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Running Head: TOBACCO SCREENING AMONG ADULTS IN PRIMARY CARE

Tobacco Screening among Adults in Primary Care: Evaluation of the use of the 5A's Framework
for Treating Tobacco Dependence

Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Nursing
Practice at the University of Kentucky

By

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2019

TOBACCO SCREENING IN PRIMARY CARE

Abstract

Background: Tobacco use in the United States is the chief cause of preventable disease and death. Preventing and identifying tobacco use through screening and education is essential to assist users to quit and to decrease overall tobacco associated health risks.

Purpose: The purpose of this study was to assess the integration of the 5A's tobacco engagement framework into the workflow at one Primary Care Center. Study objectives included determining baseline tobacco screening data prior to 5A's education, providing providers and support staff education on the 5A's process, reviewing and interpreting pre/post data of the 5A's process, and identification of barriers to using the 5A's process.

Methods: This was a descriptive two-phase study. Providers and support staff were educated on implementing the 5A's framework. Retrospective chart reviews included pre and post data.

Results: The chart reviews pre and post-implementation included 100 patients each. There was no significant difference in age ($p=.22$), race/ethnicity ($p=.86$), between the pre and post intervention samples. Twenty-five percent of the pre-implementation sample were current tobacco users compared to 44% tobacco user's post-implementation ($p=.01$). Among the tobacco users, there was no significant difference noted between documentation in the problem list ($p=.67$), provider note ($p=.98$), or cessation plan documentation within the provider note ($p=.27$) pre or post-implementation. Post-implementation chart reviews only identified 2 completed 5A's forms. Due to insufficient use of the 5A's tool, data analysis and interpretation related to implementation of the newly introduced tool was contraindicated. An additional report identified that 11 total 5A's forms were completed and scanned into the electronic medical record correctly over the 3-month study period. Furthermore, 10 out of 11 (91%) of the 5A's forms retrieved had all the 5A's components completed.

Conclusion: Due to several barriers and limitations including time constraints and lack of provider familiarity with the 5A's framework, the 5A's were not routinely utilized by providers during the implementation period. Organizational support and additional provider education are needed prior to integrating the 5A's into the primary care workflow. Additional studies are needed to assess health outcomes related to the 5A's intervention tool.

Acknowledgements

First and foremost, I would like to thank my almighty God for the countless and continued blessings bestowed upon me. This opportunity wouldn't have been possible without you. Thank you for choosing me, keeping me whole, being my source of strength, prince of peace, and walking with me every step of this journey. All my help comes from you Lord. Additionally, I would like to thank my church family for the continued prayers, support, and encouragement along the way.

It is with sincere gratitude that I recognize my advisor, Dr. Julianne Ossege for your continued support and direction throughout this journey. Your geniality provided a sense of comfort and calmness throughout this sometimes-chaotic journey. You have been present since the beginning, prioritizing our needs, and providing encouragement. You believed in us even when we didn't believe in ourselves, and as a result we have made it to the end.

I would like to thank Norton Healthcare and the University of Kentucky's College of Nursing (CON) executive leadership team for the opportunity to be a part of this program. To my Norton Healthcare and University of Kentucky CON instructors and committee members; I am forever grateful for your leadership and guidance. Your instruction has elevated me to a higher altitude of intellectual abilities and nursing practice. To the Norton Healthcare and University of Kentucky's CON support staff and administrative assistants; thank you for all your hard work, dedication, and enhancing this experience. To my nurse manager, Dr. Julie Wolford, thank you for allowing me the flexibility to balance work and academics. Your support is greatly appreciated.

Norton Healthcare Scholarship Recipient: This Doctor of Nursing Practice project and program of study was fully funded through the University of Kentucky College of Nursing and Norton Healthcare academic-practice partnership.

Dedication

This Doctor of Nursing Practice (DNP) project is dedicated to the two people nearest and dear to my heart; My Mother and Father. You have been my biggest supporters and I am forever grateful to have had you both by my side during this journey. I hope I have made you proud. I love you. This project is also dedicated to my family and friends. Thank you for believing in me and encouraging me to keep moving forward to accomplish my goals. Lastly, I would also like to dedicate this DNP project to those who have dreams beyond the basics. Those who wish to maximize educational opportunities and lead by example. The sky is the limit.

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Tobacco Screening among Adults in Primary Care: Evaluation of the use of the 5A's Framework for Treating Tobacco Dependence

Introduction

Tobacco use in the United States is the chief cause of preventable disease and death with cigarettes being the most commonly used form of tobacco (Jamal et al., 2018). Despite the risks associated with tobacco use, nearly 40 million U.S. adults continue to use tobacco (Jamal et al., 2018). Almost half of those who use tobacco suffer from a chronic disease caused by tobacco use such as coronary artery disease, obstructive lung disease, or a form of cancer (United States Department of Health and Human Services [U.S. DHHS], 2014). Tobacco smokers alone and those that are exposed to tobacco smoke cost the United States 130 billion dollars annually in medical care (U.S. DHHS, 2014). Consequently, based on the millions of Americans that currently use tobacco, it is expected that approximately 20 million will die prematurely if unable to stop using tobacco (Fiore, Jorenby, & Baker, 2016). It is reported that due to the health complications caused by smoking, a smoker's life is shortened on average by a decade (Jha et al., 2013). Therefore, preventing and identifying tobacco use through screening, assessment, and follow up is essential to assist users to quit and to decrease overall tobacco associated health risks (Jha et al., 2013).

Background

Individuals suffering from nicotine dependence and tobacco related illness make up a high portion of primary care patients (Papadakis, Tulloch, Gharib, & Pipe, 2016). Incidentally, this population has been found to have readiness to quit rates as high as 70% in some instances (Papadakis et al., 2016). The US Preventive Services Task Force [USPSTF] recommends that all adult primary care patients be screened for tobacco use (United States Preventative Services Task Force [USPSTF], 2015). Lack of screening for tobacco use among primary care patients has led Healthy People 2020 to develop a national objective specifically aimed to increase tobacco screening in the office-based, ambulatory care setting (Healthy People 2020, 2014). The national target is to increase tobacco screening in the ambulatory care setting from 75.7% in 2012 to at least 85.3% by 2020 (Healthy People 2020, 2014). Failure to screen for tobacco use can lead to missed opportunities for cessation counseling resulting in continued tobacco use,

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exacerbation of other health conditions, and potential deterioration of overall health (USPSTF, 2015).

In efforts to decrease the incidence of tobacco use and its related health complications, the 2008 update to Treating Tobacco Use and Dependence clinical practice guideline was developed (Fiore MC, Jaén CR, Baker TB, et al., 2008). The updated guideline (2008) extends the Treating Tobacco Use and Dependence Guideline (2000) and includes effective interventions for identifying and treating tobacco dependence (Fiore MC, Jaén CR, Baker TB, et al., 2008). The overall objective of the guideline is to support clinicians in improving the quality of care delivery and promoting healthier, tobacco free lives through screening and treatment (Fiore et al., 2008).

The USDHHS as well as several other public health agencies highly recommend that clinicians use the 5A's (ask, advise, assess, assist, arrange) framework to identify tobacco users, encourage dialog around the harms of tobacco use, and promote the benefits of cessation (USDHHS, 2014; USPSTF, 2015; and Siu, 2015). The 5A's framework specifies: 1) Asking every patient about tobacco use; 2) Advising all tobacco users to quit; 3) Assessing the willingness of all tobacco users to try to quit; 4) Assisting tobacco users with their attempt to quit; and 5) Arranging follow-up (Siu, 2015). Successful tobacco cessation can be initiated by detecting and treating tobacco addiction using the 5A's strategic discussion tool (Siu, 2015). Patient-provider conversations guided by the 5A's can result in a substantial increase in adult cessation attempts and rates (Fiore et al., 2008; Healthy People 2020, 2014; Siu, 2015; and USPSTF, 2015).

The primary care practice in the healthcare system used for this study screened for tobacco use in an alternative format within the social history, consisting of several questions related to tobacco use. These questions included; current tobacco status, tobacco use details such as packs per day or cigars smoked per day, smokeless tobacco use, and if counseling was provided. This assessment collects details regarding tobacco use rather than a systematic tool such as the 5A's to aid in cessation. While the existing format includes important questions related to tobacco use, there is no ordered sequence to promote completion similar to the 5A's framework. Additionally, within the existing format, every patient is identified as a current tobacco user, non-tobacco user, or former tobacco user but there is no way to identify the last

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time those details were updated. The current format also allows clinicians and support staff to perform a “one-click” function to imply that details regarding tobacco use were updated and/or reviewed even if they were not. During the Primary Investigator's (PI) clinical experiences, it became evident that this assessment is more often not completed and/or updated.

Lack of documentation of tobacco status can negatively impact the quality of patient care. To assist a patient with tobacco cessation, the initial step is identification through screening and documentation. Provider documentation should reflect comprehensive care including social history factors like tobacco use that impact health conditions and outcomes. The primary care setting is the most common entrance into the healthcare system for adults, highlighting the importance of comprehensive preventive care measures, including identifying tobacco status and tobacco history. Primary care providers and support staff must be knowledgeable about both patient tobacco use and evidence-based screening recommendations to provide optimal patient care (Jamal, Dube, & King, 2015).

Purpose

The purpose of this study was to implement and assess the integration of the 5A's framework into the workflow at one Primary Care Center. As a result, it was expected that this health center would see improved quality of screening and documentation of tobacco screening, including increased tobacco screening in the adult primary care population (Jha et al., 2013).

The main study objectives were:

1. To determine baseline tobacco screening data prior to 5A's education.
2. To educate providers and support staff on the 5A's framework.
3. To review and interpret pre/post data of the 5A's framework.
4. To identify barriers to using the 5A's framework.

Theoretical/Conceptual Framework

The 5A's framework provides a structure for identifying tobacco status and assessing readiness to change with the incorporation of motivational interviewing to promote tobacco cessation. Motivational interviewing for tobacco users increases motivation, confidence, and

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commitment to change (Catley et al., 2015). With systematic delivery and the components of motivational interviewing, the 5A's strategic approach is aligned with Prochaska & DiClemente's Transtheoretical Model (TTM) of change.

Like the 5A's framework, the TTM of change has five steps. The TTM of change theorizes that behavior change falls into five progressive stages: precontemplation, contemplation, preparation, action, and maintenance (Prochaska & DiClemente, 1984). The TTM views behavior change as a process that evolves over time and through a sequence of stages (Prochaska & DiClemente, 1984). By helping individuals set realistic goals, progress from one stage to the next, and focus on one stage at a time, the behavior change itself is even more achievable (Prochaska & DiClemente, 1984). The five-stage TTM of change is especially applicable to addictive behaviors such as tobacco use (Mallin, 2002). For healthcare providers to intervene with the behavior, tobacco users must first be identified through the initial "ask" component of the 5A's. Second, the provider advises the patient to quit which is evidenced by component 2 of the 5A's. Once identified and advised, the healthcare provider can conduct further assessment with the remaining components of the 5A's framework and begin the behavior change process with the 5 stages of change within the TTM (Mallin, 2002).

During the precontemplation stage of tobacco use, the user does not believe the behavior is a problem (Mallin, 2002) and may even refuse to participate in cessation counseling (Mallin, 2002). This is evidenced by a patient stating they are not ready to quit when asked question 3 of the 5A's. The healthcare provider should use motivational interviewing as a strategic way to encourage the individual to think about his or her tobacco use (Mallin, 2002). Using an empathetic approach rather than confrontation, acknowledges that the patient, rather than the provider, is accountable for changing the behavior (Mallin, 2002). If the patient is resistant to the idea of cessation, brief interventions may be necessary to highlight the magnitude of the problem (Mallin, 2002). For instance, the provider may need to educate the patient on the detrimental health effects of tobacco on the body (Mallin, 2002). As a result, the patient may consider the possibility that tobacco use is a problem for him or herself that needs attention (Mallin, 2002).

Once the patient has accepted the fact that their tobacco use is a problem, the contemplation phase begins (Mallin, 2002). During this phase the provider continues to provide encouragement and education on the risks of tobacco use (Mallin, 2002). The provider should

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also continue encouraging the patient as well as introduce the positive aspects of living a tobacco free life (Mallin, 2002). The positive aspects should be individualized for each patient to paint a more realistic picture (Mallin, 2002). For example, a patient with financial stress could gain economic savings from quitting smoking, while a patient with chronic obstructive pulmonary disease may improve their respiratory health (Mallin, 2002). Another patient may have a restored self-image and feel less restricted from being free from smoking addiction (Mallin, 2002).

When the patient decides that they are ready to quit and that the benefits of tobacco cessation outweigh the risks of continuing use, they enter the preparation stage (Mallin, 2002). In the preparation stage, the healthcare provider and the patient collectively develop a detailed plan for quitting (Mallin, 2002). Not only is a quit date agreed upon, the provider also assists the patient to develop a support system and prepare a tobacco free environment to decrease temptation (Mallin, 2002). If needed, the provider will select pharmacotherapy to suite the patient's individual needs (Mallin, 2002).

The action stage is activated on the actual quit date (Mallin, 2002). At this point the patient should be consistently using the nicotine replacement system if part of the cessation plan (Mallin, 2002). Frequent office visits and/or phone calls are necessary to track progress and evaluate symptom management of nicotine withdrawal (Mallin, 2002). There is a high-risk of relapse during this stage (Mallin, 2002). As a result, the patient should continue to seek support from the provider, friends, family, support groups, etc (Mallin, 2002).

During the maintenance stage, patients are less tempted to relapse (Mallin, 2002). Perceived benefits from tobacco cessation should be reported by the patient frequently to serve as a reminder for the behavior change (Mallin, 2002). Difficulties in maintaining abstinence should also be discussed with the healthcare provider (Mallin, 2002).

The incorporation of the TTM of change for tobacco cessation is feasible and effective for practice when delivered through an evidence-based tool such as the 5A's framework (Catley et al., 2015). Tobacco users who go through the TTM behavior change process are more likely to succeed with cessation because they are equipped with the tools to properly manage issues that arise (Catley et al., 2015). Additionally, these individuals have a support system and are fully engaged in their cessation plan, decreasing the likelihood of tobacco relapse (Catley et al., 2015). While the TTM may seem extensive and time consuming, an abbreviated version can be

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accomplished using the 5A's framework. The various stages of change confirm that patients should be arranged for follow-up to re-assess what stage they are in and assist during that stage.

Review of Literature

According to the USPSTF guidelines (2015), the 5A's are recommended as the initial strategy for addressing tobacco use in the outpatient setting (Fiore et al., 2008). It is a useful tool for engaging individuals in initial conversations about tobacco cessation. If patients are not asked, they cannot be guided and supported through the challenges of tobacco cessation.

Providers are three times more likely to take the time to provide cessation counseling if a positive tobacco status has been identified through screening (Larzelere et al, 2012). Therefore, providers must be diligent about screening for tobacco status and deliver all five components of the 5A's (Kruger, O'Halloran, Rosenthal, Babb, & Fiore, 2016). The 5A's goes beyond screening for tobacco use, it addresses the complexities associated with patients who are ready to quit using tobacco, patients who are unwilling to quit using tobacco, and patients who have recently quit using tobacco (Fiore et al., 2008). The 5A's delivers a clear and consistent message when used on every patient at every visit (Steliga, 2018). Using the 5A's framework can give the patient the important impression that a health care provider has interest in their cessation which is linked to successful cessation (Steliga, 2018). The comprehensive 5A's framework helps patients feel supported in their quit attempt, which can be a strong motivator for patients to consider cessation using behavioral and/or pharmacological therapies which have been linked to high success rates (Steliga, 2018).

A systematic review of 42 trials including over 31,000 smokers, concluded that when providers promote cessation through application of the 5A's, patient cessation rates increase (Stead, et al., 2013). Baseline, unassisted cessation rates range from 2% to 3% (Stead, et al., 2013). Appropriate delivery of the 5A's framework followed by more intensive clinical intervention has been associated with substantial increases in tobacco cessation among adults (Kruger et al., 2016). Incorporation of the brief 5A's assessment and intervention can increase cessation rates an additional 1% to 3% (Stead, et al., 2013).

Methods

Agency Description

A Primary Care Center in a Midwestern metropolitan city was the site for the study. The primary care office has two medical doctors and three nurse practitioners as well as several medical assistants and additional support staff. The practice site provides care primarily for adults but also sees some pediatric patients.

Design

This was a descriptive two-phase study. Phase one consisted of provider education and implementation of the 5A's screening tool. Phase two consisted of pre and post implementation retrospective chart reviews.

Sample

All providers and support staff were invited to participate in the study. Patients included in the study were adults 18 and older being seen for all provider visits including new patients, routine follow-ups, annual physicals, and episodic or sick visits. Patients excluded from the study were those less than 18 years of age being seen for an episodic visit for acute pain or for a non-provider visit such as a blood pressure or weight check, injection visit, or a visit with a diabetes educator. Chart reviews from the pre implementation period included 100 random patients meeting inclusion criteria. Chart reviews from the postimplementation period included 100 random patients meeting inclusion criteria of participating providers only.

Procedures

Phase 1: Three separate education sessions occurred at the primary care office. Sessions were held at different times to capture as many providers and support staff members as possible. The education sessions ranged from 5 minutes to 10 minutes each. All Physicians, Nurse Practitioners, and support staff were invited to attend the education sessions. Education consisted of summarizing current practice as well as introducing and explaining the 5A's assessment and documentation process. The PI provided individual folders to staff containing project documents, including the 5A's form the PI created for the providers to utilize. See Figure 1. Instructions for using the 5A's form were explained. Patient inclusion criteria (adults 18 and over) and exclusion

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criteria (acute pain and non-provider visits) were also explained. The PI also provided resource materials on the 5A's framework, tobacco cessation counseling materials, treatment intervention references, as well as community resource tools. The PI explained the study objectives, participation instructions and requirements, and reviewed consent. Consent was obtained from two Nurse Practitioners who wished to participate in the study. All other providers declined to participate.

Phase 2: A request for medical records (100 pre and 100 post) was submitted to the healthcare organizations data analytics team during the appropriate study time frames. Temporary crosswalk tables were created and maintained during the study with the patient's medical record number matched to a unique study identification number to protect privacy and prevent duplication. The crosswalk and data collection tables were kept separate to protect patient data.

Per PI request, the healthcare organizations Health Information Management team provided a report containing the MRN's of all patients with a 5A's form attached to their medical record via use of the unique barcode identifier on each form.

Human subjects' approval was obtained through the University of Kentucky and the healthcare system where the primary care center is associated.

Data Collection

The PI reviewed 100 random medical records of patients meeting inclusion criteria seen at the Primary Care Center from January to June 2018. Charts were reviewed for demographics, documentation of tobacco status in the patient's social history, problem list, and provider visit note. The immediate ninety-day period following the 5A's education, the PI reviewed an additional 100 random medical records of participating providers' patients seen from May-July 2019 who met the inclusion criteria. These charts were reviewed for demographics, documentation of tobacco status in social history, problem list, and provider visit note, and if applicable, the scanned 5A form in the media section of the patient's electronic medical record. All data tables were stored in an authenticated secure, firewall protected research folder within the hospital system. Crosswalk and data tables were stored separately.

Periodically, throughout the study period, the PI visited the Primary Care Center to replenish the stock of 5A's screening forms and speak with the two participating Nurse

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Practitioners and support staff regarding the study. The PI was able to identify barriers to 5A's utilization, answer questions, and obtain additional feedback from providers and support staff. De-identified shorthand notes were gathered and stored on the PI's personal, password protected electronic tablet. This data was only accessible to the PI.

Data Analysis

Descriptive statistics, means and standard deviation or frequencies, were used to summarize study variables. Pre and post-implementation data were compared using the chi-square test of association or two-sample t-test, as appropriate. The chi-square test of association was used to compare nominal variables (gender, race, tobacco status, and documentation components). The two-sample t-test was used to compare age. Data analysis was performed using SPSS, version 25 with an alpha of .05. Narrative notes from the PI were analyzed for common and unique themes related to use of the 5A's framework. Statistical analysis was performed with the assistance of a statistician from the University of Kentucky.

Results

Equally, the pre-implementation and post-implementation samples included 100 patients. Prior to implementing the 5A's framework the average age of the patient within the sample was 44.5 (SD=16.7). The average age of the patient's post-implementation was 41.6 (SD=15.9). There was no significant difference in age between the pre and post-implementation samples ($p=.22$). See Table 1.

Of the 100 patients in the pre-implementation sample, 81% were Black/African American, 14% White/Caucasian, 1% Hispanic/Latino, 1% Asian, and 3% Pacific Islander. The post-implementation patient sample included 77% were Black/African American, 18% White/Caucasian, 1% Hispanic/Latino, 2% Asian, and 2% Pacific Islander. There was no significant difference between pre- or post-implementation groups with the race/ethnicity variables ($p=.86$). See Table 1. Pre-implementation of the 5A's framework, there were 25% tobacco users compared to 44% tobacco user's post-implementation, indicating a statistically significant difference in identified tobacco use status ($p=.01$). Among the tobacco users, tobacco status was documented in the problem list 20% of the time prior to implementing the 5A's framework and 16% of the time post-implementation. No significant difference ($p=.67$) was

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noted between problem list documentation before and after implementing the 5A's framework. Providers documented a positive tobacco use status within the visit note 21% of the time prior to the 5A's implementation and 16% of the time post 5A's implementation. Again, no significant difference ($p=.98$) was noted between pre and post-implementation of documentation of tobacco status in the provider note. Finally, providers documented details of tobacco use, advised against tobacco use, and/or described a cessation plan within the visit note 8% of the time prior to 5A implementation and 18% of the time post 5A's implementation. While there was no significant difference ($p=.27$) in this variable, it is important to mention that this variable may have been directly influenced by the presence of more tobacco users in the post-implementation sample. See Table 2.

The 100 post-implementation chart reviews identified two completed 5A's forms. Due to insufficient use of the 5A's tool, data analysis and interpretation related to implementation of the newly introduced tool is contraindicated. However, a separate report from the PI's chart reviews collected by the Health Information Management (HIM) team, identified that 11 total 5A's forms were completed and scanned into the electronic medical record correctly over the 3-month study period. This report was run to determine how many total 5A's forms were completed. Furthermore, 10 out of 11 (91%) of the 5A's forms identified from the HIM report had all the 5A's components completed.

Common themes identified during follow-up discussions between the PI and participating providers included obtaining more meaningful data and increased patient engagement with use of the 5A's framework. Providers also felt that using an evidence-based tool in a sequenced format helped direct conversations with patients regarding tobacco use. Providers reported that when the 5A's form was used, patients were often more agreeable to considering tobacco cessation. Additionally, providers shared patient perspectives related to the 5A's which included one patient requesting that the 5A's data collected not be included in her medical record, while other patients were appreciative of the provider taking the time to address tobacco use. One patient with a history of lung cancer related to chronic tobacco abuse was extremely 'touched' by the conversation initiated by the 5A's assessment which led to her daughter's tobacco cessation.

Uniquely, one provider suggested that the form have more blank space for responses and notes while the other provider felt that the form should be eliminated, and the assessment

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performed electronically within the electronic medical record. A common barrier to screening was the lack of time to incorporate a thorough tobacco cessation conversation with patients. Overall, providers and support staff felt that having the 5A's built into the existing electronic documentation system would be more efficient and increase the likelihood to complete it.

Discussion

This descriptive study found a significant increase in the percentage of tobacco users identified through documentation before and after implementation of the 5A's framework. Additionally, this study identified tobacco status documentation practices (problem list, social history, visit note) before and after implementation of the 5A's which showed no significant difference. On the other hand, this study was unable to show if use of the 5A's framework improved documentation practices due to limited use of the framework by participants.

It is unclear why there were more tobacco users in the post-implementation sample. Because there were no significant differences in age, gender, and race/ethnicity noted within the pre and post-implementation samples, these variables likely did not influence the tobacco user variable. It is possible that tobacco users were identified more frequently post-implementation as a result of the ongoing study and increased awareness around tobacco use documentation.

While the clinical practice guideline for treating tobacco use and dependence promotes use of the 5A's framework, providers often lack knowledge of the tool and are unfamiliar with the guideline recommendations necessary to proficiently assess and manage tobacco use and dependence. All four providers who received 5A's education prior to implementation admitted to being unfamiliar with the 5A's tool prior to this study. Therefore, the two providers who participated in the study were using the 5A's for the first time.

The lack of familiarity with the 5A's tool has been found to be a barrier in other studies. A cross-sectional study conducted by Martínez et al., (2017) surveyed 699 healthcare workers in Catalonia (Spain), to explore performance factors related to the components of the 5A's model. It was found that most healthcare workers felt they had a moderate comfort level in completing the first three 5A's components (Ask, Advise, Assess) (Martínez et al., 2017). However, the Assist and Arrange components were often not completed (Martínez et al., 2017). Barriers identified included lack of adequate training/education, low familiarity with evidenced-based guidelines,

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and limited organizational support. (Martínez et al., 2017). This study may suggest that educational efforts should be increased so that providers gain knowledge and confidence in using the 5A's framework. Organizational efforts should support designating time for 5A's education to occur since incorporating the education into a short segment of a staff meeting may be ineffective evidenced by lack of use of the framework after brief education in the current study.

Limitations

Provider and support staff education took place during three separate occurrences but was limited due to time constraints. More time may have resulted in more thorough education, review of resources, and discussion, which may have increased baseline knowledge of the 5A's process. Increased understanding of the evidence supporting use of the 5A's could have led to additional provider participation and enhanced use of the 5A's tool. An additional limitation occurred when one of the two providers participating in the study went on a medical leave halfway into the study. This only left one provider to use the 5A's. This also may have led to an increased patient load to be absorbed by the rest of the providers in the office, constricting time to apply the 5A's framework even further.

The PI had limited access to the participating providers and support staff during the study period due to heavy practice flow. This limited the number of interactions to provide follow-up, assess 5A's usage, gather feedback, identify barriers, and answer any questions in real-time. During the few opportunities the PI had to interact with the providers and support staff, providers identified time as the greatest barrier to completing the 5A's tool. Average visits were 20 minutes and was essentially not enough time to address tobacco use in addition to numerous other problems the patient intended to discuss. Providers felt that having patients come back in for a separate tobacco use focused visit would be beneficial and produce better outcomes with using the 5A's tool and resources. However, a separate visit was not part of this study.

Support staff mentioned that they oftentimes initiated the 5A's screening during the patient rooming process, but it was not addressed by the provider during the visit. In these instances, the form was discarded. The office protocol required that support staff fax the completed 5A's form to an offsite medical records department who would then scan the form into the patient's electronic medical record. In addition, inconsistent handling and filing of the 5A's form was another limitation. The PI discovered after the study that there may have been

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additional 5A's forms completed that were unable to be retrieved due to medical record labeling inconsistencies. Forms that were labeled "research" in the chart were tracked and identified by a barcode that was embedded in all the 5A's forms. However, forms that were labeled "correspondence" or anything other than "research," were unable to be tracked by the barcode. Paper medical records that require manual transfer into the electronic medical record are subject to error which may have been the case in this study.

Implications and Recommendations

The healthcare system's primary care offices would likely benefit from reevaluating the current tobacco screening documentation within the electronic health record. An electronic format that is user friendly and comprehensive such as the 5A's could maximize efficiency and effectiveness. However, a paper formatted screening tool would likely not be utilized due to time constraints and paper management. In contrast, a built-in electronic version of the 5A's tool could be easily tracked for compliance and outcome measures. Whereas, the paper format allows for increased error with tracking and retrieval.

Providers who participated in the study expressed support that electronic screening and documentation would be more efficient than paper and electronic documentation. The fact that the 5A's form was almost always completed when used may suggest that a multi-step format can promote a more comprehensive assessment resulting in increased documentation. When the tool was used, providers within the study expressed that it increased conversation around cessation and in a couple instances, actually led to successful cessation.

According to the American Lung Association (2018), tobacco cessation counseling is a reimbursable service for Medicaid, Medicare, and most private health plans. Despite this, very few providers bill for this service. Interestingly, documentation requirements for reimbursement mirrors the 5A's assessment and it is recommended to include these components and the appropriate billing codes for reimbursement. Even brief (3-10 minute) cessation encounters can be billed for reimbursement. Longer cessation encounters (greater than 10 minutes) can be billed for higher reimbursement (American Lung Association, 2018).

Once implemented, providers may be more likely to use the 5A's if they are aware that they can bill for this service. Organizations can utilize reimbursement benefits as a strategy to

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offset the costs associated with the increased time it takes providers to provide cessation counseling. Providers in this study were given a reference sheet with diagnosis and billing codes with reimbursement details. However, there was minimal time spent reviewing this information as assessing reimbursement was not one of the study objectives. Although it was not fully addressed in this study, future provider education should highlight tobacco cessation reimbursement as it increases organizational gain.

A comprehensive education plan on the 5A's process for providers and support staff is necessary. Online interactive training modules with scenario-based use of the 5A's tool would help facilitate a competent practice environment empowered to assist patients with tobacco cessation. Organizational push for this education to be completed by all clinicians and support staff promotes evidence-based directional change.

Conclusion

The purpose of this study was to determine baseline tobacco screening data prior to 5A's education, to educate providers and support staff on the 5A's process, to review and interpret pre/post data of the 5A's process, and to identify barriers to using the 5A's process. While tobacco screening data was obtained, it was minimal due to several barriers. Provider and support staff education on the 5A's process was completed but limited due to time constraints. As a result, limited comparisons exist between the pre and post 5A's implementation data. Additionally, provider participation and feedback throughout the study period was minimal.

Findings add to the literature that this project supports provider education and training on the evidenced-based 5A's process is necessary for providers to consistently utilize the tool. Should organizational adoption of the 5A's tool for assessing and treating tobacco use be made a standard of care, it could ultimately increase provider adherence to the 5A's. Additionally, healthcare organizations can support clinicians who are attempting to provide cessation counseling using the 5A's by recognizing the increased time required to successfully perform this health promotion and disease prevention strategy. Creating a culture that embraces comprehensive prevention and health promotion strategies can lead to optimal healthcare quality and outcomes. Successful integration of the 5A's framework into the primary care setting is a multi-faceted initiative requiring planning and evaluation with consideration of patient, provider, support staff, and organizational views.

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Table 1. Summary of Study Demographics

N=100	Pre-implementation Mean (SD) or percent	Post- implementation Mean (SD) or percent	p
Age	44.5 (16.7)	41.6 (15.9)	.22
Gender			
Female	74%	78%	.44
Male	26%	21%	
Transgender	0%	1%	
Race/ethnicity			
Black/AA	81%	77%	.86
White/Caucasian	14%	18%	
Hispanic	1%	1%	
Asian	1%	2%	
Pacific Islander	3%	2%	
Tobacco user			
Yes	25%	44%	.01
No	75%	56%	

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Table 2. Tobacco Status Documentation of Tobacco Users Only

N=100	Pre-implementation	Post-implementation	p
Documented in problem list			
Yes	20%	16%	.67
No	80%	84%	
Documented in provider note			
Yes	21%	16%	.98
No	79%	84%	
Cessation plan documented in provider note			
Yes	8%	18%	.27
No	92%	82%	

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Appendix

Figure 1. 5A's Form.

Instructions:

1. Circle applicable answers.
2. Answers should subsequently be documented electronically in EPIC social history. ***Bolded questions are in EPIC**
3. Provider note should reflect this assessment.
4. Scan this form into EPIC once assessment is complete and then shred.

<p>1.ASK: Do you currently use tobacco?</p> <ul style="list-style-type: none"> • <i>If yes, continue to #2. If no, flip to back.</i> 	YES	NO
<p>2.ADVISE: Advised to quit?</p> <ul style="list-style-type: none"> • <i>“Quitting tobacco is the most important thing you can do to protect your health.”</i> 	YES	NO
<p>3.ASSESS: Are you willing to quit now?</p> <ul style="list-style-type: none"> • <i>If no, identify reasons to quit and build patient’s confidence about quitting.</i> • <i>If yes, continue to #4.</i> 	YES	NO
<p>4.ASSIST: Appropriate treatments provided?</p> <ul style="list-style-type: none"> • <i>Set a quit date, ideally within 2 weeks.</i> • <i>Remove tobacco products from their environment.</i> • <i>Get support from family, friends, and coworkers.</i> • <i>Review past quit attempts—what helped, what led to relapse.</i> • <i>Anticipate challenges, particularly during the critical first few weeks, including nicotine withdrawal.</i> • <i>Identify reasons for quitting and benefits of quitting.</i> 	YES	NO
<p>5.ARRANGE: Follow-up arranged?</p>	YES	NO

This form is public domain and was modified from:
 Fiore MC, Jaén CR, Baker TB, et al. Treating Tobacco Use and Dependence: 2008 Update. Quick Reference Guide for Clinicians. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. April 2009.

BACK

<p>1.ASK: Have you ever used tobacco?</p> <ul style="list-style-type: none"> • <i>If yes, continue to #2. If no, screening complete.</i> 	YES	NO
<p>2.ASSESS: Have you recently quit? Any challenges?</p> <ul style="list-style-type: none"> • <i>“Quitting tobacco is the most important thing you can do to protect your health.”</i> 	YES	NO
<p>3.ASSIST: Appropriate support provided?</p> <ul style="list-style-type: none"> • <i>If yes, provide relapse prevention.</i> • <i>If no, encourage continued abstinence.</i> 	YES	NO
<p>4.ARRANGE: Follow-up arranged?</p>	YES	NO