provider education about FFSP, change to the referral process, and EMR ordering implementation. The effect of these interventions was evaluated by calculating the number of FFSP referrals pre- and post-QI project implementation. An increased rate of referrals to the FFSP indicated successful goal achievement. The Plan-Do-Study-Act (PDSA) worksheet was continuously used to assess the effectiveness of this QI project.

Methods

In order to assess the efficacy of this project the following questions were asked: "Will providers refer patients to the FFSP if they are educated about the importance of the FFSP?" "Are easily able to refer patients using EMR?" To assess the project outcomes and effectiveness regarding tobacco cessation education and importance, a pre- and post-intervention survey was sent via email to the participants. The participants of this QI project were comprised of the medical providers and nurses at both UCs. This survey was IRB approved, backed by the medical facility, and participant answers were anonymous. It was a simple survey of four questions with Yes, No, or Undecided as answer choices.

This survey was developed to align with the largest barriers identified in the implementation of tobacco cessation interventions. To recap these barriers are represented by i) low levels of education regarding the intervention, leading to low confidence and motivation for implementation; ii) the perception among providers that the intervention is time consuming to both the patient and themselves and invades patient privacy; and iii) organizational barriers such as lack of access to resources on the part of both providers and patients (Andres et al., 2019).

The pre-intervention survey responses revealed areas that needed to be emphasized when educating the staff about the FFSP intervention. Over half of the respondents of the pre-intervention survey reported that they did have enough resources to refer patients to a tobacco cessation program. Resource dissemination to all UC staff consisted of poly-print material placed in all exam rooms, and education about the FFSP became a key point in successfully implementing this QI project. Extra education was given to the providers to help ensure that these barriers were being overcome, and in turn, an increase the prevalence of the FFSP utilization could be seen. Post-intervention survey responses evaluated if the additional education and new referral processes effectively overcome referral barriers to the FFSP.

A new order set for tobacco cessation referral was added to the EMR. EMR ordering was already in place and widely used by UC nurses and providers, so this new intervention was easily accessible and had a low learning curve for all and provided ease of use; therefore, it increased usability. To disseminate the tobacco cessation referral system was live in the EMR, an email was sent to the staff of both UCs. The email reiterated the importance of tobacco cessation education and the ease at which the new referral system could be utilized. Step-by-step written instructions and screenshots for the ordering process were also included. Written instructions for ordering the FFSP were placed in each exam room.

The FFSP informative email was the precursor to an online, live team meeting that was held the following day. An invite for this meeting was sent to all nurses and providers of both UCs. The author of this paper started the meeting with showing all who attended the packet of key information pamphlets that would be placed in each exam room. These pamphlets had detailed information for the patients and providers as well as step-by-step EMR ordering

instructions. The head of wellness gave a detailed in-service on the addictiveness of tobacco, the importance of the tobacco cessation intervention, details regarding medication cost and management, and answered any questions. Contact information of the key players of this QI project was given to the UC staff if any further questions or issues arose.

Setting and Participants

Two UC locations were utilized in this QI project. One was in the main hospital complex, and the other was in the primary care medical group building on the north end of town. An average of 20,000 patients were seen in 2020, and 17,500 patients were seen thus far in 2021 (A. Carparelli, personal communication, September 21, 2021). Almost a third of all patients seen were self-reported current tobacco users. Patients ranged in age from babies to nonagenarians and were predominately white. They had a wide range of socioeconomic status, health insurance coverage, and degrees of health. Visits ranged from simple sutures to chest pain and could take anywhere from ten minutes to four hours.

Inclusion in this QI project was on a voluntary basis by the medical staff participants. If they chose to partake in this QI project, there were 13 prospective providers (PA, N.P, MD) and 20 prospective nurses (LPN, Associate, or bachelor trained RN) with varying amounts of medical experience. There were no exclusion criteria.

Implementation Plan (DO)

Quality improvement in a health care setting is best achieved by addressing what is done (what care is provided) and how it is done (when, where, and by whom care is delivered) (HHS, 2011). The FFSP was already in place but not properly utilized due to lack of knowledge about

FFSP and the cumbersome nature of the EMR referral system. For the FFSP QI project to succeed, a change to the system had to be made.

Step one was staff buy-in and commitment to the FFSP. This step encouraged providers to perceive FFSP as a critical intervention, beneficial to their practice, and raise staff awareness that FFSP was an evidence-based tobacco cessation program. Buy-in was achieved by educating staff on the physically and financially harmful effects of tobacco usage and highlighting their roles as an integral part of an interdisciplinary team created to help eradicate the leading preventable cause of disease and death in the United States (FDA, 2021). The FFSP was deeply aligned with the ideology of providing gold-standard care to Helena, Montana and the surrounding communities.

Step two was changing how referrals were made for this program. Because no referrals had been made to FFSP via the current referral system, this was a sign that this referral process was ineffective, and a change needed to be implemented. This systems-level change began with meeting with informatics and information technology to devise an electronic system for nurses and providers to easily refer patients to the FFSP within the EMR system. Ease of use was paramount for the utilization of this referral system.

Informatics created a referral system by creating a new order set in the current EMR. Orders were easily accessed on the current EMR system, could be input by the provider or nurse, and were well-known and already in use for every patient. Since EMR ordering was not a new process, ease of use and accessibility without implementing a unique skill set streamlined the implementation of the FFSP referral process. The order appeared as Tobacco Cessation Program. Once a provider or nurse input the order, the referral process began. A simple two-click system

in the EMR, accessible by all relevant medical personnel, was a crucial step in this QI project and was not available for referrals to the current FFSP program.

Step three was ensuring that the patient's referral was appropriately routed to the head of wellness. She was in charge of the FFSP program, ensuring the patient was enrolled correctly and maintaining contact with them throughout the entire cessation process. In an ideal, COVID-free world, a provider would initiate the order for the tobacco cessation program and a hard copy of this order would be printed on the wellness office copier. The head of wellness would then input the hard copy data into the existing electronic referral system and begin contacting the patient. Due to the COVID-19 pandemic, the head of wellness was working from home and had minimal access to her office printer, so having the order print to her copier was a barrier to this implementation.

This barrier was overcome by having the order print to a printer in UC. These orders were placed in a marked binder, and once a week, a key team player to the QI project would input the data into the existing referral system. This information was then available to the head of wellness electronically, and she began her crucial role in patient outreach and enrollment.

Data (Study)

During the intervention period of this QI project, quantitative data were collected as the descriptive value of the number of referrals pre- and post-intervention. Referrals were categorized by the referral source (i.e., PA, NP, DO, or RN). This individualized data was used to help identify those groups, or individuals, who made the highest and lowest number of referrals. After identifying those with low numbers of referrals, it was essential to communicate with these individuals in order to understand what referral barriers were present and discuss these

obstacles and possible solutions on a one-to-one basis. The surveys mentioned above were used as pre- and post-data to evaluate the degree of buy-in from the providers and the effectiveness of the in-service meetings and training about the ease of use and significance of FFSP.

SMART Goals (Adapt)

Specific: This QI project involved medical providers and nurses at UC, the wellness director, informatics and information technology, and the author of this paper. This QI project ran for eight weeks and aimed to increase UC provider referrals to the FFSP program using the EMR system. Tobacco cessation program implementation was important to help combat the devastating effects of tobacco physically, financially, and globally.

Measurable: This project was measuring a change in provider behavior by their utilization of the EMR referral system to the FFSP. The effectiveness of the tobacco cessation referral program was measured by comparing the number of referrals to the program before and after the QI project interventions. An increase in the number of referrals indicated a positive change elicited by the implementation of this project.

Achievable: To analyze the effectiveness of this QI program, the total number of provider referrals to the FFSP at the end of eight weeks was calculated. The number of referrals to FFSP after the intervention was compared to the number of referrals pre-intervention. For this intervention to be truly effective, a change in practice had to occur and the referrals to the FFSP would continue well past the eight-week time frame of this project. An increase in the number of referrals to the FFSP was an achievable goal. Historically, there have been zero referrals to this program. Practicality and effectiveness of this project were based on results measured by an increase in the number of referrals to the FFSP by medical staff at this institution.

Relevant: The number of referrals had a direct correlation to lives saved from tobacco-related illnesses and mitigation of financial damages to the healthcare system. An increase in referrals to a tobacco cessation program at this institution was a very relevant goal in becoming the gold standard of health care in the community.

Time: Over eight weeks, the number of electronic referrals to the FFSP program was evaluated weekly. Twice a month, the number of referrals and details of the referral source was evaluated, and increasing or decreasing trends were noted. These trends were analyzed, and changes in provider education or the ordering process were made based on the PDSA data. The aim of this QI project was to increase referrals to the FFSP program by 70% in eight weeks. Providers utilizing the EMR to refer patients to the FFSP was an attainable goal within these timelines, had measurable units of success, and had a positive effect on individual and societal health by decreasing tobacco use.

CHAPTER FOUR

RESULTS

Introduction

The main goal of this QI project was to increase provider referrals to the evidence-based FFSP. To achieve this goal, an increase in providers' knowledge and buy-in about the FFSP was necessary, as was creating an easy-to-use referral system within the existing EMR. Successful QI project obtainment was measured by counting the number of provider referrals to the FFSP pre- and post-intervention.

Before the QI project intervention, there were zero referrals to the FFSP. At the end of five weeks, there were 21 referrals to this program.

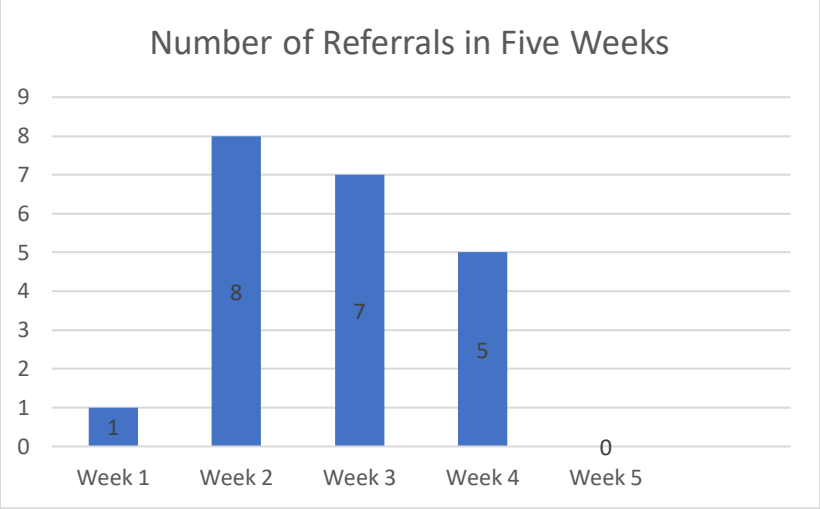

Figure 1. Number of Referrals in Five Weeks

Of the 21 referrals, 11 (52%) were made by nurses, four (19%) were made by nurse practitioners, four (19%) were made by physician assistants, and two (10%) were made by medical doctors.

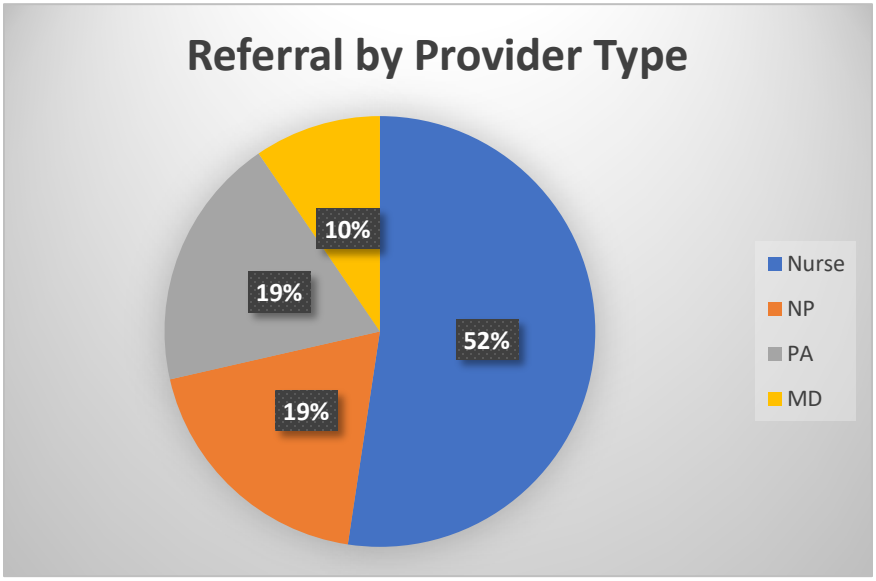

Figure 2. Referral by Provider Type

A pre-intervention survey was sent to all participants to assess providers' knowledge and comfort level about the existing tobacco cessation programs and their confidence in asking patients about tobacco cessation. Participation by the providers in this survey and intervention was wholly voluntary and anonymous. There were no exclusion criteria. Potential participants included 13 medical providers (PA, NP, MD) and 20 nurses (LPN, Associate, or bachelor trained registered nurses) split between two UCs. All had varying levels of medical experience. Twenty-four out of 33 participants (73%) completed the pre-intervention survey.

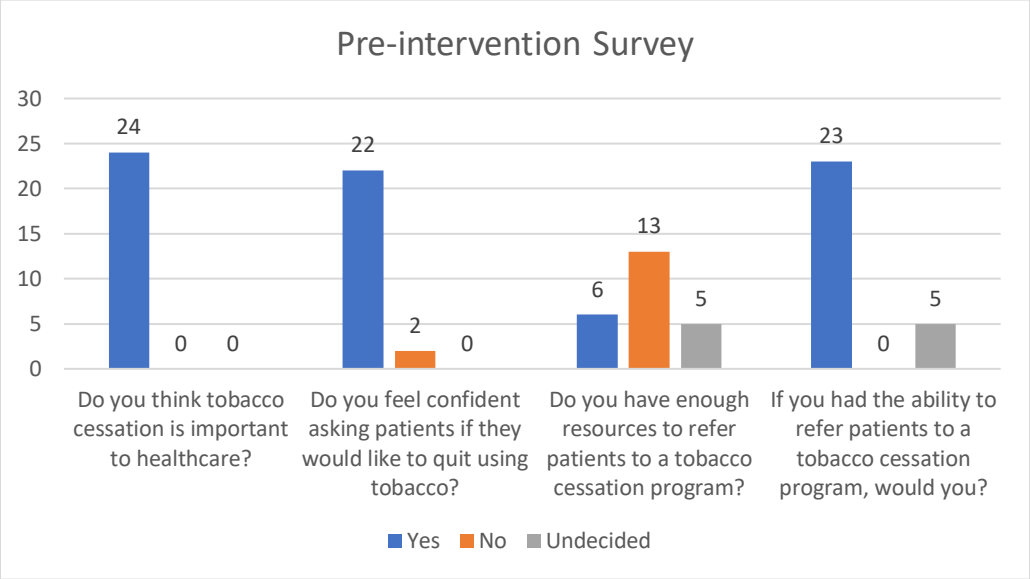

Figure 3. Pre-Intervention Survey

At the end of five weeks, a post-intervention survey was sent to the same participants, and ten participants (30%) completed the survey. The purpose of this survey was to gauge the impact this QI project had on increasing providers' buy-in and knowledge about FFSP, increasing confidence when asking patients about tobacco cessation, and using the EMR to refer patients to FFSP.

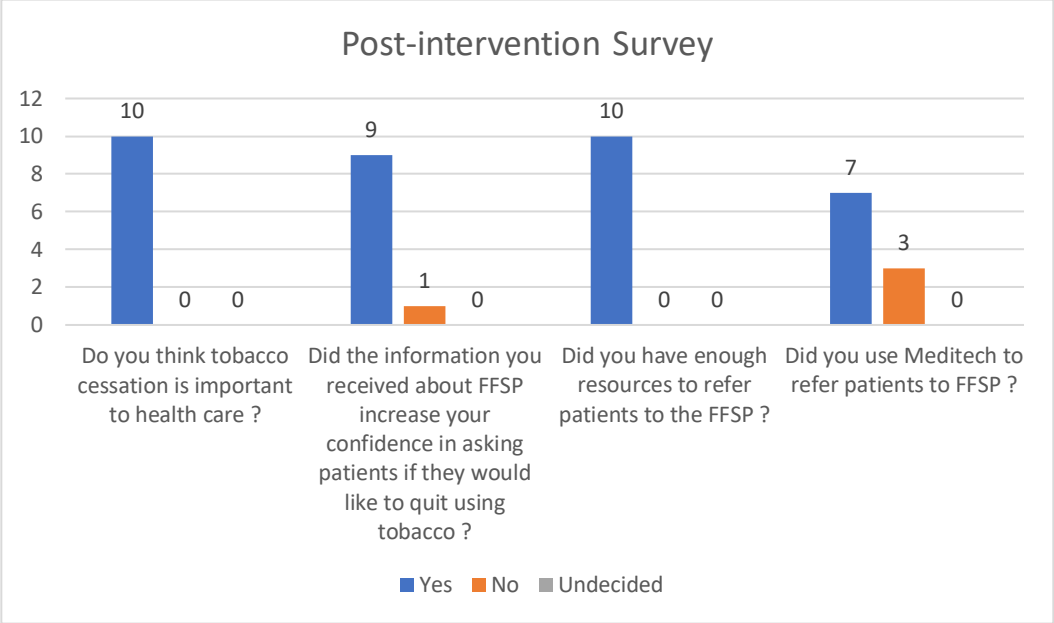

Figure 4. Post-Intervention Survey

Discussion

The purpose of this QI project was to increase provider referrals to the FFSP by at least 70%. Referrals and enrollment to the FFSP would have helped this institution move forward toward the goal of providing gold-standard health care to the community and helping eradicate the leading preventable cause of disease and death in the United States (HHS, 2014). Referral increase was accomplished by creating an easy-to-use referral system in the existing EMR and educating providers about the FFSP and the new referral process. Having tobacco cessation literature in every exam room at both UCs increased provider and patient awareness of the FFSP.

This QI project had a high success rate with a 100% increase in referrals to the FFSP. Pre-intervention, there were zero referrals; five weeks post-intervention, there were 21. This success rate overcame the most prevalent barriers providers faced when providing smoking cessation interventions. Barriers of low confidence and lack of knowledge about the intervention

were overcome by sending all providers an informative email detailing the FFSP and the new EMR ordering system. This email, coupled with the online, live team meeting with the Head of wellness, helped increase provider knowledge and training about the FFSP and boost confidence in the importance of this intervention.

A significant emphasis was placed on ease of use and efficiency by which the FFSP referral could be made in the EMR. Adding a simple, efficient order set in the EMR was done to overcome the barrier of providers viewing the FFSP referral as time-consuming and ineffective. Educational material was placed in all UC exam rooms to ensure that providers and patients had easy access to relevant tobacco cessation literature. Contact information was readily available if the providers had any questions or concerns about the FFSP and its implementation. Knowing a vital representative of this QI project was readily available helped decrease organizational barriers such as the absence of educational materials and lack of support from co-workers.

Nurses completed 54% of FFSP referrals at UC. Nurses at this medical facility were required to chart tobacco use status while triaging their patients. Failure to document tobacco use status was a hard stop in the chart, and no other documentation could proceed if this question was not answered. Perhaps nurses being forced by the charting system to ask about tobacco usage also made them more apt to segue into asking the patient about their interest in the FFSP. The other medical providers at this facility could continue to chart even if tobacco use and cessation had not been addressed.

There were two UCs at this medical facility, Urgent Care South (UCS) and Urgent Care North (UCN). Of the 11 referrals made by nurses, 100% of these referrals were made by nurses who worked at UCS. UCS is the same UC where the author of this paper worked. Fore et al.

(2013) found that nurses who were more satisfied with the tobacco cessation training and had a good understanding of the intervention were more likely to provide cessation services due to increased confidence. Since a camaraderie existed between the implementer of this QI project and the nurses at UCS, the UCS nurses felt more confident in the FFSP and were more apt to refer patients. Three weeks into this QI project, an email was sent to the nurses at UCN to see if they needed more resources, guidance, or education about the FFSP and the referral process. They were also asked for suggestions on what could be done to boost their motivation to the FFSP. No responses or referrals from the UCN nurses were ever received.

Another reason for the differing referrals between the two UCs was a project champion. UCS had a project champion on site, so she always reminded providers to ask patients about enrollment in the FFSP and touted the benefits of this program. UCN lacked a provider champion and had no real-time feedback or personal incentive to enroll patients in the FFSP.

Lessons Learned

The majority of the work for a successful QI project was done well before the project went live and data started to be collected. Background work and communication with all involved parties was needed to implement this QI project successfully. Many meetings with the head of wellness ensured her needs for the FFSP were achieved and these needs also aligned with the foundation of this QI project. Clear communication was vital, and face-to-face meetings or phone calls were the least ambiguous form of communication and the most time saving. Formulating a step-by-step plan for adding a new order system in the EMR was straightforward and efficient and was achieved months before the "live" ordering system was available. It was essential to have the ordering system in place and working before final QI implementation.

An exciting lesson learned was that provider buy-in and utilization of the QI project was positively correlated to the degree of cohesion between the participants and implementer of the QI project. "Cohesion is the sense of 'we-ness' between individuals, or individuals ' willingness to work together with members of different teams to achieve a common goal" (Suprapto et al., 2015). The participants who had a social and professional relationship with the author were most likely to make referrals. A weak professional relationship between the author and some participants eroded the sense of cohesion, and those individuals did not make referrals. Another important lesson learned was to be continually looking forward to the project. Successful implementation of this project required a dynamic focus on problem solving and resolving foreseeable issues before they occurred.

Limitations

> The most precious resource we all have is time.
> —Steve Jobs

Time was of the essence with this project. The planning phase seemed to drag on, but the implementation and results phase was six weeks shorter than planned, and this truncated timeline had a negative impact on results. One of the biggest hindrances was getting IRB approval. The IRB approval took about three weeks, two more weeks than planned, so project implementation was delayed. A few performance days were delayed by waiting for new, updated poly print FFSP literature for all UC exam rooms. The original timeline was to implement the referral process before Christmas, but it started in late January. With the results due at the beginning of March and going live with implementation a month later than the original date, there was limited time for data gathering.

The reliability of this QI project did have limitations. Current data existed to track how many self-reported tobacco users were seen in UC. Still, there was no data or collection method to track if a provider counseled a current tobacco user on tobacco cessation and enrollment into FFSP. Lack of data about provider engagement led to a lack of knowledge about how to best target providers who were not actively engaged in referring patients to the FFSP. There was no collection method to gather data regarding how many patients said no to the FFSP when asked if they were interested in enrolling. With both of these data points missing, it was impossible to hypothesize if the lack of referrals correlated to lack of provider engagement in the referral process or patients being asked about an interest in tobacco cessation and saying no.

In 2021, both UCs saw an average of eight tobacco users per day, an average of 240 tobacco users a month. In one month of this QI project, 21 referrals were made for FFSP. These numbers hypothetically translated to 219 tobacco users in that month, saying they did not want to quit using tobacco, or they were not asked if they were interested in stopping. Due to time and other limitations, it was beyond the scope of this QI project to accurately assess the source of low referrals to the FFSP in proportion to tobacco users.

Another limitation of this QI project was longevity. Due to COVID, the head of wellness was working from home and was not willing to check her office printer once a week for referrals. All FFSP tobacco referrals were printed to a secure location to overcome this barrier. Once a week, the author of this QI project would electronically input the referrals to wellness. The goal of this QI project was that the FFSP referrals continued long after the end date of this project. Continuation of this project was only possible if the head of wellness was willing to check her work printer once a week and input the data. This variable is still unknown.

Recommendations

The most critical recommendation discovered was the importance of incentivizing participation by the providers. Without a vested interest in the project, there was no participation. Referrals were highest among those who believed in the importance of tobacco cessation and also had a professional bond with the implementor of this QI project. Nurses, the group with the highest referral rate, were incentivized to ask about referrals because the EMR required them to ask about tobacco use. Providers who believe in the project and have a large amount of buy-in regarding positive patient outcomes were the most likely to help implement the QI project. A project champion on site was also needed for an increase in referrals.

Conclusion

Referring patients to FFSP was not an intrinsic action by the providers, and a behavior change had to transpire for referrals to occur. Fortunately, FFSP referrals took place because of the implementation of this QI project. Referrals to the FFSP proved that referrals would occur if providers had the proper education about FFSP and an easy-to-use EMR referral system. Twenty-one referrals represented 21 people who could potentially break the nicotine addiction cycle and start living a tobacco-free life. A change to a tobacco-free lifestyle has a positive effect on the individual ‘s mental, physical, and financial health, and these effects are seen and felt throughout the community.

CHAPTER FIVE

DNP ESSENTIALS

Introduction

I can safely say these past four years of academic pursuits and life have been a rollercoaster of highs and lows, tears and smiles, gains and losses, accomplishments and disappointments, and character-building experiences. Would I do it over again? No. Will it all be worth it in the end? I sure hope so. Here are some of the lessons and DNP Essentials I have learned along this journey.

Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking. Essential II speaks to the importance of working within organizational and policy arenas to create QI strategies that focus on meeting the health needs of patient populations (AACN, 2006). AACN states that these health needs must be current, have scientific underpinnings, be financially stable, and be diversified among cultures and populations (2006).

Two of my clinical rotations were spent at clinics serving lower-income populations with diverse ethnic backgrounds. Working in these clinics amplified the importance of taking into account target patient populations when formulating an effective care plan. The importance of a healthy diet, a clean-living environment, and moderate daily exercise are well-known keys to a healthy lifestyle. Counseling patients on the importance of exercise when they are homeless and do not know where their next meal will come from is wasted time and breath. If physiological needs are not present or met, there is no foundation, motivation, or physical reserve to gain more profound personal growth.

To be effective, an applicable QI measure must be tailored to specific patient populations. Instead of counseling this population on the importance of exercise, I had to ensure that the most basic needs, mental health, housing, and food, were addressed. I needed to tailor my plan of care to meet the most pressing health needs of the population I was serving. By helping these patients meet their basic needs, I increased patient safety and developed strategies for managing ethical dilemmas inherent to patient care.

Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care. Essential IV focuses on using information systems and technology (IT) to support and improve patient care and healthcare systems and provide leadership with healthcare systems (AACN, 2006). The implementation and use of IT underpinned the successful implementation of my QI project. An evidence-based tobacco cessation program was already used at my medical facility but was not being utilized due to a cumbersome electronic referral system. To have a worthwhile QI project, I had to meet with IT and informatics to transform the way referrals were made to the FFSP.

As a nurse, my knowledge of IT and informatics was necessity-based. I knew how to chart in the EMR, initiate verbal orders, and call the HELP desk if I needed assistance beyond the basics. Before implementing my project, I had to meet with informatics and IT and learn how to create a new tobacco cessation order set that would be straightforward, streamlined, user-friendly, and efficient. It was interesting to sit down with information technology and see their view of the nursing world and how integral their role was in successfully implementing QI measures. My meeting with informatics allowed me to implement a tobacco cessation referral system in the EMR that resulted in a substantial increase in referrals to the FFSP. This marked

increase in referrals translated to supporting and improving patient care and healthcare systems. This support and improvement in patient care created a widespread, positive effect for the community.

Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes. Essential VI highlights the importance of interprofessional teams to facilitate collaborative team functioning and employ effective communication and collaborative skills to implement practice models, guidelines, and scholarly products (AACN, 2006). Transitioning from being a nurse to a nurse practitioner is a study in interprofessional communication and collaboration. I was comfortable in my interprofessional communication as a nurse because I communicated that way for 12 years. I knew how to talk to patients, co-workers, and providers based on my role as a nurse. Becoming a nurse practitioner means learning a new way to communicate with patients and supporting workers and fellow providers. The most critical steps in this role are to believe in myself, my knowledge base, and project confidence. Effective communication and interprofessional collaboration mean not falling into the impostor syndrome trap. I am where I am supposed to be because I put in the time and effort to get here.

I completed many clinical rotations at my current place of employment and was giving orders to my co-workers. This change in dynamic was a balancing act. I had to balance my new role of being a provider and giving orders to nurses who saw me as one of their own with now being someone who was asking them to carry out my orders for patient care. This interprofessional collaboration requires respect from my co-workers and reciprocated to them from myself.

I also learned to talk with patients in a more definitive, confident manner. I no longer had a provider to defer to if I did not know the answer to a patient's question, had to deliver bad news, or told a patient no when they made an unreasonable request. I am now the final say, and this is a role that could take years to become comfortable with.

Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health. Essential VII speaks to the importance of health promotion and risk reduction for all individuals and families to help achieve the national goal of improving the health status of the population of the United States (AACN, 2006). This essential was the foundation of my FFSP implementation. Tobacco use is the leading preventable cause of death in the United States, and prevention interventions are underutilized in the healthcare setting (HHS, 2014). Combining these two facts gave purpose to the importance of creating an FFSP referral system that would be utilized and generate referrals that positively reduce the societal harm caused by tobacco usage. The DNP foundation of clinical prevention and population health allowed me to analyze data, find a suitable population health need, and synthesize concepts to develop an effective intervention to address health promotion and disease prevention.

Essential VIII: Advanced Nursing Practice. Essential VIII highlights the importance of a practice foundation that cuts across specialties and requires expertise, advanced knowledge, and mastery in one area of nursing practice (AACN, 2006). This foundation is built upon varied learning experiences in many different care settings. During my clinicals, I tried to vary my patient care settings and populations as much as possible. For me, this was the best way to learn various skills necessary to develop my clinical toolbox. At a specific clinical site, I learned how not to practice medicine and the importance of creating and maintaining a professional

environment. Patient care was directly correlated to the provider's attitude and professionalism at this clinic.

At another clinical site, I learned what it looks like to be a good, caring, knowledgeable provider yet be burned out by the mental demands of caring about patients' health more than they do. During my geriatric rotation, the nursing home visits were a stark reminder that we, as a population, do not treat our elderly with the love, care, or basic decency they deserve. It made me want to be a better provider for the geriatric population, and I realized how broken the long-term care system is. And this is truly unfortunate because, for the most part, the majority of us will have to rely on this system to keep us alive as we age.

Each of my rotation site experiences was varied, and I picked up helpful perils along the way. I improved upon my assessment skills and intervention implementation and evaluation throughout this journey. I added depth to my relationships with patients and providers and increased my clinical judgment levels to utilize evidence-based care to deliver appropriate patient outcomes. Overall, I learned skills to transition from being a nurse to becoming a DNP. I still have a very long road ahead of me to be the best provider that I can be, but I have taken the first step on that journey.

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