Implementing Multimodal Smoking Cessation Interventions in Adult Primary Care

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Contents

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Abstract

Tobacco use is a major modifiable risk factor that leads to preventable diseases, disability, and deaths. Despite the efficacy of smoking cessation interventions, the uptake of this practice by primary care providers is quite variable. This DNP project used a mixed methods participatory inside action research approach, to implement multimodal smoking cessation interventions using the 5A's and the 5R' s of smoking cessation, in a primary care setting. Before this project, patients that attended this practice were not screened for tobacco use, and there was no consistency in providing interventions. The DNP student investigator organized learning circle meetings to educate the healthcare team, to develop the implementation and adaptation of these interventions, and to leave a sustainable workflow for smoking cessation interventions for the practice to use. Chart reviews were performed to assess for adherence to interventions and force field analysis of the potency and amenability to change of the CFIR constructs. The results showed multiple barriers, facilitators, and unexpected findings, which guided the adaptation of workflows and the implementation plan. Evaluation of the data showed that adherence to asking about smoking status was 100%, and the rate of assisting patients in quitting smoking was 72%. The rest of the interventions had much lower adherence rates due to multiple barriers. The increase in potency and amenability to change of the CFIR constructs were in direct correlation to the adaptation of interventions to the practice. These results cannot be generalized, but they indicate that participatory inside action research had partial success in implementing smoking cessation interventions in a primary care setting.

Introduction

Tobacco use is a risk factor that leads to preventable diseases, disability, and deaths in the United States (Centers for Disease Control, 2019). An average of 34 million adults smoke in the United States as of 2017; of those, 16 million people are living with at least one disease caused by tobacco use (CDC, 2019). Smoking adds millions of dollars to the cost of healthcare due to chronic illnesses and treatments needed once an illness has occurred. The Centers for Disease Control and Prevention (2018) calculated that approximately 480,000 deaths per year occur due to smoking related illnesses, with over 300 billion dollars spent in the United States yearly solely due to healthcare costs associated with tobacco use. Smoking is expensive to the consumer and the healthcare system. In 2014, for every pack of cigarettes smoked, $10.47 was spent in healthcare costs related to medical expenses and losses in productivity associated with smoking (Jones, Garner & Cleveland, 2014).

Tobacco dependence is a condition in which the patient is unable to achieve smoking abstinence independently due to the nature of how nicotine interacts with its related receptors (Roh, 2018). A review of tobacco cessation interventions by the U.S. Preventative Services Taskforce (USPST), reports that 68.9% of adult smokers are interested in quitting smoking, and 42.7% of this group attempted to stop during the past year. Still, only 6.2% had stopped for less than one year (Patnode et al., 2015). The contrast between the high rates of tobacco dependence morbidity and mortality and the low rates of smoking cessation support the need for interventions to reduce tobacco dependence.

Primary care providers are in an excellent position to address smoking cessation because seventy percent of adults that smoke see primary care providers annually (Patnode et al., 2015). The 5 A’s and the 5 R’s for smoking cessation are evidenced-based interventions that were developed by the United States Department of Health and Human Services (USDHHS) and have

been recommended as a clinical practice guideline since 2000 (Agency for Healthcare Research and Quality, 2019). The 5 A's and 5 R's of smoking cessation can assist smokers in reaching complete abstinence. The 5 A's consist of (1) asking about tobacco use, (2) advising to quit, (3) assessing for willingness to quit, and if the patient is willing to quit then, (4) assisting in smoking cessation (using both behavioral and pharmacological approaches), and (5) arranging follow up for smoking cessation (AHRQ, 2019). The 5 R's model differs from the 5 A's in that it motivates patients who are smokers but do not want to quit; it includes (1) relevance, (2) risks, (3) rewards, (4) roadblocks, and (5) repetition (AHRQ, 2019). The 5 A's and the 5 R's are also the training of choice by the World Health Organization (WHO) to train primary care providers to assist tobacco users in quitting tobacco (WHO, 2019).

Despite the efficacy of these interventions, the uptake by primary care providers is quite inconsistent. The CDC reported that during a three year period, 62.7% of smokers were screened. Of those, only 20.9% received tobacco counseling, and only 7.6% reported receiving a prescription medication to treat tobacco dependence (Patnode et al., 2015). In a systematic review of self-reported smoking cessation counseling by primary care physicians, barriers such as beliefs of self-efficacy, relevant training, and the patient's characteristics and attitudes are the factors that influence whether or not the physician offers smoking cessation counseling (Bartsch, Harter, Niedrich, Brutt, & Buchholz, 2016).

A smoking cessation education program and collaborative developed implementation plan by the healthcare team, medical doctor (MD), nurse practitioner (NP), medical assistants (MA), and billing assistant (BA) in a private practice primary care setting, could potentially benefit patients with tobacco use disorder.

Background and Significance

Multiple chronic disabling and life-threatening conditions, such as lung cancer, stomach cancer, colon cancer, congestive obstructive pulmonary disease, cerebrovascular accidents, asthma, infertility in women, premature or low weight childbirths, and even diabetes are all related to cigarette smoking (American Lung Association, 2019). The negative health impacts of smoking are well-known and extensively advertised, yet many people continue to smoke. According to the National Commission of Prevention Priorities, smoking cessation is rated one of the five services which could provide the highest health improvement in today's healthcare, alongside addressing obesity-related behaviors, alcohol misuse, colorectal cancer screening, and influenza vaccinations (Maciosek et al., 2017). Annual smoking cessation screening and counseling are considered one of the three highest ranking services that should be provided to patients seeking care because of its cost effectiveness. The other two services are child immunizations and counseling to prevent tobacco initiation among youth (Maciosek et al., 2017).

Globally, one in ten deaths is caused by tobacco use, the prevalence of cigarette smokers is over 1.1 billion people, the majority being males from Eastern Mediterranean countries and in the African continent (WHO, 2019). These numbers are remarkable when taking into consideration this rate of preventable deaths is due to a business that distributes nicotine products. Cigarette smoking dependence is not an inherited, or idiopathic condition, it is a disease caused by a product that is marketed worldwide for profit, not the health and well-being of people on the planet.

Nationally, 14 of every 100 persons in the United States smokes cigarettes, which translates to approximately 34.3 million adults (CDC, 2019). In the State of New Jersey, overall smoking rates were 17.1% in 2011, which later decreased to 14.2% in 2016 (New Jersey Department of Health, 2018). On a local level, Hudson County, with a population of 674,836, it

is the most densely populated county in New Jersey. It has a rate of smokers of 19.2%, which is 1.9% higher than the smoking population in the State of New Jersey (Robert Wood Johnson Barnabas Health, 2016).

Healthy People 2020 had a goal to decrease the rate of cigarette smokers to 12.4% from 16.7% in 2016 by the year 2020 (New Jersey State Health Assessment Data, 2018). The UDDHHS has published proposed objectives for Healthy People 2030, these goals include the reduction of cigarette use and exposure in all age groups, an increase in smoking cessation practices in all settings including substance use and mental health facilities, increasing tax costs and reducing permits for the sale of tobacco products and e-cigarettes, increasing indoor and outdoor smoke free areas and increasing comprehensive Medicaid insurance coverage of evidence based treatment for nicotine dependency in all states and the District of Columbia (USDHHS, 2019). The specifics of these goals have not yet been published. The CDC (2019) considers comprehensive coverage of smoking cessation treatment that is covered for all plans, including fee for service and managed care plans. As of June 30th of 2019, the only states that have comprehensive Medicaid coverage for smoking cessation treatments are California, Colorado, Connecticut, Indiana, Kansas, Kentucky, Maine, Massachusetts, Minnesota, Missouri, Ohio, Oregon, South Carolina, Rhode Island and Wisconsin (CDC, 2019).

Socioeconomic disparities in cigarette smoking have existed and persist over time. Smoking rates for those with low income remains high at 26.1% when compared to those above the poverty line at 13.9% (Lasser et al., 2017). For those living in poverty, funded smoking cessation support and products are available for those who reside in states that provide comprehensive smoking cessation assistance services via Medicaid. However, individuals with low income receive less support towards smoking abstinence, increasing the risk of preventable conditions in this group (Lasser et al., 2017).

The U.S. Preventative Taskforce (USPTF) (2015) rates behavioral and pharmacological interventions for smoking cessation to adults who are not pregnant a grade A. An A grading correlates to evidence of substantial benefit and should be offered to patients that meet the criteria (Jones et al., 2014). The Agency for Healthcare Research and Quality (2012) recommends explicitly the 5 As and 5 R s interventions. The WHO (2014) reported that when providers use these smoking cessation evidence based interventions, the number of attempts by patients to quit smoking increase by 40%, and of this group, between 2% to 3% will successfully quit smoking.

The USPSTF approved seven over the counter and prescription medications to treat tobacco dependence: three over the counter nicotine replacement therapy (NRT) products (patch, gum, and lozenges), two prescription-only NRT products (inhaler and nasal spray), and two prescription-only non-nicotine products, bupropion hydrochloride and varenicline tartrate (Patnode et al., 2015). Non-pharmacological interventions encompass multiple modalities, which include self-help materials, phone-based interventions, counseling, and alternative therapies like acupuncture, hypnosis, laser therapy, electrostimulation, and the consumption of herbals (Patnode et al., 2015).

West et al. (2015) rated the efficacy of pharmacological products more effective than non-pharmacological. Table 1 and Table 2 describe the effectiveness of pharmacologic and non-pharmacologic interventions. Both types of interventions are complementary and support smoking cessation, 95% of those who attempt smoking cessation without pharmacologic aids will either continue to smoke or relapse within one year of their attempt to quit (Patnode et al., 2015).

Table 1.

Efficacy of Pharmacologic Smoking Cessation Interventions.

Pharmacologic Intervention	Success rates of 6-12 month abstinence
Single NRT versus placebo	6%
Dual form/combination NRT	11%
Bupropion	7%
Varenicline	15%

Adapted from "Health-care interventions to promote and assist tobacco cessation: a review of efficacy, effectiveness and affordability for use in national guideline development" by West et al. (2015).

Table 2.

Efficacy of Non-pharmacologic Smoking Cessation Interventions Alone.

Non-Pharmacological Interventions	Success rates of 6-12 month abstinence
Brief advice	2%
Printed self-help materials	3%
Proactive telephone support	3%
Automated text messaging	4%
Face-to-face individual behavioral support	4%

Adapted from "Health-care interventions to promote and assist tobacco cessation: a review of efficacy, effectiveness and affordability for use in national guideline development" by West et al. (2015).

The 5 A's and 5 R's framework was created to guide the provider's actions to smoking abstinence, but these interventions need to be applied appropriately to increase their effectiveness. When primary care providers use these interventions, they often do not implement them in their entirety (El-Shahawy, Shires, & Elston Lafata, 2016). Park et al. (2015) explain that smokers already feel stigmatized when providers only ask, advise, and assess. But when the provider also assists and arrange care for smoking cessation, the patients perceive that the provider is collaborating towards their well-being (Park et al., 2015). It has been found that patient satisfaction increases when smoking cessation interventions are incorporated in their entirety, and the patient's experience of care is enhanced when the appropriate interventions are used (Park et al., 2015).

Providers indicate multiple barriers to implementing smoking cessation interventions, such as lack of time, prioritizing acute and chronic symptoms, discouragement secondary to low smoking cessation successes, and poor belief in the effectiveness of these practices (Bailey et al., 2018). Reimbursement payments are also a significant determinant in the implementation of smoking cessation guidelines. Value-based reimbursements, such as those provided in accountable care organizations (ACOs), provide incentives for effective care that prevents high-cost illness and increases emphasis on care coordination (Huskamp et al., 2016). Fee for service care only covers the patient visit while not taking into consideration the overall care provided, similar to a transaction of goods. In this reimbursement system, the provider does not benefit from applying preventative measurements to their everyday practice. Smoking cessation is not made a priority because there is no financial benefit, and screening and interventions may not be provided. Reimbursement based on the value of care leads to patient-centered care; fee-for-service is transactional and does not offer incentives for preventative care.

Private practice owners recognize that the capacity to identify high-risk patients and provide resources is limited when compared to practices owned by large healthcare organizations (Robertson-Cooper et al., 2017). Expenses related to staffing that focuses on quality of care improvement costs an average of $50,500 per year (Robertson-Cooper, Neaderhiser, Happe & Beveridge, 2017). Furthermore, the staff spends an average of 7.8 hours a week, and physicians 3.9 hours to input, track, and report quality measures (Robertson-Cooper et al., 2017). In a private practice that is fee-based, the owner will have to take the financial responsibility alone, while ACOs have shared responsibility. Due to the lack of focus in fee-based practices towards metrics that improve the value of care, the implementation of the 5 A's and the 5 R's of smoking cessation will contribute towards enhancing the value of care.

To address reimbursement and increase smoking cessation assistance, on May 2nd, 2014, the Affordable Care Act (ACA) clarified that insurers must cover screening for tobacco use and, for those who use tobacco products, at least two tobacco cessation attempts per year (Patnode et al., 2015). Additionally, all FDA approved tobacco cessation products, both over the counter and by prescription, need to be approved for a 90-days when prescribed by a healthcare provider (Patnode et al., 2015).

Needs Assessment

During clinical preceptorship, the DNP student investigator became aware that the primary care practice where she was training, only screened for smoking status during the initial collection of new patient history by the Mas. It was also selectively done by the MD or NP providers when patients presented with chronic respiratory symptoms associated with tobacco use disorder. No uniform or consistent screening and smoking cessation interventions were being done on follow up visits. Therefore, a significant need was identified to address this gap in care at this practice.

The gap in care was addressed by implementing a quality improvement multimodal smoking cessation project using insider participatory action research to implement smoking cessation interventions using the 5 As and the 5 Rs of smoking cessation.

This project was feasible because the DNP student investigator received the approval of the physician, owner of the practice, to engage herself and the members of the healthcare team in learning about smoking cessation approaches and then implementation of the 5 As and the 5 Rs at the practice. The MD agreed with this study because she recognized the changing atmosphere in healthcare towards improved outcomes and value-based payments systems. The ACA and the USDHHS Centers for Medicare & Medicaid Services (CMS), are both transitioning their reimbursement practices towards value-based payment goals. The transition of the payment method has led providers to move away from fee for service reimbursement to a value-based system to meet those goals (Robertson-Cooper et al., 2017). Additionally, upon conversing with the practice staff, the DNP student investigator and the healthcare team agreed that this project would improve their practice.

The identified potential barriers for the project to be successful in this setting are the lack of electronic medical records, lack of training and education related smoking cessation efficacy of interventions, reluctance to prescribe pharmaceutics to assist with cessation due to skepticism of benefit, perception of inadequate reimbursement, and personal history of smoking by the NP and the BA in the study practice.

Problem Statement

Guidelines to address smoking dependence exist and are supported by multiple global and national organizations, however, in the identified private practice, patients were not being screened, and smoking cessation interventions were not being provided. No workflows for

smoking cessation screening existed that would be able to trigger any smoking cessation interventions.

Aims & Objectives

The principle aim of this DNP project was to implement high-quality smoking cessation interventions in an adult primary care setting. The DNP student investigator addressed the gap in the lack of smoking cessation interventions by focusing on the following objectives:

1. Develop a smoking cessation teaching and education program specific to the healthcare team in the identified setting using evidence-based and best practice guidelines.
2. Develop and facilitate a learning circle that includes the DNP student investigator, as facilitator and participant, and the members of the healthcare team in the selected practice (MD, NP, two MAs, and BA).
3. Deliver training and education to the participants of the learning circle at the first meeting.
4. Develop a collaborative implementation plan for smoking cessation with learning circle participants.
5. Evaluate the uptake of the implementation plan via chart reviews and learning circle meetings.
6. Share the results of the chart review with the learning circle and adapt the implementation of the initial plan collaboratively.
7. Evaluate the CFIR constructs by using force field analysis to assess changes to potency and amenability pre-implementation and after each learning circle.
8. Reevaluate implementation with further chart reviews and learning circle meetings.
9. Finalize the project with a sustainable workflow.
10. Share final outcomes with learning circle participants.

Search Strategy

The literature search strategy completed by the primary investigator was focused on the implementation of smoking cessation guidelines in the primary care setting. Databases searched were PubMed, Medline Ovid, and CINHAHL. The keywords used for the search were "smoking cessation interventions," "implementation," "smoking cessation," "primary care," and "5 As" and "5 Rs". The search yielded a total of 868 articles. Abstracts were reviewed to assist with the selection of relevant articles. The inclusion criteria used were adult population (over 18 years old), articles in English language, peer-reviewed, written within the past six years (2014 to the present). Exclusion criteria consisted of articles that solely discussed smoking during pregnancy, interventions outside of the clinical practice that did not include assisting, articles that did not focus on implementation practices, and articles before 2014. Thirteen articles were research articles. The Agency for Healthcare Research and Quality was also searched; one non-research article was obtained. After the search was completed, 14 articles were included.

Literature Review

This literature review focuses on the pattern of poor implementation of smoking cessation guidelines, the barriers to implementation, and the facilitators to implementing these interventions in the primary care setting. Despite the abundance of evidence that supports the 5 As and the 5 Rs of smoking cessation effectiveness, multiple studies show that in primary care the implementation of these interventions are inconsistent and most providers fail to comply with them (Papadakis, Gharib, Hambleton, Reid, Assi & Pipe, 2014 p. e370; Andres et al., 2019, p. 164; Martinez et al., 2017 p. 9; Bailey et al., 2017 p. 193; Omole, Ayo-Yusuf & Ngobale, 2014, p.1 & Champassak et al., 2014 p. 4). Moreover, a study that reviewed the appropriateness of the 5As and the 5Rs of smoking cessation interventions used in primary care showed that less than

15% of smokers receive the recommended counseling targeted towards their readiness to quit (El-Shahawy et al., 2016, p. 4).

During primary care visits, clinicians mostly ask about smoking status and advise patients to quit smoking but do not go further (Omole et al., 2014, p. 4; Martinez et al., 2017, p. 9). In a study that examined the implementation of the 5A's by clinicians, results showed decreasing adherence to the interventions with each consecutive step of the smoking cessation guidelines, and a substantial decline when assisting patients to quit smoking and arranging follow up (Martinez et al., 2017, p. 3; Bailey et al., 2017, p.196; Andres et al., 2019, p. 165; Papadakis et al., 2014 p. e369). The poor performance of implementing these interventions has led to missed opportunities in providing behavioral and pharmacological smoking cessation treatments. For every three to four screening conducted, only one leads to behavioral interventions, and for every seven screenings conducted, only one patient receives pharmacotherapy (Leone, Evers-Casey, Graden, Schnoll & Mallya, 2015, p. 855). Assisting patients in smoking cessation is more often seen in first-time visits or annual examinations when compared with other types of appointments, leading to missed opportunities (Papadakis et al., 2018, p. 503; Papadakis et al., 2014 p. e365).

The recommended clinical practice guideline of the 5 R's of smoking cessation guidelines are used when a patient is not ready to quit smoking within 30 days. The provider diverts from the 5 As and uses the 5 Rs of smoking cessation approach using motivational interviewing to help sway ambivalent patients about quitting (AHRQ, 2019). In a study by Champassack et al., researchers point out that there is a limited amount of research about the implementation of the 5 Rs of smoking cessation and the use of motivational interviewing (2014, p. 1). The study found that physicians most frequently discussed the patient's personal relevance for quitting and the risks of smoking, but roadblocks and rewards were discussed relatively infrequently (Champassak et al., 2014 p. 5). No mention of repetition, the last step of the 5 Rs of

smoking cessation, was done in this study. Physicians also more frequently used motivational interviewing incorrectly, by asking closed questions and advising without permission, than using motivational interviewing strategies as directed (Champassak et al., 2014 p.6).

Multiple studies make clear that personal barriers, such as personal cigarette use by the treating provider, are directly related to inadequate smoking cessation interventions (Martinez et al., 2017, p. 3). On the other hand, in a qualitative study about perceptions of smoking cessation practices in the primary care setting, it is recognized that provider's dislike for smoking promotes their engagement in tobacco cessation interventions adherence (Omole et al., 2014 p. 4). Personal feelings of discouragement due to patient's previous failed attempts of smoking abstinence also interfere with the implementation of smoking cessation (Wray et al., 2018, p. 1419; Martinez et al., 2017, p. 4). The personal perception of being intrusive or unpleasant when discussing smoking habits are also misconceptions that the provider needs to overcome to address smoking cessation adequately (Andres et al., 2019, p. 164; Omole el at., 2014, p. 4). A factor that engages providers in the delivery of interventions for smoking cessation is the patient's readiness to quit smoking (Papadakis et al., 2018, p. 503; Omole et al., 2014 p. 4; Papadakis et al. 2014, p. e365, Andres at al., 2019, p. 165). Provider personal beliefs were also recognized as facilitators to the implementation of smoking cessation. Several studies acknowledge that the provider's understanding about the importance of smoking cessation and the role of providers to intervene increase rates of asking about smoking habits (Bailey et al., 2017, p. 196; Papadakis et al., 2014, p. e365; Papadakis et al., 2018, p. 503). Furthermore, providers that accept the responsibility for assisting in smoking cessation and part of their job are more adherent to smoking cessation guidelines adherence (Bailey et al., 2017, p.196; Martinez et al., 2017, p. 4).

Preconceptions about poor effectiveness of smoking cessation interventions are a barrier resulting in poor adherence to implementation in practice (Andres et al., 2019, p. 165; Martinez et al., 2017, p. 9; Omole et al., 2014, p. 3). Inadequate understanding of tobacco dependence has been associated with provider frustration and negative attitudes between the provider and the patient as relapse from smoking abstinence might occur because of nicotine addiction (Omole et al., 2014, p. 3). Poor understanding about the addictive nature of tobacco and tobacco dependence leads to lack of self-confidence in the provider's ability for treatment (Omole et al., 2014, p. 7) Poor understanding about the process of smoking cessation is another barrier to smoking cessation implementation by the provider (Martinez et al., 2017, p. 5). In a study that focused on compliance to the 5 A's of smoking cessation observed that having positive experiences was the most recurrent factor for the performance of each of the components of the 5A's model (Martinez et al., 2017, p. 5). Improvement of individual skills brought by increased training and education causes a change in the attitudes and beliefs of the providers and also promotes confidence. Both are related to positive outcomes on the implementation of smoking cessation guidelines (Andres et al., 2019, p. 165; Hung, Leidig & Shelley, 2014, p. 159).

Abdelazim, Nour-Eldein, Ismail, Al Sayed & Abdulmajeed. (2018, p. 572), Martinez et al. (2017 p. 4) and Sebo, Maisonneuve, Fournier, Senn & Haller (2017 p. 2), identified that inadequate training and lack of understanding of pharmacological and behavioral interventions lead to poor adherence in daily practice. In a study that used audio recordings of patients' visits to evaluate for appropriateness of the 5As and 5Rs of smoking cessation, it was concluded that for smoking cessation guidelines to be implemented appropriately, providers would need specialized training for motivational interviewing or would need to be able to refer patients to counselors with the necessary skills because of the poor adherence rates to the interventions (Champassak et al., 2014, p. 8). Referral to counselors with appropriate training was also

recommended in a systematic review that examined integrating care for adherence to tobacco cessation interventions (Wray et al., 2018, p. 1423).

Organizational support by increasing smoking cessation resources and decreasing patient overload, increase the provider's adherence to the 5 As and 5 Rs of smoking cessation guidelines (Andres et al., 2019, p. 166; Martinez et al., 2017, p.4; Omole et al., 2014 p. 7). Martinez et al. findings identified that receiving organizational support increase 5As delivery, mainly assisting and arranging interventions (2017, p. 4). Lack of time to address smoking cessation has also been a recurrent theme in multiple studies, and consider smoking cessation an interference to providing other medical interventions during clinical consultation (Andres et al., 2019, p. 164; Wray et al., 2018, p. 1419; Sebo et al., 2017, p. 2; Martinez et al., 2017, p. 9; Omole et al., 2014, p. 3). El-Shawary et al. (2016, p. 7) explain that providers might be wasting time during the delivery of tobacco-related counseling because of the use of non-indicated tobacco use counseling. Time constraints had led providers to selectively advise patients, specifically in the presence of smoking-related illnesses, leading to missed clinical opportunities to help patients quit smoking (Omole et al., 2014, p. 5; Papadakis et al., 2014, p. e365). Other studies support screening of smoking to be included as part of vital signs screening to prevent selective screening and increase uniformity (Bailey et al., 2017, p. 196; Omole et al., 2014, p. 5; El-Shahawy et al., 2016, p. 7). By reducing variation in practice, providers are more likely to adopt guidelines that are known to be challenging to adhere to them (Hung et al., 2014, p. 159). Organizational support in the form of protocols, rules, and resources leads to an improvement in adherence to smoking cessation guidelines (Martinez et al., 2017, p. 10; Hung et al., 2014, p. 159).

Researchers have used multiple approaches to increase the implementation of smoking cessation practices. Leone et al. (2015, p. 855) used academic detailing to implement complex

treatment behaviors, including smoking cessation. Academic detailing are brief interactions between a provider and trainer ranging from 3 to 5 minutes that are focused on correcting any misunderstandings and are personalized to the needs of the provider (Leone et al., 2015, p. 855). The findings had limited success with ask, advise, and assess, but remained marginally suboptimal for assisting and arranging follow up (Leone et al., 2015, p. 857).

Other studies discussed provider preferences about the types of feedback preferred to increase the acceptability of preventative care interventions and increase guidelines adherence (Sebo et al., 2017, p. 2; Papadakis et al.,2018, p. 503). Feedback is a peer-to-peer audit that helps guide the actions taken by the provider to modify or improve their practice, so that adherence to guidelines is obtained by focusing the provider towards a goal (Sebo et al., 2017, p. 6). Both studies identified that feedback is most often useful when it is provided by a respected and knowledgeable colleague that provides specific and tangible goals and an action plan is developed to achieve these goals (Sebo et al., 2017, p. 2; Papadakis et al., 2018, p. 504). Sebo et al. identified that the two preferred and feasible feedback interventions were a brief report and a report with specific information regarding prevention best practice. There was limited acceptability for a face-to-face discussion with clinicians (2017, p. 6).

There are some limitations in the literature reviewed. Only one study was found which researches and evaluates the implementation of the 5 Rs of smoking cessations. It emphasized the lack of studies about this set of interventions (Champassak et al., 2014, p. 3). There was no mention of the roles of medical assistants play in the implementation process of guideline recommendations. While many studies address smoking dependence as a health risk, not many studies on the implementation of smoking cessation practices were found.

The majority of studies which reviewed the implementation of the smoking cessation relied on self-reports by the providers or on patient smoking abstinence; nevertheless, did not

evaluate the quality of the interventions provided (Bailey et al., 2017, p. 198; Andres et al., 2019, p. 166; Sebo et al., 2017, p. 6; Leone el at., 2015, p. 856; Hung et al., 2014, p. 157; Martinez et al., 2017, p. 9; Omole et al., 2014, p. 9; Abdelzalim et al., 2018, p. 574; Pappadakis et al., 2014, p. e370). Additionally, only two studies used audio recordings to confirm the adequate implementation of smoking cessation practices was being provided during patient visits (Champassak et al., 2014, p. 3, El- Shawadi et al., 2016).

Theoretical Framework

The Consolidated Framework for Implementation Research (CFIR) is a meta-theoretical framework that promotes and explains the implementation of evidence-based guidelines into multiple contexts (Damschroder et al., 2009). CFIR integrated 19 implementation theories to improve the translation of evidence-based theories and recommendations to practice (Damschroder et al., 2009). The CFIR has five domains: (1) intervention characteristics, (2) the inner and (3) the outer setting, (4) the individuals involved, and (5) the process by which implementation is accomplished (VanDevanter et al., 2017). Within these five domains, 39 constructs have been developed which influence the process of implementation within multiple contexts, and the user can decide what aspects and constructs of the theory are applicable for each specific project (Danshroder, et al., 2009). While CFIR is comprehensive and well-developed, there are no constructs that address the issue of power dynamics of the team doing the implementation.

Figure 1. Consolidated Framework for Implementation Research (CFIR)

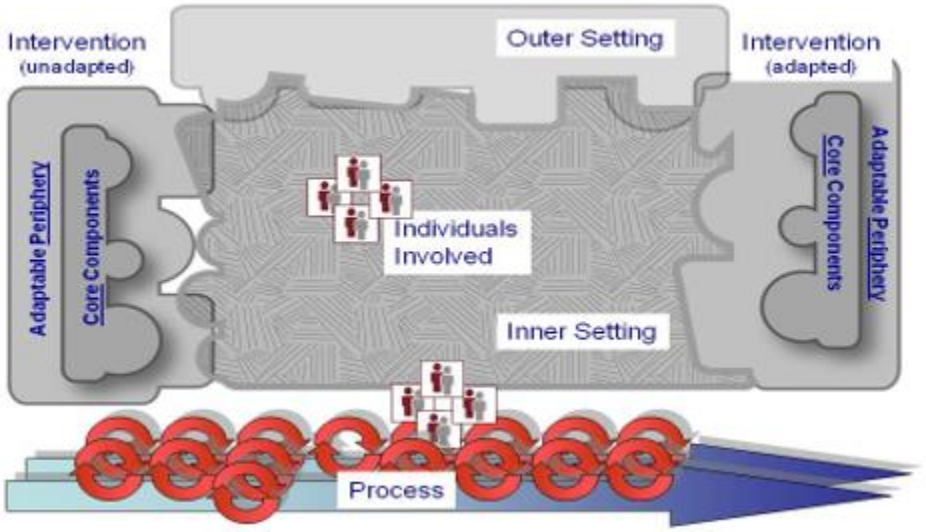

Figure 1 used with the permission of Author Laura Damschroder.

The DNP student investigator operationalized the 39 constructs of the CFIR to fit with the implementation project and added "team power dynamics" as an additional construct. The CFIR domains and constructs will guide the DNP student investigator to keep in view the many areas of implementation that need to be attended to during this project. The Peer pressure construct was not included because it does not apply to this implementation process. After all, the practice is a single owner practice that is not in direct competition and does not have access to comparison to other local practices.

Research Questions

The research questions for this study were the following:

1. In primary care, how does the implementation of multimodal non-pharmacological and pharmacological smoking cessation interventions using the 5 As and the 5 Rs, affect the uptake of screening and smoking cessation interventions in practice?

2. What are the barriers, facilitators, and unique findings pertaining to this practice that influence the implementation of smoking cessation interventions?
3. In what manner has the potency and amenability of the CFIR constructs changed throughout the project?
4. What personal lessons have been learned by the DNP student investigator via 1st person inquiry done before and throughout the implementation process of smoking cessations?

Methods

Research Design

This study was conducted by using a mixed methods participatory inside action research approach to implement multimodal smoking cessation interventions in a primary care setting. Action research is a process that promotes change in an organization by continually seeking knowledge and developing self-competency using collaboration and co-inquiry (Coughlin, 2019, p.5). Four main principles of participatory action research guided the methodological approach of this study: (1) participation and collaboration of all participants at different levels, (2) cyclical planning, action, observation and reflection taking into consideration the information provided by the participants; (3) consideration of the participants' daily activities and adaptability to their workflows; and (4) social change and shared problem-solving (Cordeiro & Soares, 2018, p. 396). These principles emphasize that the process for implementation is not linear, but iterative. The DNP student investigator was acting as an inside action researcher by working alongside the healthcare team in the implementation process of smoking cessation interventions.

Setting

The DNP project was conducted in a primary care physician’s office located in Bayonne, New Jersey. The practice was a for-profit, privately owned business. The healthcare team in this

setting included a medical doctor (MD), a nurse practitioner (NP), two medical assistants (MAs), and a billing assistant (BA) who worked at this setting. The practice is owned by the MD. The MD had been practicing medicine for the past 20 years and was a member of the State Board of Medical Examiners in New Jersey. The NP had been part of the practice since October 2018 and left the practice during the implementation process in October 2019. Both the MD and NP functioned as primary care providers. Two MAs had both worked over three years in practice; their daily duties consisted of performing initial patient interviews for chief complaints, collection of medical history, and vital signs. The BA had worked in the practice for approximately one year. She managed reimbursement billing codes throughout the day and confirmed insurance coverage before the visits.

The patient population that attended the practice where this study was conducted was of diverse ethnical backgrounds. The majority were from Arabic, Hispanic, African American, and Eastern European origins. Before this research, the number of smokers that attended the practice was unknown. On average, approximately 139 patients were seen every week.

The practice accepted multiple types of insurance: Medicare, Medicaid, private insurance, and out of pocket payments. The practice did not use electronic health records; documentation was solely done by hand. Billing and medical appointments scheduling were the only computerized records.

Sample

A convenient sample of participants was used for this project. They were the MD, NP, two MAs, and BA who expressed interest in the project and agreed to participate in this project.

Time Frame

The study was conducted from August to December of 2019. See Appendix H.

Ethics

The DNP student investigator obtained IRB approval from Rutgers Health Sciences IRB on August 13th, 2019.

Research Procedures and Data Collection

The research procedures of the study are described below. Each provided different types of data to evaluate the development, implementation, and adaptation of the smoking cessation project.

1. Learning Circle. Learning circles are a group of individuals who engage in a highly interactive, participatory structure for organizing teamwork. The goal of a learning circle is to build, share, and express knowledge through a process of open dialogue and deep reflection around issues or problems with a focus on a shared outcome (Riel, 2014). The learning circle participants in this project were the DNP student investigator, the medical doctor, nurse practitioner, two medical assistants, and the billing assistant of the practice in which this project was conducted. The learning circle met with the DNP student investigator on six occasions at the practice for approximately 20 minutes during each session. The goals of these meeting were: (1) to train and educate the learning circle about smoking cessation grade A guidelines, (2) to collectively collaborate and develop the implementation of the 5 As and 5 Rs, specific to the project setting, (3) to evaluate and adapt the smoking cessation approach to the setting to increase adherence to guidelines, (4) to implement sustainable workflows with participant's input by utilizing learning circles.

During learning circles two to five, the DNP student investigator took the role of facilitator, shared the goals and objectives for each meeting, and encouraged dialogue and

collaboration. After the initial education and training session, provided during the first learning circle, learning circles two to five focused on: (1) perceived barriers and facilitators to implementation of the 5 A's and 5 R's of smoking cessation in the practice; (2) adaptation of workflows to increase adherence to smoking cessation interventions implementation; and (3) creation of a sustainable plan for the practice to continue after the completion of this project. Learning circle six was to share the results with the healthcare team.

During the learning circles, the DNP student investigator took field notes based on the participants' discussions and observations occurring during the meetings. Each member had different perspectives and roles in the implementation process. Their feedback was essential in the process of implementation of the 5 A's and the 5R's of smoking cessation in the practice. When each learning circle was finished, the DNP student investigator reflected on the learning circle field notes and transcribed them into a Word document and distributed them to the learning circle members the following week. After the learning circle participants read their copy of the field notes, the DNP student investigator inquired if the transcribed field notes reflected their project impressions and adaptation plans or if any changes or clarifications were required. After reviewing the learning circle field notes, participants did not request any changes and confirmed they were an accurate representation of the learning circle work.

*Learning Circle meetings***.**

The outline below provides an overview of the general topics discussed in each learning circle.

Learning Circle #1 – Training and education. During the initial learning circle, the DNP student investigator explained the project to the learning circle members by using the recruitment script (Appendix O). The recruitment script detailed the number of meetings, the types and number of sessions: educational, implementation, and sustainability learning circles; the chart review process and the goals of the project.

The goal of the meeting was for each member of the learning circle to reflect on the information and to consider the role they will partake during the implementation process. After reviewing the overall project with the learning circle, the meeting focused on educating the learning circle about the 5 As and 5 Rs of smoking cessation; to provide information about the screening process, pharmacology resources, billing codes and to demonstrate the efficacy of these guidelines in pursuance of increasing adherence by the learning circle. During this training and education learning circle, no field notes were taken based on the nature of the meeting.

The DNP student investigator provided an education and training session to the learning circle, which included an interactive simulation of smoking cessation interventions being applied to a patient who did not want to quit smoking within the next 30 days. The simulation was based on the following evidence based smoking cessation guidelines and provisional forms:

- Guidelines of the 5 A's and the 5R's of smoking cessation (Appendix C)
- Sample for smoker status screening that is added to vital signs (Appendix D)
- Smoking cessation pharmacotherapy options sheet (Appendix E)
- Billing codes for smoking cessation counseling (Appendix F)
- Smoking cessation referral resources (Appendix G)

Ultimately, the DNP student investigator clarified any questions the learning circle had about the information provided and scheduled to meet with the learning circle again in two weeks to devise an implementation plan specific to the practice collaboratively.

Learning Circle #2 –Implementation planning. Two weeks after the educational learning circle session, the learning circle met again to discuss and develop the implementation plan for screening all patients being seen in the practice and implementing the 5 As and the 5 Rs of smoking cessation for those patients who screened positive for smoking. During this learning circle, the group decided that the vital sign's area of the intake forms for first-time visits and re-

visits would be changed to include a smoking status question. The MA was required to circle "Y" for yes and "N" for no when the patient answered during the interviewing process. If the patient was identified as a smoker, the physician or nurse practitioner was prompted to follow the 5As or 5Rs of smoking cessation interventions. The interventions provided to the patients already identified as smokers were to be documented on the progress notes area, and any new medications were added to the medication record. The physician or nurse practitioner determined if the patient would benefit from smoking cessation resources and would provide the resource form to the patients (Appendix G).

The BA received the charts once documentation was completed by the MD or NP. If smoking dependence was a current diagnosis or any smoking cessation interventions were documented on the progress notes, the BA would use billing codes appropriately (Appendix F) to submit for insurance reimbursement of the smoking cessation services. Separately, the BA had the task of writing the newly identified smokers' names on a list, alongside the number of patients seen by the providers each day. This list was kept in the chart room for the DNP student investigator to review the charts belonging to these patients and to evaluate which interventions were used.

During this meeting, the learning circle requested that the DNP student investigator add local resources for patients who may want to attend smoking cessation group meetings locally. And, to change the smoking cessation assistance phone line information in the referral form to reflect numbers rather than letters. Appendix P demonstrates the updated version of the referral form with the requested changes. Furthermore, the numeric changes to the counseling numbers would simplify the information with the hope of increasing the use of telephone resources. The

changes to vital signs form were done immediately after the end of the meeting while the DNP student was present at the request of the MD.

The referral form changes were completed by the DNP student investigator by the end of the day before the first day of implementation. The implementation plan started the following day.

Learning Circle #3 –Barriers, Facilitators, and Adaptation of the implementation plan. One month after the initial implementation, the learning circle met to evaluate the updated implementation plan related to the changes to the workflows established during the previous meeting. We also discussed barriers, facilitators, unexpected events, and considered if any adaptations were required to improve adherence.

The MD and the NP both verbalized difficulty providing the interventions because of the lack of time, but were satisfied with the referral sheet because it eased their ability to assist the patient with smoking cessation. They both requested to add the amended smoking cessation referral sheet to the office's database of referral forms to ease daily printing. A copy of the referral form was added to each computer at the practice.

The MAs reported that during the interview process about smoking status, patients self-disclosed using other substances, such as alcohol and marijuana. At that moment, each MA had a different approach to this finding: one did not document the patient's statement and just circled "no" on tobacco smoking status, and the other one wrote a note under that area specifying the patient's response. The learning circle collectively agreed on the need to establish a workflow and to amend the smoking screening area in the vital signs sheet by adding "Other." The purpose of this change was for the MA to be able to write which substance the patient self-disclosed using if necessary.

The BA reported the process had become a daily task and had no further input.

Afterward, the DNP student investigator shared the results from the chart review with the learning circle (explanation of chart review procedure on p. 32) to keep the participants abreast of the interventions. The changes requested during this learning circle were the following: (1) adding "other:" to smoking status and writing any other substances the patient self-discloses; and (2) adding the amended referral sheet for smoking cessation to the practice's specialists database to ease the process of assisting with smoking cessation by the MD. The learning circle then adapted the implementation plan and made changes at the end of the meeting. Implementation of the adaptation started the next day.

During this meeting, the nurse practitioner revealed that she would no longer be part of the project because she was going to resign the next week. The learning circle expressed previous knowledge about her departure, and the MD decided she will continue with the implementation process of the smoking cessation interventions without the NP.

Learning Circle #4 –Barriers and Facilitators to Implementation and Adaptation plan. This fourth learning circle meeting reviewed the previous month's established workflows, barriers, facilitators, unexpected findings. It also evaluated the implementation plan for possible changes in workflows to increase adherence to smoking cessation guidelines. The DNP student investigator again reviewed the results from the chart review done the previous month. The MAs and BA reported that the workflows have become routine, which eased its implementation.

The MD expressed a disinclination to adhere to providing all the interventions of the 5 As and 5 Rs of smoking cessation due to lack of time, worsened by the departure of the NP. This barrier was especially challenging when using the 5Rs of smoking cessation because of the long time needed for motivational interviewing to be successful. The DNP student investigator reviewed guidelines with the learning circle to highlight that smoking cessation interventions can

take as little as 3-5 minutes. The MD reported that a facilitator towards achieving this objective was to provide the smoking cessation referral sheet as the primary source of assistance for smoking cessation.

In review, the MD will attempt to take between 3 to 5 minutes for the implementation of smoking cessation interventions and will provide the referral sheet to all patients regardless of willingness to quit to assist them with smoking cessation. No further implementation adaptation was needed by the decision of the group.

Learning circle #5 –Barriers and Facilitators to Implementation, Adaptation Plan, and Sustainability Plan. In the learning circle, the group discussed the final evaluation of the implementation plan was completed. Barriers, facilitators, unique findings, and the results from the chart review were shared with the learning circle. A plan for continuation and sustainability of the implementation of smoking cessation interventions was created with the learning circle. The MAs would continue to screen patients for smoking status; the MD would continue providing interventions and local resources to assist patients with smoking cessation. The BA will verify local resources are still up to date and will update information every quarter when updating the office's referral database.

Learning Circle #6 –Presentation of results: The final results of the study were shared with the learning circle. No input was required, it was noted that the healthcare team had continued to provide smoking cessation interventions to patients identified as smokers.

Table 3 shows a summary of each learning circle meeting objectives, types of data collected, and implementation plans.

Table 3.

Meetings, Objectives, Data collected and Implementation Plan

Date	Learning Circle Type	Objectives	Data collected	Implementation plan
1st 08/23/2019	Training and education learning circle	• Explain goals and procedures • Provide training and education	None	None at this time
2nd 09/06/2019	Implementation planning	• Develop the implementation plan for screening all patients being seen in the practice and implementing the 5 As and the 5 Rs of smoking cessation	• Field notes • Plan for implementation	• Smoking status added to vital signs • MD and NP to provide 5A's or 5R's of smoking cessation interventions • BA would add billing codes and make a list for DNP student investigator • Referral sheet to be amended
3rd 10/4/2019	Findings and adaptation of the implementation plan	• Review workflows • Discuss barriers/ facilitators and unique findings • Adaptation of implementation plan	• Field notes • Chart Review • Plan for implementation	• Amend the screening area in the vital signs sheet by adding "Other:" • Continue with 5A's and 5R's • Add amended referral sheet to computers
4th 11/03/2019	Findings and adaptation of implementation plan meeting	• Review workflows • Discuss barriers/ facilitators and unique findings • Adaptation of implementation plan	• Field notes • Chart Review • Plan for implementation	• 5A's and 5R's take 3-5 minutes • Give amended referral sheet to all smokers
5th 12/06/2019	Findings and adaptation of implementation plan meeting and sustainability plan	• Review workflows • Discuss barriers/ facilitators and unique findings • Adaptation of implementation plan	• Field notes • Chart Review • Plan for sustainable implementation	• Continue with the previous plan • BA to continue updating referral sheet
6th 01/31/2020	Presentation of results	Share results with the learning circle	None	Not applicable

2. Chart Review. A review of the medical records to assess the uptake of the screening and smoking interventions began one week after the initial implementation plan was developed. Charts were reviewed every week starting September 2019 and ending December 2019. The list of all patients who screened positive for cigarette smoking was provided by the BA every week. The DNP student investigator reviewed the number of patients seen at the practice that week, the number of patients that were identified as smokers in the practice and the interventions used for smoking cessation following the 5As and the 5Rs of smoking cessation guidelines (Appendix L).

3. First-person inquiry. The DNP student investigator reflected on the project to identify assumptions or biases about the project. The process of first-person inquiry started during pre-

implementation and continued throughout the project weekly after each learning circle meetings and after chart reviews. The purpose of the first-person inquiry was to assist the researcher in uncovering any perspectives or opinions that might negatively affect her role as facilitator and researcher in this project and mitigate these biases by discussing them with the DNP Chair. These reflections were documented in a personal journal that is only accessible to the DNP student investigator. There was a total of 15 dated reflection notes over five months entered.

4. CFIR Force Field Analysis. The DNP student analyzed each of the constructs of the CFIR for their potency and amenability to change. Starting during pre-implementation and then monthly after each learning circle that discussed barriers, facilitators, and adaptation of the implementation plan. The purpose of reflecting on each of these constructs was to evaluate the changing forces related to the implementation of smoking cessation interventions. Furthermore, the iterative return to the CFIR constructs supported the DNP student investigator in keeping the larger picture of implementation insight.

Data Analysis

Learning Circle Data Analysis. Narrative data analysis was conducted using grounded theory methods of constant comparison and open coding (Charman, 2006). Coding was focused on actions and processes related to the implementation project.

Chart Review Data Analysis. Quantitative data obtained from chart reviews were entered in Excel and analyzed using descriptive statistics to measure the rates of implementation of the 5As & 5 Rs of smoking cessation. Percentages and modes of each intervention were calculated. In addition, the percentages of interventions that were misused were also obtained for analysis.

First-person inquiry. Throughout the implementation of this project, the DNP student investigator had a total of 15 entries of reflective data as first-person inquiry. Each entry was

reviewed and coded to study the personal lessons learned related to knowledge development, process adaptation, and organizational politics affecting the implementation process of the 5As and 5 Rs of smoking cessation on the practice.

CFIR construct evaluation using force field analysis. The DNP student investigator analyzed the constructs of the operationalized CFIR constructs before implementation. Then, after each adaptation learning circle using a force field analysis to rate their potency and amenability to change (Brager & Holloway, 1992). Each construct was rated as having either high, medium, low, or unknown potency and amenability to change.

Results

Learning Circles.

***Barriers*.** The themes identified related to barriers to implementation of smoking cessation interventions were (1) the lack of time resources, (2) competing patient's health needs, and (3) resistance to prescribing smoking cessation pharmacological agents. Lack of time was a concern consistently raised by both the MD and NP (during her participation in the study), on each learning circle. This objection was voiced about all aspects of the interventions for smoking cessation. The concern was greatest concerning the interventions of the 5 Rs of smoking cessation (relevance, risks, rewards roadblocks, and repetition). The 5 Rs of smoking cessation entailed the use of open-ended questions and required a higher degree of skill, in particular, the use of motivational interviewing. Additionally, the MD and NP considered that the patient attended the visit with an expectation to discuss other needs, and the discussion of smoking cessation took time away from the patient's concerns and reason for the visit.

Resistance to prescribing smoking cessation pharmacologic aids was another barrier, which was based on the MD's personal biases. The belief that patients should first try to quit on

their own or using over the counter products goes against smoking cessation guidelines. Guidelines show increase adherence to smoking abstinence when using both pharmacological agents and non-pharmacological counseling. Despite continued education around this issue, including providing written guidelines, these barriers persisted throughout the project. The MAs and BA did not voice any barriers in their roles to implement smoking cessation interventions in the practice.

***Facilitators*.** The themes identified related to facilitators of the implementation of smoking cessation interventions were: (1) creating critical interventions that were brief and simple to accomplish, and (2) the creation of a routine pattern that supports the adherence to these interventions.

The use of straightforward and uncomplicated interventions (screening for smoking and providing assistance by providing the referral sheet) had the highest adherence to this project because these actions were much quicker than the rest of the interventions. The procedures implemented became habitual activities over time, facilitating their execution. This information was evidenced by multiple accounts of acknowledgment by the MAs and the BA during learning circle 3 to learning circle 5.

***Unexpected findings*.** Two unexpected findings occurred during the project. These unique findings are the following: (1) patient self-disclosure of use of substances others than tobacco, (2) resignation of the NP in the middle of the project.

The MAs revealed that during the initial patient interviewing, when patients were asked if they smoked, the patient would accept or deny it and the would go on to self-disclose using other substances, such as alcohol, marijuana, and in one case heroine. Once this was discovered by the MAs were prompted to specify the substances the patient disclosed. The information was written down for the provider to review and provide appropriate interventions.

Another unexpected occurrence was that the NP in the practice, who took part in the learning circle 1,2, and 3, quit with only one week's notice. The NP departure put the patient load burden on the MD, decreasing the amount of time to appropriately provide interventions because the MD became the sole primary care provider. The MD opted to provide the resource sheet to all patients identified as smokers as a way to mitigate the need to use lengthy interventions such as those in the 5 Rs of smoking cessation.

***Adaptation of implementation*.** The overarching theme of adaptation of the implementation plan was to serve the needs of this primary care practice. The adaptations done to the implementation that increased adherence were: (1) simplifying actions to meet interventions, (2) accommodating and customizing referrals to meet the practice's population needs, (3) adjusting new interventions to co-exist seamlessly with existent workflows, (4) increasing uniformity of interventions. The simplification of the interventions by asking about smoking cessation that prompted action by the provider of assisting them by giving patients a referral sheet met the patient's main barrier, which was lack of time. Hence, the reason these actions were implemented in this manner. These two actions are quick and meet the expectations of asking and assisting on smoking cessation.

Accommodating the population's needs is an aspect of adaptation that increases adherence to interventions for smoking cessation. The providers feel comfortable supplying resources that they deem acceptable to meet their patient's needs. The referral sheet was amended at the request of the learning circle for this purpose. Adjusting new interventions, such as asking about the smoking process in the interviewing already being provided by the MAs and the addition of smoking cessation resources to the database of referrals, increased the consistency of providing these interventions. Uniformity of interventions is another factor that was brought up in the adaptation process, because the highest determinator of adherence was

the labeling the action as routine, as it shows by the MAs and their adherence to asking about smoking cessation.

Chart Review.

A total of 1664 patients were seen in the practice during the period this project took place. The average population of smokers in this practice is 5.8%.

Table 4.

Chart Data Extracted.

Chart Data Extracted			
	9/9/2019 to 10/04/2019	**10/07/2019 – 11/01/2019**	**11/03/19- 11/29/19**
Total	41 out of 668 (6.1%)	31 out of 497 (6.2%)	26 out of 499 (5.2%)
5A's Interventions			
Asked	(100%) 41	31 (100%)	26 (100%)
Advised	(56%) 23	11 (35%)	7 (27%)
Assessed	(54%) 22	14 (45%)	15 (56%)
Assisted	(61%) 25	25 (81%)	20 (74%)
Arranged	(0%) 0	0	1 (4%)
5 R's Interventions			
Relevance	(5%) 2	0	2 (7%)
Risk	(20%) 8	10 (32%)	3 (11%)
Rewards	(0%) 0	2 (6%)	1 (4%)
Roadblocks	(2%) 1	0	0
Repetition	(0%) 0	1 (3%)	2 (7%)
Interventions Used Incorrectly			
Used the wrong intervention for pts willingness to quit:	10 (4%)	7 (2%)	7 (2%)
Not assessed 5A's assumed	19 (46%)	17 (55%)	11 (42%)

The intervention with the highest adherence of the 5 A's of smoking cessation throughout the project was asking the patient about their smoking status, with 100% adherence during all periods observed. The second was assistance with smoking cessation, with an average of 72% adherence throughout the project. The intervention with most adherence in the 5R's of smoking cessation was the discussion of risks of smoking with an average of 21% adherence throughout the project implementation. The intervention with the least adherence in the 5 R's of smoking cessation was the discussion of roadblocks with 0.6% adherence throughout the project. In 48% of cases, patients were not assessed for willingness to quit within the next 30 days, so the MD and NP decided to use the 5 A's of smoking cessation independently of patients' willingness to quit. In 1% of cases, the 5A's and 5R's interventions were used on the same patient.

CFIR Construct Evaluation Using Force Field Analysis.

The changes to the potency and amenability to change of the CFIR constructs over the implementation process are summarized in Table 5 and Table 6.

Table 5.

Analysis of CFIR constructs for potency and amenability to change

Analysis of CFIR constructs for potency and amenability to change	
Constructs that experienced change over time	33 out of 39 (84%)
Constructs without any changes	6 out of 30 (15.4%)
Constructs from unknow to know	1 out of 39 (2.6%)
Potency of interventions increased	17 out of 39 (43.6%)
Amenability to change	29 out of 39 (74.36%)

The construct of the operationalized CFIR rated to have the highest degree of change in relation to the potency (the power of the construct that influenced the implementation of smoking cessation interventions) were: (1) design quality and packaging (the appeal of the need of the smoking cessation guidelines) changed from low to high, (2) goals and feedback (common goals and feedback received from the learning circle) changed from low to high, (3) available resources (the acceptance of resources provided by the DNP student investigator) changed from low to high, (4) planning (the extensive and iterative planning by the learning circle to adapt change into the practice) changed from low to high.

The construct of the operationalized CFIR rated to have the highest degree of amenability to change (the openness to accept influence) to the implementation of smoking cessation interventions were: (1) patient needs and resources (the acceptance of getting local resources of help the patients with smoking cessation) changed from low to high amenability to change, (2) goals and feedback (the acceptability to goals discussed and provision of feedback needed for this project to work) changed from low to high amenability to change, (3) available resources (acceptance of resources given to the group after it was adapted to practice) changed from low to high amenability to change, (4) engaging (the engagement provided by the group in monthly learning circles in with their barriers and facilitators to implementation were discussed) changed from low to high amenability to change, (5) champion (the DNP student investigator accepted into the practice as the expert in smoking cessation practices) changed from low to high amenability to change.

The assessment of team power dynamics and organizational politics related to implementation revealed that all participants were highly responsive to the leadership of the MD. The DNP student investigator had limited knowledge about the day to day democratic processes

within the healthcare team. At the same time, participants brought pertinent information that was key to the implementation process of smoking cessation interventions in the practice.

It is important to note that the period with the highest rate of change in the CFIR constructs was the period after the 2nd learning circle to the period after the 3rd learning circle in which 28 constructs changed (71.8%). The period with the least change over time was the period after the 3rd learning circle to the period after the 4th learning circle with 5 constructs changing (12.8%).

Table 6.

Change of operationalized CFIR constructs over time.

Change of operationalized CFIR constructs over time.		
Time periods	Number of constructs that changed	Percentage of change in constructs
Pre-Implementation(1st LC) to 2nd LC	6	15.4%
From 2nd to 3rd LC	28	71.8%
From 3rd to 4th LC	5	12.8%

First Person Inquiry.

The reflective component of first-person inquiry led to the DNP student investigator discussing personal biases that may have influenced the implementation process with the DNP Chair. By recognizing personal biases towards knowledge development, implementation processes, and organizational politics, the DNP student investigator was able to continue the research process without interfering with the adaptation process specific to this practice. The lessons learned are the following: (1) knowledge input had to be obtained from multiple sources to avoid blind spots, (2) acceptance of new practices are met with resistance that lessens over

time with iteration, (3) the organization hierarchy of the practice had a positive effect on implementation because of the level of engagement by the MD but might have also had led to the resignation of the NP.

Discussion

The purpose of this study was to implement multimodal smoking cessation interventions in a primary care setting in Bayonne, New Jersey. The results from this DNP project indicated that the implementation of multimodal smoking cessation interventions had a significant impact on screening patients for smoking status (100%) and on assisting patients in quitting smoking (72%).

The main barriers to implementation were the lack of time to provide the interventions, as it competed with the tasks that needed to be completed during the patient visit time. The primary facilitator of smoking cessation interventions was making these interventions brief and straightforward by increasing uniformity on the delivery of interventions.

Other studies also acknowledge that lack of time allotted to each patient and competing patient-related tasks are recurrent barriers to the implementation of smoking cessation interventions in the primary care setting (Andres et al., 2019, p. 164; Wray et al., 2018, p. 1419; Sebo et al., 2017, p. 2; Martinez et al., 2017, p. 9; Omole et al., 2014, p. 3). The project's participating providers indicated that the nature of motivational interviewing, which is part of the 5 R's of smoking cessation, was time-consuming. This belief led to these interventions being poorly adhered to throughout the project.

The increased uniformity was accomplished by asking about smoking cessation interest during the time of visit when the vital signs were taken by the MAs during each visit. Prior studies have had similarly favorable results by adding smoking screening to the vital signs

section of the visit documentation (Bailey et al., 2017, p. 196; El-Shahawy et al., 2016, p. 7). The referral sheet contained multiple state and local resources for smoking cessation assistance. It was decided by the learning circle to use uniformly for all patients identified as smokers, despite their willingness to quit to reduce the time used in assisting patients in quitting smoking. Previous research supports this type of assistance because referrals to smoking cessation programs with specialized smoking cessation training counselors benefit the patient obtaining appropriate care (Champassak et al., 2014, p. 8).

The intervention belonging to the 5 Rs of smoking cessation that had the highest adherence was "discussing risks" with an average of 17% use, with all the rest of interventions being used less than 3% on average. These results bear similarities with other studies' reports of adherence to the 5 Rs of smoking cessation (Champassack et al., 2016, p. 6).

Fifty-one percent of patients were not assessed for their willingness to quit smoking, and about 3% of patients received the wrong interventions in relation to their willingness to quit. It appears the wrong interventions were provided to spend less time discussing the matter with patients. El-Shawary et al. (2016 p. 7) point out similar results in which providers misused the time allocated for smoking cessation by using non-indicated tobacco use counseling in one out of four patients. Further research needs to be done to study if mitigating time misuse in providing inappropriate interventions may produce increased adherence to guidelines.

During the adaptation process to the implementation of smoking cessation interventions, the MAs anecdotally mentioned that patients self-disclosing the use of other substances during the learning circle meetings. This unexpected finding led to the adjustment of the implementation process to include assessment of other substance use for providers to use appropriate interventions. John et al. (2018) addresses the need in primary care for adequate assessment of multiple substance use and opens the question about the treatment of substances concurrently or

individually and sequentially. While this research project focuses on smoking cessation, the reality is that there is a population that has multiple substance use, which opens the question for further research.

Most of the CFIR constructs' rating of potency and amenability increased over time. The period with the most change occurred during the 2nd to 3rd learning circle because it was the time when most modifications occurred to adjust the implementation plan to the selected primary care setting. The constructs that demonstrated the most change over time of both potency and amenability were "goals and feedback" and "available resources". Goals and feedback ratings of both potency and amenability changed from low to high because of the iterative process that highlighted the goal of implementation of smoking cessation interventions by adapting the interventions based on the feedback received from the learning circle. Previous research about organizational cultures has also noted that organizations that encourage workers to participate in decision making and value stability and uniformity have greater adherence to smoking cessation guidelines (Hung et al., 2014, p.158). Additionally, the construct of "available resources" showed a change in the rating of potency and amenability from low to high because the resources were specially adapted to meet the practice's population needs. This increased the acceptability and usability of these resources by the MD and NP.

The preventative aspect of primary care is of utmost importance and has been a topic of discussion in many studies. Implementation of preventative care into practice is met with multiple barriers, specifically as it relates to reimbursement of services. In the case of smoking cessation, the State of New Jersey places copayments requirements and annual limits on the number of quit attempts that differ depending on the insurance (DiGuilio et al., 2020). Limiting the time a for-profit practice can allot to the prevention of diseases. Leading to a system that only allows time to treat diseases by secondary or tertiary prevention.

Limitations

This study was subject to a range of limitations. First, this was a one practice study with a convenience sample of participants. While this can provide an excellent example for similar settings, the results are not generalizable. All the information collected and analyzed was based on progress notes written by the learning circle participants.

Furthermore, the DNP student investigator did not witness the execution of the interventions. It could be assumed that some patients may not have disclosed their smoking status, prompting no interventions for smoking cessation. Employees that work under the direct supervision of the MD might not want to give negative opinions about the project out of concern of being considered an incompetent employee.

Implications

Clinical Practice Implications.

The ability to assist patients reach smoking abstinence decreases the risks of multiple comorbidities (CDC, 2019). The implementation of smoking cessation interventions in primary care is a significant element in preventative care. Primary care providers are the first line in preventing the development of multiple chronic diseases. They must assess for modifiable risk factors on each visit and provide appropriate interventions. Further research and education programs that address smoking cessation interventions specific to vulnerable populations such as low income, limited education, and those with co-occurring mental health and substance abuse issues. Lesbian, gay, bisexual, transgender, veterans, military, and minority groups have a much higher incidence of smoking than other groups, and services for these populations also need to be provided (National Cancer Institute, 2016). This shows that smoking cessation remains to be a need, particularly for these groups in which traditional interventions have not been as successful.

Healthcare Policy Implications.

Smoking cessation is supported by New Jersey laws that promote smoking abstinence. These policies make it increasingly difficult for persons to be able to smoke tobacco in a public setting and affecting others who have chosen not to smoke. This measure includes prohibiting smoking in public housing and increasing the age to buy tobacco products to 21 years of age. The CDC (2018) supports that there is a causal relationship between this law and decreased rates of hospital admissions related to health and pulmonary disease. Individuals struggling with smoking cessation have increased pressure for reaching smoking abstinence with an increasing number of laws that prohibit it. The implementation of smoking cessation interventions in primary care supports this transition to a smoke-free community.

Quality & Safety Implications.

Progress towards the patient's quality of care and safety was obtained after the implementation of smoking cessation in the primary care office. Patients were better assessed about their risks, and tobacco used was addressed in this practice after the implementation of this process. Further work is needed to improve the adherence of all the guidelines for smoking cessation.

Educational Implications.

Healthcare providers and practice staff are part of the front line in smoking cessation assistance in the community. Training and education about smoking cessation interventions, their impact in the healthcare setting, and their execution in the everyday setting should be easily accessible to all types of healthcare staff. The providers in this study verbalized poor knowledge of motivational interviewing, which is essential in the 5 Rs of smoking cessation. Education programs, as part of continuing education, that highlight the addictive nature of nicotine and demonstrate approaches to smoking cessation, could increase adherence to smoking cessation

interventions. This study showed the interventions with the highest adherence were quick and easy to provide. However, this might not always be appropriate, and further educations need to be provided for the providers to acquire a high level of skill set to apply interventions that are more time consuming, such as motivational interviewing.

Economic Implications.

The economic benefits related to smoking cessation appear to be enormous, starting from the decrease rate of chronic conditions and hospitalizations related to cigarette smoking. In primary care, pharmacological treatments for smoking cessation save up to $4,400 per quality-adjusted life-years saved (Ekpu & Brown, 2015). The quality-adjusted life years is a measure that equates the disease burden costs to assess the economic value of health interventions. The prevention of chronic conditions decreases the overall burden on Medicare and Medicaid. Currently, 90% of the United States 3.5 trillion dollars in health care costs are expended for individuals with chronic conditions, including those with mental health conditions (CDC, 2019). Any efforts to decrease this number should be attempted, and this includes the implementation of smoking cessation guidelines for the prevention of chronic conditions.

Conclusions

This research project benefited the clinical practice because it led to adherence to grade A recommended guidelines for smoking cessation, which were not followed prior. Even though the guidelines were not used in their entirety, partial success was achieved because patients are now being screened during every visit, and many are receiving appropriate referrals to obtain care. Before this project, patients were not being screened for tobacco use, and there was no workflow in place to provide any type of referral or intervention.

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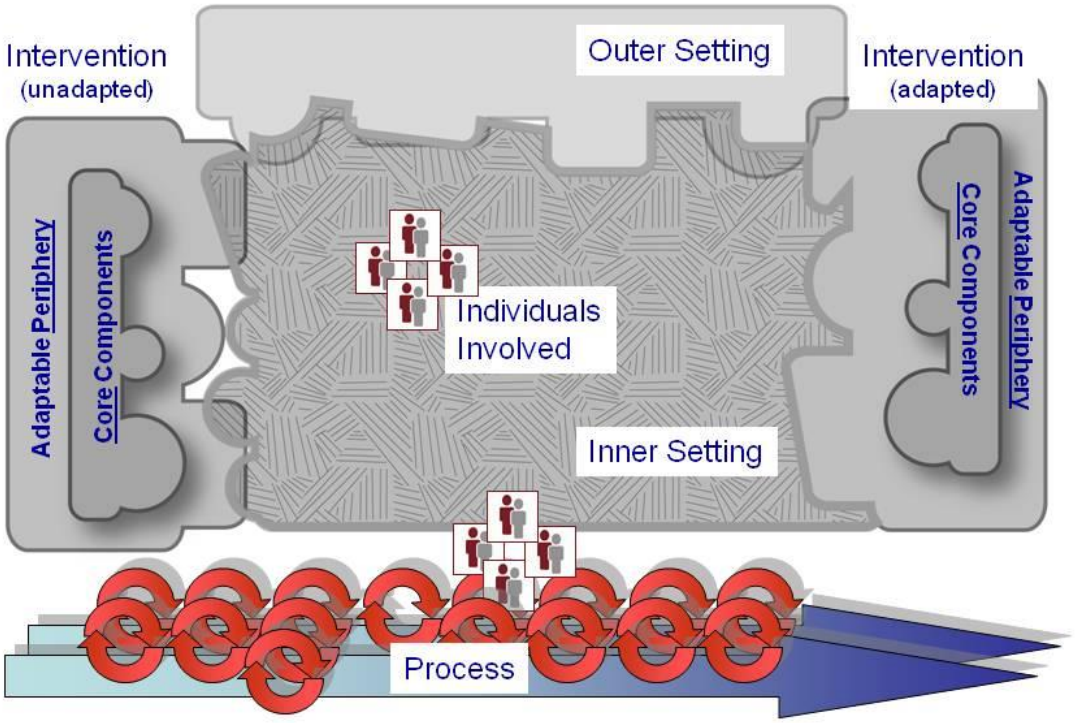
Appendix A: Table of Evidence

Appendix Article #	Author & Date	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Question	Limitations	Evidence Level & Quality
1	Bailey, Heintzman, Marino, Jacob, Puro, DeVoe, Burdick, Hazlehurst, Cohen & Fortmann, 2017	Quasi-experimental	Compared 37602 patients in 2010, 40499 in 2012 and 43150 in 2014. All patients attended 26 community health centers in Oregon.	Meaningful use of electronic health records increases the odds of assessments, counseling and treatment for smoking cessation, the study compares 2010 (prior to meaningful use implementation), 2012 (preparation process for meaningful use) and 2014 (after meaning use implementation). The trend overall showed a decrease of smoker population between 2010 and 2014. After meaning full of electronic health records was implemented smokers had double the odds of being assessed and seven times the odds of receiving counseling, but only slightly higher odds than receiving medications for smoking cessation.	Only limited to patients in Oregon who attend this clinic. Public policy changes that required reporting of tobacco measures and the ACA in 2014 that mandated coverage for smoking cessation products. It could not be determined if providers documented solely to meet meaningful use criteria without providing the services	Level II/A
2	Andres, Castellano, Fu, Feliu, Ballbe, Anton, Baena, Fernandez, Martinez, 2019.	Non-experimental	702 healthcare professionals including RNs, MDs and other healthcare workers in Catalonia, Spain	The development of KABO questionnaire reviews knowledge, attitude, behavioral and organizational factors that have an effect in the implementation of the 5 A's of smoking cessation framework. This reliable and valid tool revealed that individual skills, attitudes and beliefs have a correlation with the implementation of the 5 A's framework in practice.	The sample was obtained from hospital health workers that has already signed up to a smoking cessation course, so there was an interest towards learning about smoking cessation already. The information was self reported which may mean that there was an overestimation of implementation of the 5 A's.	Level III/B
3	Wray, Funderburk, Acker, Wray, Maisto, 2017.	Meta-analysis	36 studies related to smoking cessation interventions that included a total of 12975 adult patients.	Non-pharmacological behavioral health interventions delivered by social workers or psychologists complement non-pharmacologic and pharmacological interventions that may be provided by primary care physicians for smoking cessation. This could be used as a step up if initial brief interventions provided by primary care providers are not successful in smoking abstinence.	There are small numbers that show effect in certain studies. Furthermore, during the search strategy of this article, there could be a bias by journals to publish positive results articles rather than negative or inconclusive articles, which may cause a bias in the meta-analysis, also known as "file drawer problem".	Level I/A
4	Sebo, Maisonneuve, Fournier, Senn, Haller, 2017.	Cross-sectional study	1100 randomly selected community health general practitioners; 400 on France and 700 in Switzerland	A questionnaire was sent to assess adherence to guidelines in daily practice and to assess opinions regarding guideline adherence feedback. The results showed that general practitioners preferred feedback about their particular practice in brief written form than in groups or face-to-face, and younger general practitioners were more open to	Only general practitioners in Western Switzerland and two regions of France were asked to participate in study, and only 47% of these answered the questionnaire. Also responders have a natural tendency to	Level II/B

				accepting feedback as a way to improve their practice than older practitioners. Which concludes that in order for guidelines to be implemented the general practitioner's preferences have to be taken into consideration when providing feedback.	responds socially desirable behaviors	
5	Papadakis, Cole, Reid, Assi, Gharib, Tulloch, Mullen, Wells & Pipe, 2018.	Quasi-experimental randomized controlled trial	15 practices, 166 clinicians and 1123 patients in Ontario, Canada	The Ottawa Model for Smoking Cessation and the Ottawa Model for Smoking Cessation Plus were compared, both of these models are based on the 5As of smoking cessation and they are interventions that help clinicians address smoking in clinical practice, results of the study note that supplemental coaching and individualized performance reports and feedback increase provider's self-efficacy and increase the implementation of smoking cessation interventions.	Assessing for willingness to quit smoking was not included. There were two active interventions, but no control, all participants were based in Ontario Canada. The patient assessment may be subject to reporting biases.	Level II/A
6	Leone, Evers-Casey, Graden, Schnoll & Mallya, 2015.	Non-experimental qualitative study	217 providers in 84 practices in Philadelphia, Pennsylvania	Academic detailing interventions is an in person educational outreach strategy that assists with provider behavior patterns. Hence, it increases adherence implementation of smoking cessation strategies, including counseling and providing prescriptions for smoking cessation.	Inability to capture patient level behaviors and provider adherence self-report which may lead to social desirability bias	Level III/B
7	Hung, Leidig & Shelley, 2014.	Non-experimental qualitative study	Surveys provided to 497 primary care providers and 60 Medical Directors or administrators in community clinics in New York City.	Compared clinics with different organizational cultures to establish the factors that foster adherence to tobacco cessation via implementation of the 5A's. It was noted that an increased number of quality improvement initiatives reduces adherence to the 5 A's. Placing emphasis on human relationships, mutual support and the development of staff within the organization fosters delivery of individualized care that is continuous and coordinated in accordance to the 5 A's.	Ambiguity of the definition of culture, and inclusion of small clinics.	Level III/B
8	Martinez, Castellano, Andres, Fu, Anton, Ballbe, Fernandez, Cabrera, Riccobene, Gavilan, Feliu, Baena, Margalef & Fernandez, 2017.	Non-experimental qualitative research	Survey of 699 clinical health workers in Catalonia, Spain.	Survey was provided to evaluate facilitations and barriers to adherence of the 5 A's of smoking cessation of healthcare workers including physicians and nurses. Factors that promote compliance with the 5 A's of smoking cessation are being required by a supervisor to ask, understanding the importance of smoking cessation and expressing competency and security in motivating patients to stop smoking, having the resources to assist and organizational support, and having previous positive experiences.	Smoking cessation practices and smoking status were not verified, healthcare workers were already enrolled in a smoking cessation training program which leads to believe that there is already an interest in smoking cessation, results are self reported responses.	Level III/A
9	Omole, Ayo-Yusuf & Ngobale, 2014.	Non-experimental qualitative study	15 physicians and 4 nurses in South Africa	The study is devised to understand the experiences, behaviors and perceptions regarding implementation of the 5 A's of smoking cessation in everyday practice. Providers and nurses understand that smoking cessation improves the quality of care but the patient's readiness to receive the advise is also crucial. But screening is done on a selective manner due to perceived clinical	The responses are self-reports and may not be generalized, the researchers are senior clinicians that may have impacted the responses of participants.	III/B

				relevance, time constraints limit the interventions provided to patients, and providers recognize that lack of continuity of care is also a barrier, discussing the financial implication of cigarettes might impact use, but providers are disease focused and do not explore socioeconomic factors.		
10	Abdelazim, Nour-Eldein, Ismail, Al Sayed Fiala & Abdulmajeed, 2018.	Non-experimental qualitative	74 primary care providers in Port Said, Egypt	Smoking cessation counseling educational program that provides increased knowledge, changes in attitude and includes practice information, such as pharmacologic interventions, promotes adherence to the 5 A's and the 5 R's of smoking cessation from providers.	Not included a control group, information obtained relied on self-reports and knowledge might be subject to recall bias.	III/B
11	Papadakis, Gharib, Hambleton, Reid, Assi, & Pipe, 2014.	Non-experimental	288 family medicine practitioners and 2501 patients in Ontanio, Canada.	Rates of evidence based smoking cessation adherence vary depending on the type of intervention. Asking, advising rates are high, but assisting, prescribing pharmacotherapy and arranging care continue to be low. Providers who are able to recognize smoking cessation as an important determinant of health complies with using the 5 A's for smoking cessation.	Overestimation of provider performance is possible due to participation of Ottawa model for smoking cessation program and, study was voluntary so there might be selection bias.	III/A
12	Champassak, Catley, Fonocchario-Kessler, Farris, ehtesham, Schoor& Goggin, 2014	Non-experimental observational study	38 providers, 48 patients in a large Midwestern city.	Article supports that providers need additional training or will require referral in order for appropriate implementation of the 5 A's and 5 R's of smoking cessation framework.	There is no sufficient research available that examining the 5R's of smoking when patients are reluctant to quit smoking.	III/B
13	El-Shahawy, Shires & Elston Lafata, 2016	Non-experimental qualitative	44 adult primary care physicians practicing in 22 clinics of a large health system in southeast Michigan.	The study examined tobacco use screening and counseling interventions delivered during routine periodic health examinations. 484 office visits were audio-recorded and transcribed. The majority of tobacco users had their tobacco use status assessed, and most received some sort of tobacco-related counseling. However, only 15% received the recommended counseling targeted to their readiness to quit, 19% received less counseling than recommended given their readiness to quit, 7% received only non-indicated counseling, and 59% received non-indicated counseling in addition to indicated counseling. Results illustrate providers' commitment to cessation counseling and also identify potential opportunities to improve the efficiency of tobacco-related counseling in primary care.	The sample of physicians and adult patients was limited to those practicing with and receiving care from one integrated health system. Possibly the presence of the observer and the audio-recorder may have led to different office visit interactions. Only one visit per patient was observed, no information on previous conversations between the patient and their PCP were evaluated. Pre-visit survey assessed cigarette smoking and not tobacco use in general.	III/A
14	The Clinical Practice Guideline Treating Tobacco Use and Dependence 2008 Update Panel, Liasons & Staff, 2008.	Non-research, guideline	Evidence recorded from approximately 8700 English language, peer reviewed articles and abstracts between 1975 and 2005.	Summary of the U.S. Public Health Service guidelines the treatment of tobacco use and dependence: 2008 update. Guideline summary discusses the chronic and often relapsing use tobacco, the use of the 5 A's and the 5R's of smoking cessation. The need for clinician training on counseling and pharmacotherapy.	Discussion of the 5 R's was limited in comparison to the 5 A's.	IV/A

Appendix B: Consolidated Framework of Implementation Research



Used with permission of Author Laura Damschroder (Appendix I)

Appendix C: Guide for Providers

A Guide for Clinicians: **Patient who wants to quit** 5 A's of smoking cessation	
Ask **Ask about tobacco use at every visit.**	Implement a system in your clinic that ensures that tobacco use status is obtained and recorded at every patient visit.
Advise **Advise all tobacco users to quit.**	Use clear, strong, and personalized language. For example: "Quitting tobacco is the most important thing you can do to protect your health."

Assess
Assess readiness to quit.
	Ask every tobacco user if he/she is willing to quit at this time.
	• If willing to quit, provide resources and assistance
	• If unwilling to quit at this time, help motivate the patient:
	  ○ Identify reasons to quit in a supportive manner.
	  ○ Build patient's confidence about quitting.

Assist **Assist tobacco users with a quit plan.**	Assist the smoker to: • Set a quit date, ideally within 2 weeks. • Remove tobacco products from their environment. • Get support from family, friends, and coworkers. • Review past quit attempts—what helped, what led to relapse. • Anticipate challenges, particularly during the critical first few weeks, including nicotine withdrawal. • Identify reasons for quitting and benefits of quitting. Give advice on successful quitting: • Total abstinence is essential—not even a single puff. • Drinking alcohol is strongly associated with relapse. • Allowing others to smoke in the household hinders successful quitting. Encourage use of medication: • Recommend use of over the counter nicotine patch, gum, or lozenge; or give prescription for varenicline, bupropion SR, nicotine inhaler, or nasal spray, unless contraindicated. Provide resources: • Use referral form
Arrange **Arrange followup visits.**	Schedule follow up visits to review progress toward quitting. If a relapse occurs, encourage repeat quit attempt. • Review circumstances that caused relapse. Use relapse as a learning experience. • Review medication use and problems. • Refer to 1-800-QUIT NOW (784-8669).

Adapted from Helping Smokers Quit: A Guide for Clinicians by The Agency for Healthcare Research and Quality (2014)

A Guide for Clinicians: **Patient who does not wants to quit** 5 R's of smoking cessation	
Relevance	Encourage the patient to indicate why quitting is personally relevant, being as specific as possible. Motivational information has the greatest impact if it is relevant to a patient's disease status or risk, family or social situation (e.g., having children in the home), health concerns, age, gender, and other important patient characteristics (e.g., prior quitting experience, personal barriers to cessation).
Risks	The clinician should ask the patient to identify potential negative consequences of tobacco use. The clinician may suggest and highlight those that seem most relevant to the patient. The clinician should emphasize that smoking low-tar/low-nicotine cigarettes or use of other forms of tobacco (e.g., smokeless tobacco, cigars, and pipes) will not eliminate these risks. Examples of risks are: • Acute risks: Shortness of breath, exacerbation of asthma or bronchitis, increased risk of respiratory infections, harm to pregnancy, impotence, infertility. • Long-term risks: Heart attacks and strokes, lung and other cancers (e.g., larynx, oral cavity, pharynx, esophagus, pancreas, stomach, kidney, bladder, cervix, and acute myelocytic leukemia), chronic obstructive pulmonary diseases (chronic bronchitis and emphysema), osteoporosis, long-term disability, and need for extended care. • Environmental risks: Increased risk of lung cancer and heart disease in spouses; increased risk for low birth weight, sudden infant death syndrome (SIDS), asthma, middle ear disease, and respiratory infections in children of smokers.
Rewards	The clinician should ask the patient to identify potential benefits of stopping tobacco use. The clinician may suggest and highlight those that seem most relevant to the patient. Examples of rewards follow: • Improved health. • Food will taste better. • Improved sense of smell. • Saving money. • Feeling better about yourself. • Home, car, clothing, breath will smell better. • Setting a good example for children and decreasing the likelihood that they will smoke. • Have healthier babies and children. • Feeling better physically. • Performing better in physical activities. • Improved appearance including reduced wrinkling/aging of skin and whiter teeth.
Roadblocks	The clinician should ask the patient to identify barriers or impediments to quitting and provide treatment (problem solving counseling, medication) that could address barriers. Typical barriers might include: • Withdrawal symptoms. • Fear of failure. • Weight gain. • Lack of support. • Depression. • Enjoyment of tobacco. • Being around other tobacco users. • Limited knowledge of effective treatment options.
Repetition	The motivational intervention should be repeated every time an unmotivated patient visits the clinic setting. Tobacco users who have failed in previous quit attempts should be told that most people make repeated quit attempts before they are successful and that you will continue to raise their tobacco use with them.

Adapted from "Treating tobacco use and dependence: Quick reference guide for clinicians" by

The Agency for Healthcare Research and Quality (2014)

Appendix D: Vital Signs Sheet

Vital Signs

Blood Pressure: _____

Pulse: _____ Weight: _____

Temperature: _____

Respiratory Rate: _____

Tobacco Use: Current Former Never *(circle one)*

Adapted from "Helping Smokers Quit: A Guide for Clinicians" by The Agency for Healthcare Research and Quality (2014)

Appendix E: Smoking Cessation Pharmacotherapy

Pharmacotherapy	Precautions/ Contraindications	Side Effects	Dosage	Duration	Availability
Nicotine Patch		Local skin reaction Insomnia	21 mg/24 hours 14 mg/24 hours 7 mg/24 hours	4 weeks then 2 weeks then 2 weeks	Prescription and OTC[b]
Nicotine Gum		Mouth soreness Dyspepsia	1-24 cigs/day-2 mg gum (up to 24 pcs/day) 25+cigs/day-4 mg gum (up to 24 pcs/day)	Up to 12 weeks	OTC[b] only
Nicotine Nasal Spray		Nasal irritation	8-40 doses/day	3-6 months	Prescription only
Nicotine Inhaler		Local irritation of mouth and throat	6-16 cartridges/day	Up to 6 months	Prescription only
Nicotine Lozenge		Local irritation of throat Hiccups Heartburn/Indigestion Nausea	First a.m. cigarette after 30 minutes from waking: 2 mg (up to 20 pcs/day) First a.m. cigarette before 30 minutes from waking: 4 mg (up to 20 pcs/day)	12 weeks	OTC[b] only
Bupropion SR	History of seizure History of eating disorders Use of MAO inhibitors in past 14 days	Insomnia Dry mouth	150 mg every morning for 3 days then 150 mg twice daily (Begin treatment 1-2 weeks pre-quit)	7-12 weeks maintenance up to 6 months	Prescription only
Varenicline	Monitor for changes in mood, behavior, psychiatric symptoms, maintenance up to and suicidal ideation	Nausea Trouble sleeping	0.5 mg once daily for days 5-7 before quit date 0.5 mg twice daily for days 1-4 before quit date 1 mg twice daily starting on quit date	3 months maintenance up to 6 months	Prescription only

[a.] The information contained within this table is not comprehensive. Please see medication package inserts for additional information.
[b.]OTC refers to over the counter.

Adapted from “Suggestions for the clinical use of medications for tobacco dependence treatment.” by The Agency for Healthcare Research and Quality (2014)

Appendix F: CPT and ICD10 Codes for Billing

HCPCS/CPT Code	Type of Counseling	Description
99406	Intermediate Symptomatic patient	Smoking and tobacco use cessation counseling visit is greater than three minutes, but not more than 10 minutes
99407	Intensive Symptomatic patient	Smoking and tobacco use cessation counseling visit is greater than 10 minutes
G0436	Intermediate Asymptomatic patient	Smoking and tobacco use cessation counseling visit greater than three minutes, but not more than 10 minutes.
G0437	Intensive Asymptomatic patient	Smoking and tobacco use cessation counseling visit is greater than 10 minutes.

ICD-10 Diagnosis Code	Description
F17.200	Nicotine dependence, unspecified, uncomplicated
F17.201	Nicotine dependence, unspecified, in remission
F17.210	Nicotine dependence, cigarettes, uncomplicated
F17.211	Nicotine dependence, cigarettes, in remission
F17.220	Nicotine dependence, chewing tobacco, uncomplicated
F17.221	Nicotine dependence, chewing tobacco, in remission
F17.290	Nicotine dependence, other tobacco product, uncomplicated
F17.291	Nicotine dependence, other tobacco product, in remission

Adapted from “Coding for tobacco screening and cessation” by American Academy of Family Physicians (2019)

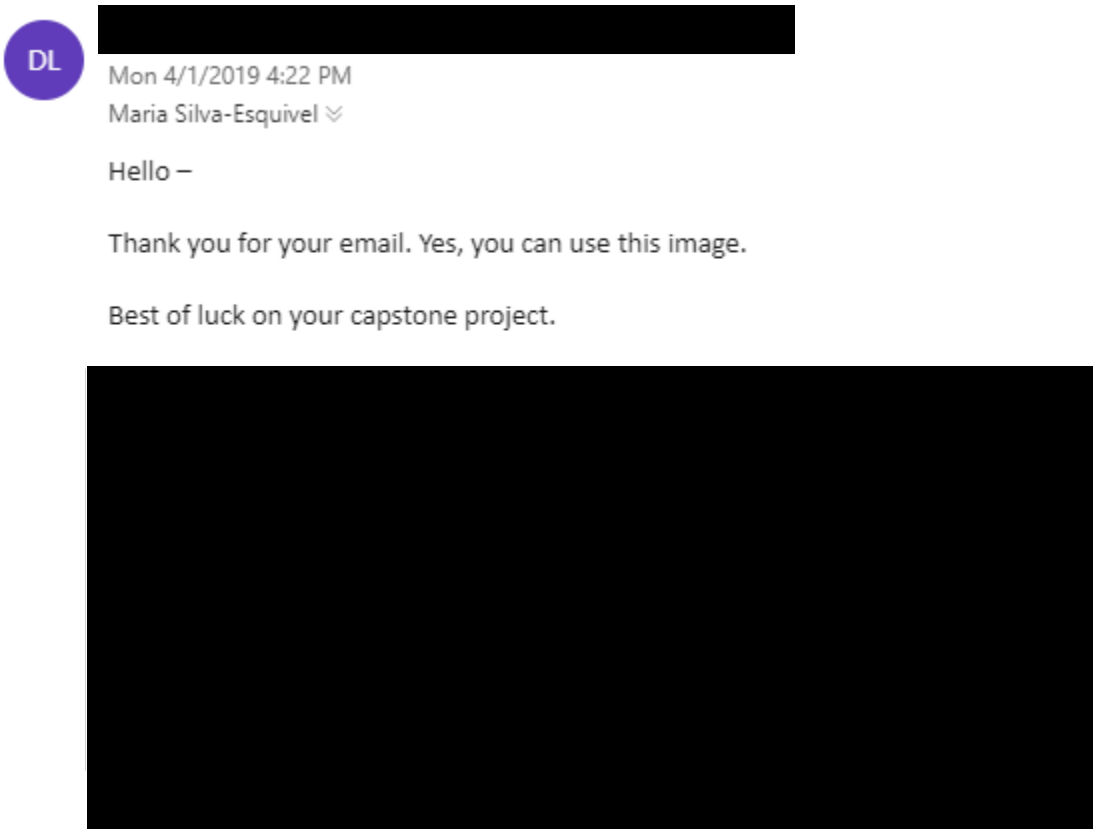
Appendix G: Referral Form

Smoking Cessation Referrals
Local **Smoking Cessation Support Group-** [redacted] To RSVP or for more information, please contact [redacted]
Online National Cancer Institute www.smokefree.gov New Jersey QuitLine www.njquitline.org American Cancer Society www.cancer.org/healthy/stayawayfromtobacco/index American Lung Association www.lungusa.org ExPlan http://www.becomeanex.org/#
Telephonic/ Texts National Cancer Institute 1-800-QUIT-NOW New Jersey QuitLine 1-866-NJ-STOPS Smokefree TXT - IQUIT(47848)
Apps NCI QuitPal (Download from Apple Store) QuitSTART (Download from App Store or Google Play) QuitGuide (Download from App Store or Google Play)

Appendix H: DNP Project Timeline

1. August 13, 2019. Rutgers IRB approval received.
2. August 23, 2019. 1st learning circle to train and educate learning circle participants.
3. September 6, 2019. 2nd learning circle meeting and write up meeting field notes that will be shared with participants start.
4. September 7, 2019. Implementation begins.
5. September 13, 2019. Weekly chart reviews begin.
6. October 4, 2019. Learning circle 3rd meeting, write up of field notes.
7. November 1, 2019. Learning circle 4th meeting, write up of field notes.
8. November 29, 2019. Complete chart review.
9. December 5, 2019. Learning circle 5th meeting, write up of field notes, and leave a sustainable plan.
10. March 2, Final data analysis, results, and implications.

Appendix I: Permission for CFIR Figure



Appendix J: Application of Consolidated Framework for Implementation Research Constructs

Operationalization of CFIR Constructs		
Construct		Application to DNP project
I. INTERVENTION CHARACTERISTICS		
A	Intervention Source	Smoking cessation implementation is externally developed by DNP student investigator
B	Evidence Strength & Quality	The USPSTF gives smoking cessation a grade A recommendation, which means there is high certainty the benefits are substantial.
C	Relative Advantage	Participants will implement smoking cessation in the private provider's practice and increase quality of care.
D	Adaptability	Smoking cessation will be adapted to be appropriately provided to patients in the practice with the input provided by participants within the learning circle.
E	Trialability	The provider owner has agreed for the primary investigator to implement smoking cessation in the practice and may return to previous practice if interventions are not manageable.
F	Complexity	This intervention has low complexity as it will not depart from existing practices, but it will provide structure for smoking cessation intervention to be provided uniformly.
G	Design Quality and Packaging	This intervention is a rated A USPTF recommendation that will be presented in the learning circle for collaboratively discuss implementation in the practice.
H	Cost	The physician owner will not undertake any of the costs related to the implementation of the project.
II. OUTER SETTING		
A	Patient Needs & Resources	Patients need to receive appropriate screening and smoking cessation interventions, be provided choices to obtain smoking cessation assistance. Care should be promoted seamlessly by contribution of participants.

B	Cosmopolitanism	The physician owner has visiting rights at CarePoint Health hospitals: Bayonne Medical Center, Christ Medical Center and Hoboken Medical Center.
D	External Policy & Incentives	This practice has a fee for service model, so there are no external incentives for the implementation of this program.
III. INNER SETTING		
A	Structural Characteristics	The setting has a centralized power structure in which the physician owner must be consulted and any changes in the practice need to be approved by her first.
B	Networks & Communications	There is openness between disciplines in the practice, all the staff collaborates towards the patient's care. The sense of team in this practice is notable.
C	Culture	High level of focus towards maintaining patient's healthy and safe in the community with closest communication with Bayonne Medical Center.
D	Implementation Climate	The providers in the practice, medical assistants and the billing assistant are receptive to change, as long as it is adaptable to their daily routines.
	1. Tension for Change	There is no tension for change at this moment or sense of urgency, but the providers recognize that implementing smoking cessation would improve practice.
	2. Compatibility	With the supports of the physician owner the implementation process should be compatible with the practice, at this moment it appears the physician owner will support the change.
	3. Relative Priority	There is no shared perception of importance to implement smoking cessation at the present time in the practice.
	4. Organizational Incentives & Rewards	No organizational incentives will be provided during the implementation of smoking cessation.
	5. Goals and Feedback	Goals will be shared by DNP student investigator and feedback will be provided by the participants within the learning circle to better adapt implementation process. The evaluation of this project will be done via learning circle feedback, reflections from the feedback provided, chart reviews and evaluation of the CFIR constructs.
	6. Learning Climate	All team members feel essential to the practice, but leadership allows for limited input to daily workflows.

	7. Team power dynamics/ Organizational politics related to implementation	The response of the participants related to the intended democratic processes of learning circle will be evaluated during implementation.
E	Readiness for Implementation	The Physicians owner's welcoming of smoking cessation implementation into her practice is the primary factors that demonstrated the readiness for implementation of smoking cessation into this practice.
1	Leadership Engagement	The Physician owner supports the implementation of smoking cessation into the practice.
2	Available Resources	Resources will be facilitated by the DNP student investigator during the implementation period.
3	Access to Knowledge & Information	Vast amount of knowledge related to smoking cessation is provided via multiple reliable sources, such as the AHRQ, the WHO and the USPSTF recommendations of the 5A's and the 5R's of smoking cessation.
IV. CHARACTERISTICS OF INDIVIDUALS		
A	Knowledge & Beliefs about the Intervention	Both providers in the practice had previous knowledge of the smoking cessation interventions and both have negative biases about their effectiveness. The medical assistants and billing assistant in the practice have poor knowledge if these interventions. But all staff has knowledge of the harms of smoking due to vast advertisement campaigns.
B	Self-efficacy	The staff has varied degrees of experience and beliefs of self-efficacy related to years of experience. The providers have low self-efficacy beliefs from smoking cessation interventions.
C	Individual Stage of Change	It is perceived that there is a relativity between years of experience and the enthusiasm to change in the practice. The more years of experience the less is the enthusiasm to change but the higher commitment to the organization.
D	Individual Identification with the Organization	Each individual in the healthcare team has a different perception and commitment to the organization. The MD is committed as she is the practice owner, the NP, two MAs and BA are committed employees who want the practice to be successful.
E	Other personal Attributes	The healthcare team appears motivated to implement smoking cessation in their daily practice.

V. PROCESS		
A	Planning	Extensive planning by the DNP student investigator related to implementation of this quality improvement project has been done. Participatory inside action research will be the method that will be used for implementation.
B	Engaging	Education and training procedures will be provided by the DNP student investigator to develop workflows that take into consideration input provided by the participants.
1	Opinion Leaders	The DNP student investigator will be a peer leader in the implementation process.
2	Formally Appointed Internal Implementation Leaders	The physician owner will be appointed as the implementation leader as she is the authority within this organization.
3	Champions	The DNP student investigator will be the champion of smoking cessation implementation in the practice and will provide feedback and guidance to the participants.
4	External Change Agents	The DNP student investigator is an external change agent not part of the practice.
C	Executing	The implementation of smoking cessation will be implemented after IRB review is finalized. The process will be formal and will take into consideration the feedback from the participants in the learning circle.
D	Reflecting & Evaluating	Narrative information from learning circle feedback will be obtained, reflections from the learning circle sessions will be developed after learning circle sessions. Weekly numerical data from chart reviews will be collected. And evaluation of the CFIR constructs will be evaluated using force field analysis to assess for potency and amenability of the constructs.

Appendix K: Participatory Inside Action Research: Principles for Acting Ethically in Organization & Workplace Inquiry

Participatory Inside Action Research: Principles for Acting Ethically in Organization & Workplace Inquiry
• Serve the good of the whole – do no harm to the agency and participants. • Treat others as you would like them to treat you. • Always treat people as ends, never as means; respect their being and never use them for their ability to do; treat people as persons and never as subjects. • Act so you do not increase power of more powerful stakeholders over less powerful. • Negotiate roles and expectations to articulate clear mechanisms for shared decision making. • Be prepared to alter or even stop the project if ethical issues arise that cannot be addressed by the group. • Include ethical issues and concerns as part of researcher's reflective journals. • Discuss ethics and values with research partners. • Develop strategies for making the results of research of direct benefit to the community. • Develop innovative strategies for disseminating the results of the group work. • Be willing to confront the troubling issues of intellectual property that attend to social science research and that must be a central concern of action researchers. • Make services affordable and available to community groups.

Adapted from Murphy, N. (2013). "Participatory inside action research: Principles for acting ethically in an organization or workplace inquiry"

Appendix L: Chart Data Abstraction Form

Date: _____
Number of patients seen this week: _____
Number of patients identified as smokers: _____

Number	5A s/ 5Rs?	A (ask)	A (advised)	A (assess)	A (assist)	A (arrange)
		R (relevance)	R (risks)	R (rewards)	R (roadblocks)	R (repetition)
1	5As / 5Rs	A R	A R	A R	A R	A R
2	5As / 5Rs	A R	A R	A R	A R	A R
3	5As / 5Rs	A R	A R	A R	A R	A R
4	5As / 5Rs	A R	A R	A R	A R	A R
5	5As / 5Rs	A R	A R	A R	A R	A R
6	5As / 5Rs	A R	A R	A R	A R	A R
7	5As / 5Rs	A R	A R	A R	A R	A R
8	5As / 5Rs	A R	A R	A R	A R	A R
9	5As / 5Rs	A R	A R	A R	A R	A R
10	5As / 5Rs	A R	A R	A R	A R	A R
11	5As / 5Rs	A R	A R	A R	A R	A R
12	5As / 5Rs	A R	A R	A R	A R	A R
13	5As / 5Rs	A R	A R	A R	A R	A R
14	5As / 5Rs	A R	A R	A R	A R	A R
15	5As / 5Rs	A R	A R	A R	A R	A R
16	5As / 5Rs	A R	A R	A R	A R	A R
17	5As / 5Rs	A R	A R	A R	A R	A R
18	5As / 5Rs	A R	A R	A R	A R	A R
19	5As / 5Rs	A R	A R	A R	A R	A R
20	5As / 5Rs	A R	A R	A R	A R	A R
21	5As / 5Rs	A R	A R	A R	A R	A R
22	5As / 5Rs	A R	A R	A R	A R	A R
23	5As / 5Rs	A R	A R	A R	A R	A R
24	5As / 5Rs	A R	A R	A R	A R	A R
25	5As / 5Rs	A R	A R	A R	A R	A R

Appendix M: Outline for Field Notes from Learning Circle Meetings

Meeting Date: _____

	Barriers	**Facilitators**
Physician		
Nurse Practitioner		
Medical Assistants		
Billing Assistant		
Implementation Plan/Adaptation:		
Reflection of the learning circle meeting by DNP student investigator:		

Appendix N: Evaluation of Operationalization of CFIR Constructs using Forcefield Analysis

Evaluation of Operationalization of CFIR Constructs using Forcefield Analysis

Construct		Application to DNP project	Potency/Amenability (H/M/L/U)			
I. INTERVENTION CHARACTERISTICS			Pre-implementation	2nd LC (9/6/19)	3rd LC (10/4/19)	4th LC (11/1/19)
A	Intervention Source	Smoking cessation implementation is externally developed by DNP student investigator	L/M	L/M	M/M	M/M
B	Evidence Strength & Quality	The USPSTF gives smoking cessation a grade A recommendation, which means there is high certainty the benefits are substantial.	M/M	M/M	H/M	H/M
C	Relative Advantage	Participants will implement smoking cessation in the private provider's practice and increase quality of care.	L/L	L/L	L/M	L/M
D	Adaptability	Smoking cessation will be adapted to be appropriately provided to patients in the practice with the input provided by participants within the learning circle.	M/L	M/L	M/M	M/M
E	Trialability	The provider owner has agreed for the primary investigator to implement smoking cessation in the practice and may return to previous practice if interventions are not manageable.	H/M	H/M	H/M	H/M
F	Complexity	This intervention has low complexity as it will not depart from existing practices, but it will provide structure for smoking cessation intervention to be provided uniformly.	L/L	M/L	M/M	M/M
G	Design Quality and Packaging	This intervention is a rated A USPTF recommendation that will be presented in the learning circle for collaboratively discuss implementation in the practice	L/L	L/L	H/L	H/M
H	Cost	The physician owner will not undertake any of the costs related to the implementation of the project.	L/L	L/L	M/M	M/M
II. OUTER SETTING						
A	Patient Needs & Resources	Patients need to receive appropriate screening and smoking cessation interventions, be provided choices to obtain smoking cessation assistance. Care should be promoted seamlessly by contribution of participants.	L/L	L/M	L/H	M/H
B	Cosmopolitanism	The physician owner has visiting rights at CarePoint Health hospitals: Bayonne Medical Center, Christ Medical Center and Hoboken Medical Center.	L/L	L/L	L/L	L/L
D	External Policy & Incentives	This practice has a fee for service model, so there are no external incentives for the implementation of this program.	H/L	H/L	H/L	H/M
III. INNER SETTING						
A	Structural Characteristics	The setting has a centralized power structure in which the physician owner must be consulted and any changes in the practice need to be approved by her first. A nurse practitioner, two medical assistants and a billing assistant.	H/L	H/L	H/M	H/M

B	Networks & Communications	There is openness between disciplines in the practice, all the staff collaborates towards the patient's care. The sense of team in this practice is notable.	H/L	H/L	H/L	H/L
C	Culture	High level of focus towards maintaining patient's healthy and safe in the community with closest communication with Bayonne Medical Center.	M/L	M/L	M/M	M/M
D	Implementation Climate	The providers in the practice, medical assistants and the billing assistant are receptive to change, as long as it is adaptable to their daily routines.	H/L	H/L	H/M	H/M
	1. Tension for Change	There is no tension for change at this moment or sense of urgency, but the providers recognize that implementing smoking cessation would improve practice.	L/L	L/L	L/L	L/L
	2. Compatibility	With the supports of the physician owner the implementation process should be compatible with the practice, at this moment it appears the physician owner will support the change.	H/L	H/M	H/M	H/M
	3. Relative Priority	There is no shared perception of importance to implement smoking cessation at the present time in the practice.	L/L	L/L	M/L	M/M
	4. Organizational Incentives & Rewards	No organizational incentives will be provided during the implementation of smoking cessation.	L/L	L/L	L/L	L/L
	5. Goals and Feedback	Goals will be shared by DNP student investigator and feedback will be provided by the participants within the learning circle to better adapt implementation process. The evaluation of this project will be done via learning circle feedback, reflections from the feedback provided, chart reviews and evaluation of the CFIR constructs.	L/L	L/M	H/H	H/H
	6. Learning Climate	All team members feel essential to the practice, but leadership allows for limited input to daily workflows.	L/L	L/L	L/M	L/M
	7. Team power dynamics/Organizational politics related to implementation	The response of the participants related to the intended democratic processes of learning circle will be evaluated during implementation.	U/U	U/U	H/H	H/H
E	Readiness for Implementation	The Physicians owner's welcoming of smoking cessation implementation into her practice is the primary factors that demonstrated the readiness for implementation of smoking cessation into this practice.	M/L	M/L	M/M	M/M
1	Leadership Engagement	The Physician owner supports the implementation of smoking cessation into the practice.	H/L	H/L	H/M	H/M
2	Available Resources	Resources will be facilitated by the DNP student investigator during the implementation period.	L/L	H/H	H/H	H/H
3	Access to Knowledge & Information	Vast amount of knowledge related to smoking cessation is provided via multiple reliable sources, such as the AHRQ, the WHO and the USPSTF recommendations of the 5A's and the 5R's of smoking cessation.	H/M	H/M	H/H	H/H
IV. CHARACTERISTICS OF INDIVIDUALS						
A	Knowledge & Beliefs about the Intervention	Both providers in the practice had previous knowledge of the smoking cessation interventions and both have negative biases about their effectiveness. The medical assistants and billing assistant in the practice have poor knowledge if these	L/L	L/L	M/M	M/M

		interventions. But all staff has knowledge of the harms of smoking due to vast advertisement campaigns.				
B	Self-efficacy	The staff has varied degrees of experience and beliefs of self-efficacy related to years of experience. The providers have low self-efficacy beliefs from smoking cessation interventions.	L/L	L/L	M/M	M/M
C	Individual Stage of Change	It is perceived that there is a relativity between years of experience and the enthusiasm to change in the practice. The more years of experience the less is the enthusiasm to change but the higher commitment to the organization.	H/L	H/L	H/L	H/M
D	Individual Identification with Organization	Each individual in the healthcare team has a different perception and commitment to the organization. The MD is committed as she is the practice owner, the NP, two MAs and BA are committed employees who want the practice to be successful.	L/L	M/M	M/M	M/M
E	Other Personal Attributes	The healthcare team appears motivated to implement smoking cessation in their daily practice.	L/L	L/L	M/M	M/M
		V. PROCESS				
A	Planning	Extensive planning by the DNP student investigator related to implementation of this quality improvement project has been done. Participatory inside action research will be the method that will be used for implementation.	L/L	L/L	H/M	H/M
B	Engaging	Education and training procedures will be provided by the DNP student investigator to develop workflows that take into consideration input provided by the participants.	H/L	H/M	H/H	H/H
1	Opinion Leaders	The DNP student investigator will be a peer leader in the implementation process.	L/L	L/L	M/M	M/M
2	Formally Appointed Internal Implementation Leaders	The physician owner will be appointed as the implementation leader as she is the authority within this organization.	H/L	H/L	H/L	H/L
3	Champions	The DNP student investigator will be the champion of smoking cessation implementation in the practice and will provide feedback and guidance to the participants.	L/L	L/L	M/M	M/H
4	External Change Agents	The DNP student investigator is an external change agent not part of the practice.	L/H	L/H	M/M	M/M
C	Executing	The implementation of smoking cessation will be implemented after IRB review is finalized. The process will be formal and will take into consideration the feedback from the participants in the learning circle.	L/L	L/L	L/M	L/M
D	Reflecting & Evaluating	Narrative information from learning circle feedback will be obtained, reflections from the learning circle sessions will be developed after learning circle sessions. Weekly numerical data from chart reviews will be collected. And evaluation of the CFIR constructs will be evaluated using force field analysis to assess for potency and amenability of the constructs.	M/L	M/L	M/M	M/M

Appendix O: Recruitment Script

- Smoking cessation is a major risk factor that needs to be addressed in the practice. [redacted] has agreed for us to participate in the implementation of smoking cessation in the practice which will improve the quality of care received by the patients. We will do this as a team and your input is very important for the success of this project.
- We will have a total of 6 meetings, which we will call learning circles. In the learning circles we will discuss the process of implementation of smoking cessation and will learn from each other to adapt these interventions for this specific setting with your collaboration.
- During our learning circle meetings, the DNP student investigator will provide a teaching and education session and will provide provisional tools that will assist the team in creating workflows for the implementation of smoking cessation in the practice.
- Afterwards, we will have three subsequent meetings in which we will all work together towards creating workflows to better serve the practice's needs and maintain the quality of these interventions.
- Your input throughout these meetings will help in the adaptation of the implementation plan so that all patients are screened for smoking and that the appropriate interventions are provided to the patient.
- I will start coming to the practice weekly after the initial implementation for chart reviews, on Fridays. The chart review will consist on the number of patients that were positively screened and the interventions that were done to assist the patients to attain smoking abstinence.
- The DNP student investigator will update the team with the results of the chart review during our meetings. After these three sessions, we will discuss a way to sustain the implementation plan and finalize the project.
- The goal of this goal is to provide already existent guidelines to your patients that will benefit them. Please understand this is not mandatory. At any time you want to stop participating in the project, you are free to do so and no identifying information will be collected besides your roles within the organization.
- Do you have any questions?

Appendix P: Amended Referral Form

Smoking Cessation Referrals
Local **Smoking Cessation Support Group-** [redacted] To RSVP or for more information, please contact [redacted] **CarePoint Behavioral Health for Smoking Addiction.** 201-884-5329 **Legacy Lung Screening and Smoking Cessation Project.** Free Lung Screening and Smoking Cessation Program for 40 and up. Call (646) 300-1168 or email coordinator@ielcap.org
Online National Cancer Institute www.smokefree.gov New Jersey QuitLine www.njquitline.org American Cancer Society www.cancer.org/healthy/stayawayfromtobacco/index American Lung Association www.lungusa.org ExPlan http://www.becomeanex.org/#
Telephonic/ Texts National Cancer Institute 1-800-784-8669 (1-800-QUIT-NOW) New Jersey QuitLine 1-866-657-8677 (1-866-NJ-STOPS) Smokefree TXT – IQUIT (47848)
Apps NCI QuitPal (Download from Apple Store) QuitSTART (Download from App Store or Google Play) QuitGuide (Download from App Store or Google Play)