IMPROVING TOBACCO CESSATION PROCESSES FOR BEHAVIORAL HEALTH PROFESSIONALS IN PRIMARY CARE

by

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As members of the DNP Project Committee, we certify that we have read the DNP project prepared by Iesha R. Floyd, titled Improving Tobacco Cessation Processes for Behavioral Health Professionals in Primary Care and recommend that it be accepted as fulfilling the DNP project requirement for the Degree of Doctor of Nursing Practice.

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Final approval and acceptance of this DNP project is contingent upon the candidate's submission of the final copies of the DNP project to the Graduate College.

I hereby certify that I have read this DNP project prepared under my direction and recommend that it be accepted as fulfilling the DNP project requirement.

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DEDICATION

I would like to dedicate this project to my entire village. Those who have offered encouragement and supported my efforts, thank you. To my children and precious granddaughter, I hope I've made you proud and modeled the right paths for you to follow in life. You know I will always be there to support you just as you have supported me. I love you all more than I can ever express with words.

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ABSTRACT

Purpose. The purpose of this quality improvement project was to develop evidence-based tobacco cessation recommendations through a pre-program evaluation of current tobacco cessation processes at a Federally Qualified Health Center in Casa Grande, Arizona. The primary investigator explored tobacco screening and counseling practices within the behavioral health department. The project took place alongside two similar projects focused on the pharmacy and primary care departments. Together the three projects functioned together to develop evidence-based recommendations, for implementation by future Doctor of Nursing Practice student cohorts.

Background. Healthcare professionals experience multifactorial barriers that impact consistent delivery of evidence-based tobacco cessation interventions. The U.S. Preventative Service Task Force endorses two clinical practice guidelines that highlight a system-based approach for treating tobacco dependence. Guideline recommendations help to ensure consistent documentation and delivery of cessation interventions for tobacco users at every clinical encounter. Unfortunately, literature demonstrates inconsistent documentation practices, which result in missed opportunities to deliver proven interventions.

Methods. The project analyzed current tobacco cessation processes among the facility's behavioral health professionals. The focused evaluation used a survey tool developed from literature. The survey identified current tobacco screening and counseling processes and informed comprehensive recommendations developed to improve future tobacco cessation processes.

Results. Of the four potential participants, three behavioral health professionals completed the survey (N = 3). Participants varied how frequently they inquired about tobacco use. However, they all reported delivering cessation interventions and made appropriate evidence-based recommendations. Two participants referred tobacco users not taking FDA approved medication to primary care. All participants felt confident counseling tobacco users and found ways to stay current with tobacco cessation recommendations. Consistent with current literature participants identified patient motivation was the leading counseling barrier.

Conclusions. The project successfully identified current tobacco cessation processes and the top perceived barriers of behavioral health professionals. It underlined the important role of behavioral health professionals in tobacco cessation and demonstrated they are engaged, confident, and knowledgeable about the topic. Although barriers exist, the integrated patient care model at the Federally Qualified Health Center provides an opportunity to design a comprehensive program to seamlessly move tobacco users through the continuum of care.

INTRODUCTION

The need for comprehensive tobacco cessation practices is apparent in a variety of clinical settings. However, many healthcare professionals experience personal and system-related barriers, which negatively impact the ability for healthcare providers to consistently deliver evidence-based tobacco cessation interventions. The U.S. Preventative Service Task Force (USPSTF) endorses two clinical practice guidelines (CPGs) that highlight the need for a system-based approach for treating tobacco dependence (Fiore et al., 2008; Sui, 2015). These CPGs encourage consistent documentation of tobacco use status and the delivery of brief quit advice for tobacco users at every clinical encounter (Fiore et al., 2008; Sui, 2015). Both CPGs endorse the use of the *'5A's'* (*Ask, Advise, Assess, Assist, Arrange*) (Figure 1) to effectively screen for tobacco use, deliver quit advice and treat tobacco dependence (Fiore et al., 2008; Sui, 2015). Despite those recommendations, current literature demonstrates the majority of healthcare professionals fail to consistently assist quit attempts or to adequately arrange for the delivery and follow up of cessation therapies (Martinez et al., 2017). Those failures negatively impact the health of tobacco users and burdens an already stressed healthcare system. This paper is one-part of a three-part initiative to develop comprehensive tobacco cessation recommendations for primary care, behavioral health, and pharmacy professionals at a Federally Qualified Health Center (FQHC) in Casa Grande, Arizona. This specific paper outlines a quality improvement (QI) project to improve tobacco cessation processes for behavioral health professionals working in primary care settings at the aforementioned FQHC.

Figure 1

The 5A's of Tobacco Cessation Screening and Treatment

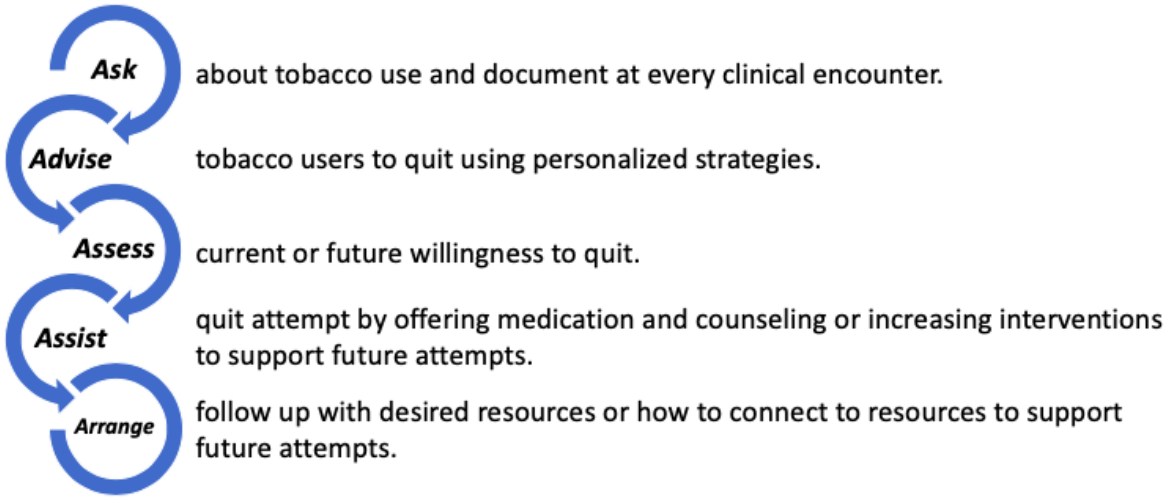


*Figure adapted from Agency for Healthcare and Research Quality's *"5A's Model for Treating Tobacco Use and Dependance-2008"*

Background Knowledge

Tobacco use includes traditional cigarette or cigar smoking, chewing of smokeless tobacco, and vaping. Vaping is a growing and controversial trend that may entice modern users due to attractive flavors and convenient electronic delivery (Chen et al., 2017). Tobacco dependence is a chronic illness with many physical impacts. Tobacco use damages every organ system in the body (Centers for Disease Control and Prevention [CDC], 2020a). The morbidity and mortality rates from cardiovascular disease and cancer are directly associated with chronic tobacco use (CDC, 2019a; CDC, 2020b). These diseases are expensive to manage, treat, and cause over a million deaths annually (CDC, 2017). Tobacco use alone is responsible for roughly 500,000 deaths annually in the U.S. (CDC, 2020d). Evidence suggests tobacco cessation reduces

the risk of several types of cancer and adds upwards of 10 to 15 years to the average life expectancy of users (U.S. Department of Health and Human Services [USDHHS], 2020).

Despite the known health benefits of tobacco cessation, the most current statistics demonstrate 34.2 million adults in the U.S. use tobacco daily (CDC, 2019). Although tobacco use in adults decreased by more than 7% from 2005 to 2018, tobacco cessation remains the leading preventable cause of death (CDC, 2019b; CDC, 2020d). Unfortunately, according to the Surgeon General's most recent report, documentation of tobacco use in outpatient settings only happens about 66% of the time. This results in missed opportunities to deliver evidence-based cessation interventions (USDHHS, 2020). To counter the physical and financial impacts, healthcare professionals must possess knowledge of tobacco use patterns and implement effective cessation interventions.

Tobacco cessation attempts are more successful when behavioral and pharmacological interventions are used concurrently (Sui, 2015). Enhanced communication skills and specialized training in behavior change make integrated behavioral health professionals (IBHPs) an integral part of tobacco use treatment (Wray et al., 2017; Wray et al., 2018). IBHPs are individuals who provide counseling services to patients in primary care settings with physical, mental, or social issues that impact health outcomes (Sun Life Family Health Center [SLFHC], 2020a).

Behavioral health interventions are covered by health insurance under the Affordable Care Act (ACA) but remain underutilized (Bloom et al., 2019). While this underuse is not completely understood, evidence suggests that the unclear billing and reimbursement practices for non-physician professionals is a contributing factor (Bloom et al., 2019). In addition, negative perceptions of tobacco users' motivation to quit by IBHPs impacts the optimal delivery

of evidence-based tobacco cessation interventions (Wray et al., 2019). Therefore, a focused assessment of barriers and facilitators among IBHPs is necessary to improve the delivery of comprehensive tobacco cessation in outpatient clinical settings.

Advanced practice registered nurses (APRNs), especially those prepared with a Doctor of Nursing Practice (DNP) degree, possess leadership skills to improve tobacco cessation processes. The focus of DNP education programs is to not simply prepare these APRNs to be clinical experts but also to prepare them to facilitate and lead interprofessional teams (LeVeck, 2018). APRNs use patient- and system-focused knowledge to navigate healthcare systems and facilitate the implementation of best practices in all healthcare settings making them ideal team-members to work with IBHPs (Lamb et al., 2018). Accordingly, these leadership and interprofessional skills translate to the identification of problems and planned resolution in a variety of clinical settings (Lamb et al., 2018).

Local Problem

Tobacco use in Arizona is a public health epidemic (CDC, 2020c). According to the CDC (2020c), approximately 14% of Arizonian adults smoke cigarettes, and approximately 8,300 Arizonians die from smoking-related illness every year. In 2019, a statewide public health campaign reported a 112% increase in calls to the state's Quitline, which may indicate growing interest in tobacco cessation among Arizona residents (CDC, 2020c). Despite this growing public interest, according to the American Lung Association ([ALA], 2020a), Arizona is underperforming in several key tobacco-related measures developed to reduce tobacco use.

The lack of adequate funding for tobacco prevention and cessation funding is a legislative problem in Arizona. The CDC provides state legislators with funding recommendations for

tobacco prevention and cessation programs (ALA, 2020b). Although Arizona received 1.2 million dollars from the CDC in 2019 to advance tobacco cessation support services, the state continues to underfund cessation and prevention programs (CDC, 2020c; ALA, 2020b). In addition, also in 2019, the state received 429.5 million dollars from tobacco revenue but only allocated 17.3 million of those dollars to fund tobacco prevention. This is about 27% less than the CDC's funding recommendations for prevention and cessation programs (Truth Initiative, 2020). This is striking as smoking-related healthcare costs total more than 2 billion dollars per year (CDC, 2020c; Truth Initiative, 2020). Therefore, increasing tobacco cessation and prevention funding can reduce smoking-related deaths and decrease smoking-related healthcare spending.

This DNP project will be implemented at Sun Life Family Health Center (SLFHC), a FQHC in Casa Grande, Arizona. Sun Life Family Health Center has 14 locations, with 13 located in Pinal County and one in Maricopa County (SLFHC, 2020b). The city of Casa Grande is in Pinal County. In 2017, a local community health needs assessment failed to identify tobacco cessation as a priority issue among county residents (SLFHC, 2017). Although the county ranks third in total population size, the prevalence of tobacco use among adults was 15.1% in 2018 in contrast to Maricopa (13.7 %) and Pima (13.9 %) counties, which are the two most populated counties in the state (Data USA, 2020b).

Intended Improvement

This DNP project introduced a QI initiative that is aimed at improving tobacco cessation processes at the aforementioned FQHC. The Director of Pharmacy (DOP) identified tobacco cessation as a top QI priority as the organization was lacking an established comprehensive

tobacco cessation program, by which tobacco users are screened, managed, and treated. This lack has created care gaps and missed opportunities to deliver evidence-based tobacco cessation services to community members. As such, the QI project explored the current knowledge of the IBHP team regarding tobacco cessation and identified corresponding practice gaps. The primary investigator (PI) completed a program evaluation and survey of the current IBHP staff. The focused survey tool was developed from current literature and reviewed with the DOP. Then, the survey was distributed with the assistance of the DOP.

This project was one arm of a three-part project and took place alongside two concurrent projects at the FQHC, which explored screening and counseling practices of the (a) clinical and dispensing pharmacy teams and (b) and primary care providers. The recommendations developed by the investigative team sought to strengthen tobacco cessation interventions and solidify tobacco cessation policies at the implementation site. Together, the three projects identified and developed comprehensive recommendations for a tobacco cessation program to be implemented by future DNP student cohorts.

Project Purpose

The purpose of this QI project was to, first, perform a pre-program evaluation of the FQHC's current tobacco cessation processes and, subsequently, develop corresponding, evidence-based tobacco cessation program recommendations. This evaluation occurred through a survey of the IBHP team, which explored the providers' demographics, knowledge, preferences, and perceptive barriers to performing tobacco cessation interventions. The survey was then distributed among IBHPs at SLFHC's Casa Grande location.

Project Question

What current tobacco screening and counseling gaps exist among IBHPs at SLFHC in Casa Grande, Arizona and what recommendations will improve tobacco cessation protocols overall?

Project Objectives

The specific aims for this QI project were to:

Aim 1: Perform a focused needs assessment using a survey distributed among IBHPs to evaluate current tobacco cessation processes and resources at the FQHC.

Aim 2: Analyze results from the survey to determine gaps in tobacco screening and counseling.

Aim 3: Develop and present proposed recommendations for a tobacco cessation program.

Theoretical Framework

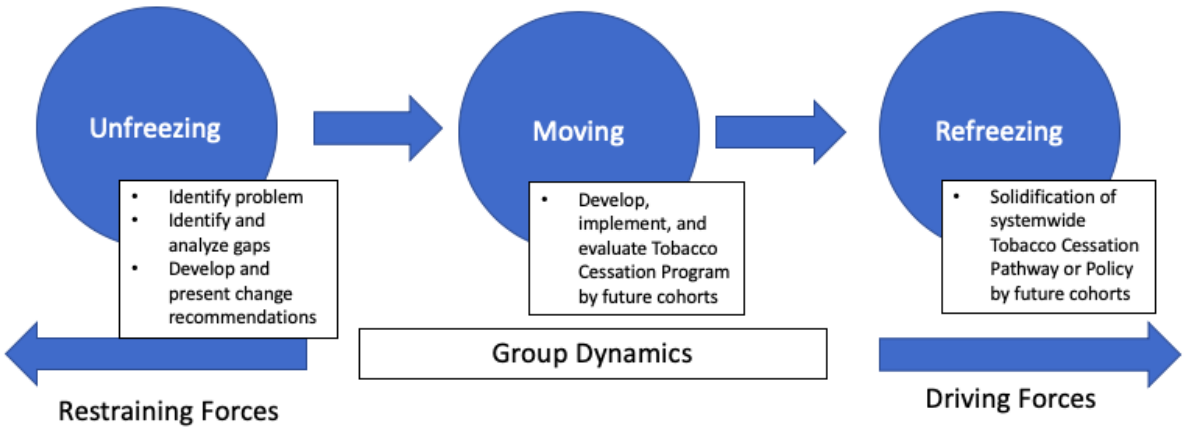
The theoretical framework selected to underpin this DNP project was Lewin's Theory of Planned Change (LTPC). The LTPC was chosen given its ability to drive organizational change. Early development of the theory began in the 1930s after Lewin emigrated to the U.S. from Germany (Burnes, 2020). As a humanitarian dedicated to social change, he applied concepts from prior research as a child psychologist to help resolve the social conflicts that arose during the Nazi era (Burnes, 2020; Burnes, 2004). These concepts evolved from his work with field theory, group dynamics, and action research (Burnes, 2020). His work with field theory and group dynamics drew attention to the relationship between behavior (or behavior change) and the surrounding environment (Burnes, 2020). He theorized stability within the environment arose from a balance between driving and restraining forces (Burnes, 2020). Lewin felt that as long as

the opposing forces were in balance, the feasibility of change or the conflict's resolution would be hindered (Burnes, 2020). During action research, restraining and driving forces are identified based on the group's collaborative needs and the desired change (Burnes, 2004). However, Lewin found that the desired change was often temporary, introducing a gap. That gap is what laid the conceptual foundational for his widely used theory and led to Lewin's identification of the three steps of change: unfreezing, moving, and refreezing (Burnes, 2004).

Unfreezing is the disruption of the status quo, which creates the initial imbalance necessary to implement change (Burnes, 2004). During this step, problems and needs are identified concerning the current state and the desired change (Shirley, 2013). Unfreezing is, essentially, a focused group analysis of specific barriers and facilitators of change (Shirley, 2013). Moving is a period of transition, learning, and action (Burnes, 2004; Shirley, 2013). In this step, a detailed plan of action is created and implemented using knowledge obtained from unfreezing to promote group engagement and ensure project success (Burnes, 2004; Shirley, 2013). Moving is complicated and requires effective group communication to resolve newly created conflict (Burnes, 2004; Shirley, 2013). If successful, moving lays the foundation for the desired change (Burnes, 2004; Shirley, 2013). Refreezing solidifies the change by creating a new culture within the group and reestablishing a balance between opposing forces (Burnes, 2004; Shirley, 2013). The new balance gives rise to procedural policies or pathways that enforce new group behaviors (Burnes, 2004; Shirley, 2013).

Figure 2

Lewin's Theory of Planned Change and Tobacco Cessation



Lewin's change theory aligned with the purpose and objectives of this collaborative DNP project; its application to the project is illustrated in Figure 2. Considering the project's multiphase nature, where future student cohorts will implement the recommendations, this project concluded with unfreezing. The initial unfreezing process began at a meeting with the DOP, where he first identified and discussed the need for a comprehensive tobacco cessation program (M. Bertsch, personal communication, January 23, 2020). This meeting created the initial imbalance necessary to initiate the planned change (Hussain et al., 2018). That said, the involvement of organizational leadership was the project's driving force because leadership was the bridge to the FQHC's professional staff.

Results from the focused survey helped to identify IBHPs' needs (i.e. restraining forces). More specifically, the survey helped to identify current screening and counseling practices of the IBHPs at the site. This information identified provider- and system-related barriers to comprehensive tobacco cessation, through an assessment of current processes, provider knowledge, and their perceptions of tobacco cessation. Being there was no current process in

place to move tobacco users through the continuum of care; this information was beneficial to the organization as a whole in the beginning stages of this QI initiative and will serve as a catalyst for change from the current state to the desired state of tobacco cessation. The results were further analyzed to identify additional driving forces (or provider preferences) to ensure staff engagement during the moving and refreezing stages (Figure 2).

Theoretical frameworks guide QI projects. Lewin's theory was intentionally chosen for its simplicity and adaptability in interprofessional settings. The LTPC model is rooted in concepts of behavior change and problem resolution (Burnes, 2020). These concepts helped the project's PI to understand tobacco screening and counseling behaviors of IBHPs at the FQHC.

Literature Synthesis

Evidence Search

Using access to the University of Arizona's (UArizona) online library, the PI conducted a search of current literature (2017-2020) on tobacco cessation in behavioral health. Multiple searches of PubMed and PsycINFO databases were conducted using various strategies, Boolean operators, and search terms (Figure 3). Search terms used include the following: *smoking cessation, smokers, smoking cessation interventions, quit smoking, stop smoking, tobacco cessation, tobacco use cessation, tobacco use, tobacco products, tobacco smoking, tobacco use disorder, behavioral medicine, behavioral health, mental health, integrated behavioral health, psychiatric nursing, psychiatry, and comprehensive smoking cessation programs*. Additional searches of Google Scholar, government-based websites and hand searches of reference lists from relevant UpToDate content were also conducted (Park, 2019; Rigotti, 2019). Figure 4 details the number of articles identified and excluded from these additional searches.

Figure 3

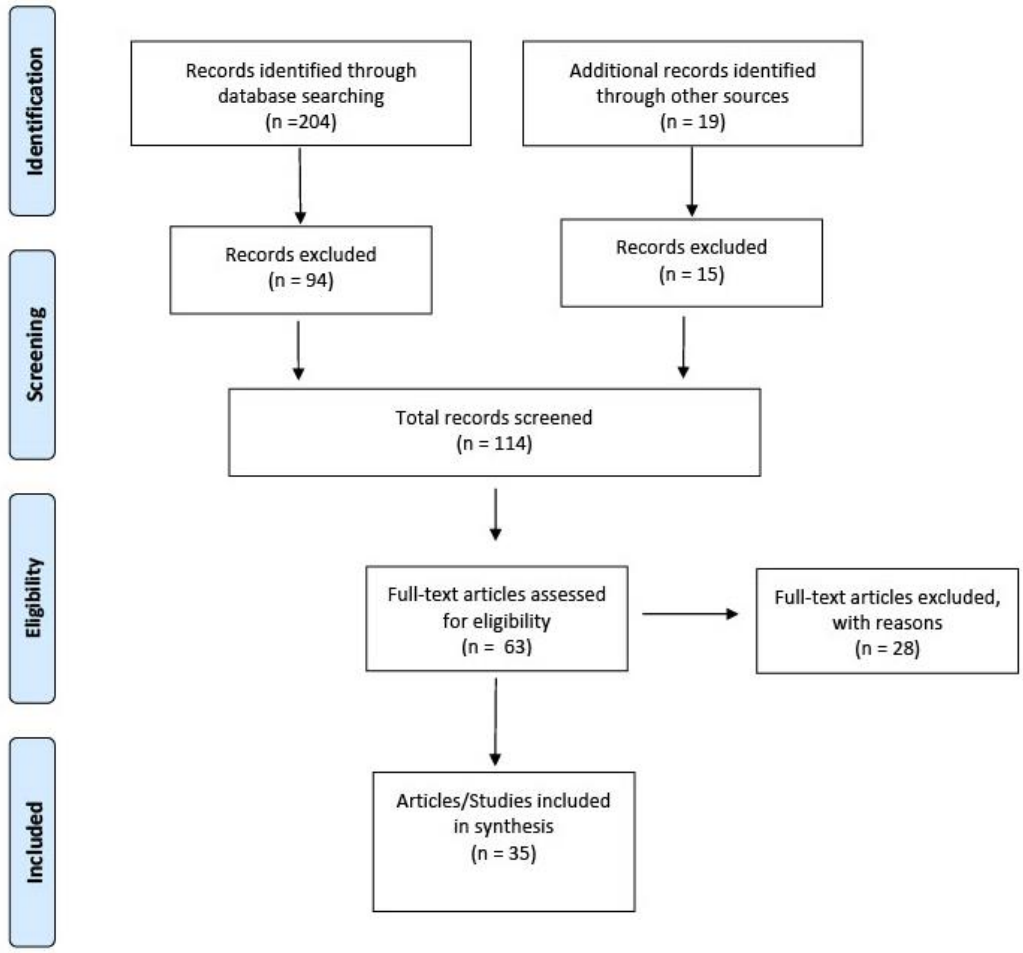
Literature Search Strategies

PubMed	PsychINFO
1. comprehensive smoking cessation programs AND (Clinical Trial[ptyp] AND ("2017/01/01"[PDat] : "2020/12/31"[PDat]))	1. (smoking cessation or smoking cessation interventions or quit smoking or stop smoking) AND tobacco use AND (behavioral health or mental health or integrated behavioral health) Full text; Publication year 2017-2020; Peer-review journal
2. (("Smoking Cessation"[Mesh] OR "Tobacco Use Cessation" [Mesh] OR "Tobacco Use"[Mesh] OR "Tobacco Products"[Mesh] OR "Smokers"[Mesh] OR "Tobacco Smoking"[Mesh] OR "Tobacco Use Disorder"[Mesh]) AND ("Behavioral Medicine"[Mesh] OR "Psychiatric Nursing"[Mesh] OR "Psychiatry"[Mesh] OR "behavioral health"))) 2017-2020	

All articles considered for synthesis were published in peer-reviewed journals within the past three years, written in English, and focused on human subjects. Articles that did not align with the project purpose or population (tobacco use and behavioral health) were excluded. Additionally, those without accessibility to full-text through the online library or duplicated between databases were excluded. A flow diagram was created to delineate the selection of articles included in the synthesis (Figure 4). A total of 35 articles were selected for synthesis.

Figure 4

Adapted Flow Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *P*referred *R*eporting *I*tems for *S*ystematic Reviews and *M*eta-*A*nalyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

Comprehensive Appraisal of Evidence

The PI investigator of this project performed a systematic and comprehensive appraisal of selected studies, and other peer-review articles (e.g., reviews, reports, or expert opinion).

Although the overall quality of evidence synthesized was poor, many of the studies included were published in recent years. This provided a snapshot of current themes relevant to this QI project: (a) efficacy of tobacco cessation interventions, (b) improving tobacco cessation, and (c) implementing tobacco cessation protocols.

Efficacy of current and emerging interventions for tobacco cessation. The efficacy of current and emerging evidence-based tobacco cessation interventions is supported by research. Multiple studies have been conducted exploring the efficacy of emerging tobacco cessation interventions (Baltz & Lach, 2019; Barnes et al., 2019; Tzelepis et al., 2019). Though the studies fail to demonstrate the interventions' efficacy, the literature did identify growing trends or innovations in tobacco cessation (Baltz & Lach, 2019; Barnes et al., 2019; Tzelepis et al., 2019). Baltz and Lach (2019) identified the growing popularity of electronic nicotine delivery systems (ENDS) in society. Tzelepis et al. (2019) explored the role of telemedicine in tobacco cessation and found participants in telemedicine counseling sessions are more likely to recommend these services to others. One peer-reviewed article (Garcia-Gomez et al., 2019) discussed the foundational research being conducted to develop an antibody-generating vaccine to lessen the effects of tobacco use on the brain. A working knowledge of current and emerging tobacco cessation interventions is essential to improving tobacco cessation processes in behavioral health settings

Just as the techniques and technology have continued to develop, IBHP-related methodologies have continued to evolve. IBHP-delivered individual and group counseling can motivate and support cessation attempts by treating tobacco users with a variety of behavioral techniques, which help them to cope with the urge to smoke (Lancaster & Stead, 2017; Stead &

Lancaster, 2017). Lancaster & Stead conducted two studies based on the current endorsed recommendations for behavioral counseling of tobacco users that demonstrate individual or group therapy is more efficacious than usual care (Fiore et al., 2008; Sui, 2015). These two systematic reviews demonstrated that a large body of evidence supports the combination of behavioral and pharmacological interventions (Lancaster & Stead, 2017; Stead & Lancaster, 2017). However, this research did not provide specific findings for the duration and frequency of behavioral interventions (e.g., length and number of counseling sessions) or their efficacy in combination with recommended pharmacologic therapies. Though Lancaster and Stead did not provide specific recommendations regarding duration and frequency, there may be a dosage-effect as Fiore et al. (2008) and Sui (2015) found that cessation rates are greater with more intense counseling sessions. The authors, therefore, recommend greater than or equal to four behavioral counseling sessions for tobacco cessation. In addition, the cost-effectiveness of group versus individual counseling is unknown (Stead & Lancaster, 2017). Barnes et al. (2019) identified the safety of hypnotherapy and the potential to serve as an adjunct to other evidence-based therapies. The overall uncertainty of the results from these studies indicates the need for future research in these areas (Lancaster & Stead, 2017; Stead & Lancaster, 2017).

Improving tobacco cessation processes. Knowledge of provider-driven processes are crucial to improving tobacco cessation protocols. Multiple sources assessed provider-driven barriers and identified standardized facilitators relevant to tobacco cessation in behavioral health settings. The studies found several common barriers, which included: (a) providers' projecting their own beliefs about patients' motivation to quit, (b) a lack of confidence in providing counseling, (c) a lack of knowledge about evidence-based treatments, and (d) a lack of resources

or facility support (Abdelmutti et al., 2019; Allen et al., 2019; Baltz & Lach, 2019; Bloom et al., 2018; Boland et al., 2018; Chavarria et al., 2019; Chen et al., 2017; Graydon et al., 2018; Malone et al., 2018; Marynak et al., 2018; Wray et al., 2019).

Tobacco cessation can be facilitated by a team-based healthcare approach using standardized protocols, provider and patient education, and billing practices (Abdelmutti et al., 2019; Allen et al., 2019; Amato et al., 2018; Baltz & Lach, 2019; Bloom et al., 2018; Boland et al., 2018; Chavarria et al., 2019; Chen et al., 2017; Garcia-Gomez et al., 2019; Giuliani et al., 2019; Graydon et al., 2018; Johnson et al., 2020; Malone et al., 2018; Martinez et al., 2017; Okoli et al., 2017; Olenik & Mospan, 2017; Sui, 2015; Wray et al., 2017; Wray et al., 2019). Sui (2015) advocates for a standardized approach to tobacco cessation and multiple other studies identified the need for a team-based approach (Abdelmutti et al., 2019; Allen et al., 2019; Wray et al., 2017). This approach increases provider engagement and stakeholder communication necessary to monitor and evaluate the efficacy of team-based processes (Abdelmutti et al., 2019; Allen et al., 2019; Wray et al., 2017). While tobacco cessation has historically been a low treatment priority among behavioral health professionals, IBHPs are essential to the development of standardized tobacco cessation protocols, because they are behavioral change experts (Brown & Wei, 2018; Compton, 2017; Japuntich et al., 2020; Wray et al., 2018;).

Numerous studies highlight the benefit of a simplified approach to tobacco cessation protocols in busy clinical settings. These types of streamlined approaches increase compliance with standardized interventions (such as the 5As; Figure 1; Abdelmutti et al., 2019; Amato et al., 2018; Chavarria et al., 2019; Garcia-Gomez et al., 2019; Giuliani et al., 2019; Martinez et al., 2017; Okoli et al., 2017). One of these studies (Garcia-Gomez et al., 2019) suggested that

professionals without prescribing authority, such as IBHPs, should use the ‘Ask, Advise, Connect’ model. This simplified screening approach might lead to tobacco users obtaining proper pharmacologic treatment from providers with prescribing authority; therefore, improving tobacco cessation processes for behavioral health professionals.

The use of technology (e.g. specialized computer software systems) can complement and contribute to standardized tobacco cessation processes in integrated settings (Abdelmutti et al., 2019; Bloom et al., 2018; Boland et al., 2018; Garcia-Gomez et al., 2019; Giuliani et al., 2019). For instance, Abdelmutti et al. (2019) demonstrated that handheld devices (e.g. iPads) could be used to inquire about tobacco use. These devices are also used to deliver quit advice, patient education, and refer patients to appropriate cessation services (Abdelmutti et al., 2019).

IBHPs also need standardized education about tobacco cessations techniques (Chen et al., 2017 ; Graydon et al., 2018 ; Johnson et al., 2020 ; Malone et al., 2018 ; Okoli et al., 2017 ; Wray et al., 2017 ; Wray et al., 2019). In one study, 13% of IBHPs reported no previous tobacco cessation training, and 58% reported independent learning (Wray et al., 2019). Multiple studies indicate training should be brief, routine, and accessible (Abdelmutti et al., 2019; Allen et al., 2019; Chavarria et al., 2019; Johnson et al., 2020; Martinez et al., 2017; Okoli et al., 2017; Wray et al., 2017; Wray et al., 2019). Chen et al. (2017) identified skewed professional perceptions of ENDS use in behavioral health settings, which makes standardized talking points a high priority in tobacco cessation education (Sui, 2015; Baltz & Lach, 2019; Chavarria et al., 2019; Chen et al., 2017; Wray et al., 2018; Olenik & Mospan, 2017).

Most IBHPs are unable to independently bill for tobacco cessation services. Standardized billing practices, such as partnerships between behavioral health and medical providers, have the

potential to impact and improve processes (Bloom et al., 2018). Although financial incentives paid to providers for cessation interventions fail to demonstrate increased uptake of tobacco cessation, these incentives appear to increase quit attempts among users (van den Brand et al., 2017). Assessment of provider-driven barriers leads to a clearer understanding of tobacco cessation processes and helps to identify standardized approaches to improvement.

Implementing comprehensive tobacco cessation protocols. Implementing comprehensive tobacco cessation protocols are driven by system-level changes. However, a systematic review found that, although system-level changes are endorsed, most tobacco cessation programs fail to implement all of the necessary components (i.e., screening, counseling, evidence-based resources, education, documentation, & referrals) to ensure program success (Allen et al., 2019; Wray et al., 2017; Thomas et al., 2017). Two studies (Johnson et al., 2020; Wray et al., 2019) discussed the difficulties of implementing a tobacco cessation program without system-level support or protocols. A number of sources identified processes critical to the success of a comprehensive cessation program, which are outlined below (Abdelmutti et al., 2019; Allen et al., 2019; Amato et al., 2018; Giuliani et al., 2019; Marynak et al., 2018; Meernik et al., 2018; Wang et al., 2017; Wray et al., 2017).

Multiple studies demonstrated how automatic referrals expanded tobacco screening, improved documentation and workflows, and increased use of community-based support services (Abdelmutti et al., 2019; Amato et al., 2018; Giuliani et al., 2019; Marynak et al., 2018; Meernik et al., 2018; Wang et al., 2017). Integration of screening and treatment into workflows facilitated tobacco cessation interventions (Marynak et al., 2018; Meernik et al., 2018, Wang et al., 2017). Implementation of automated referrals improved workflows, using the awareness to

increase adherence behavior change approach, which resulted in improved tobacco screening, referral to cessation services, and patient follow-up rates (Abdelmutti et al., 2019; Amato et al., 2018; Giuliani et al., 2019).

A large part of sustainability and effective implementation of tobacco cessation protocols rely on a team-based approach. Behavioral health professionals are essential members of a multidisciplinary and comprehensive approach to tobacco cessation (Schroder et al., 2018; Wray et al., 2017; Wray et al., 2018). Multiple studies laid the foundation for a standardized multidisciplinary approach to tobacco cessation in a variety of clinical settings (Abdelmutti et al., 2019; Allen et al., 2019; Bloom et al., 2018; Johnson et al., 2020; Wray et al., 2019). For example, hand off from behavioral health to primary care professionals or conjoint appointments facilitated moving patients through the continuum of care (Wray et al., 2019). Findings from other studies support the development of multidisciplinary teams and the implementation of system-level changes through integration of tobacco cessation protocols into the workflows of all providers, administrators, and clerical team members (Abdelmutti et al., 2019; Allen et al., 2019; Bloom et al., 2018). A multidisciplinary approach has the potential to strengthen tobacco cessation processes in integrated settings.

Strengths of Evidence

Tobacco cessation is a broad clinical topic, and the literature review shows how knowledge about tobacco cessation strategies has progressed over the years. The evidence identified new and emerging tobacco cessation interventions, and processes that enhance the adoption of these innovative techniques. The literature also exposed continued barriers. One of the most obvious being the historic lack of tobacco cessation interventions in behavioral health

settings. Pilot and feasibility studies demonstrated a growing interest in tobacco cessation interventions in behavioral health settings (Allen et al., 2019; Chavarria et al., 2019; Japuntich et al., 2020; Johnson et al., 2020). Allen et al. (2019) and Graydon et al. (2018), two mixed or multimethod studies and Malone et al. (2018), a meta-synthesis contributed qualitative evidence to better understand the phenomena of tobacco cessation in behavioral health settings. Three studies, two systematic reviews (Boland et al., 2018; Lancaster & Stead, 2017), and one meta-analysis (Wray et al, 2018), yielded higher-quality evidence with minimal risk of bias. This added to the strength of the findings, as higher-quality evidence is preferred because it results in evidence that is more generalizable.

Weaknesses of Evidence

Higher levels of evidence were also synthesized. In total, nine systematic reviews and meta-analysis were synthesized (Barnes et al., 2019; Boland et al., 2018; Garcia-Gomez et al., 2018; Lancaster & Stead, 2017; Neely et al., 2017; Stead & Lancaster, 2017; Thomas et al., 2017; Tzelepis et al., 2019; van den Brand et al., 2017; Wang et al., 2017; Wray et al., 2018). However, the overall quality of reviewed evidence was poor. Five out of the nine studies yielded low to moderate quality of evidence (Barnes et al., 2019; Stead & Lancaster, 2017; Thomas et al., 2017; Tzelepis et al., 2019; van den Brand et al., 2017).

Two randomized control trials were also synthesized (Neely et al., 2017; Wang et al., 2017). Although randomized control trials (RCTs) are usually more robust in design, the quality and credibility of the two trials included in the review were questionable (Neely et al., 2017; Wang et al., 2017). One trial was designed with obvious bias by a stakeholder in the tobacco

industry (Neely et al., 2017), and the other RCT had a high risk of bias due to financial incentives offered to study participants (Wang et al., 2017).

In addition, many of the studies synthesized failed to identify the study design (Abdelmutti et al., 2019; Baltz & Lach, 2019; Bloom et al., 2018; Brown & Wei; 2018; Garcia-Gomez et al., 2018; Graydon et al., 2018; Meernik et al., 2018). Furthermore, a number of studies used survey methodology which makes it necessary to interpret results with caution because this method introduces a higher risk of bias (Amato et al., 2018; Baltz & Lach, 2019; Bloom et al., 2018; Brown & Wei, 2018; Martinez et al., 2017; Meernik et al., 2017; Okoli et al., 2017; Wray et al., 2019). This must be avoided as the introduction of bias may lead to incorrect assumptions about study findings.

Gaps and Limitations

The literature review included very few studies that focused primarily on behavioral health professionals (Graydon et al., 2018; Johnson et al., 2020; Okoli et al., 2017). To identify evidence relevant to tobacco cessation in integrated primary care settings, the PI had to extrapolate the data from studies that were not specific to behavioral health (Allen et al., 2019; Baltz & Lach, 2019; Bloom et al., 2018; Chavarria et al., 2019; Chen et al., 2017; Japuntich et al., 2020; Malone et al., 2018; Meernik et al., 2018; Wray et al., 2017). One study used behavioral health professionals as their sample population but also examined how this population delivered both alcohol- and tobacco-cessation interventions to patients (Wray et al., 2019). These gaps in literature limited the PI's ability to identify specific themes for behavioral health professionals working in integrated primary care settings.

Overall, the synthesized literature lacked high-quality studies and evidence to inform the PI about the efficacy of behavioral interventions, standardized training and education of behavioral health professionals, and multidisciplinary approach to implementation of tobacco cessation in integrated primary care settings. For this reason, several grey articles, such as QI projects, program evaluations, and reports or peer-reviewed articles were included in the synthesis to provide a better understanding of the literature as a whole and fill gaps where research has not yet been conducted (Abdelmutti et al., 2019; Chen et al., 2017; Compton, 2017; Marynak et al., 2018; Olenik & Mospan, 2017; Schroeder et al., 2018; Wray et al., 2018).

METHODS

Project Design

The primary focus of this QI project was to assess the current tobacco cessation processes of IBHPs at a local FQHC. This focused assessment was accomplished through a survey, which assessed the clinic's IBHPs current knowledge, perceived facilitators and barriers, and preferences for delivering tobacco cessation interventions. This survey identified the providers' current tobacco screening and counseling processes and helped the PI and investigative team develop recommendations for improving tobacco cessation processes.

Model for Implementation

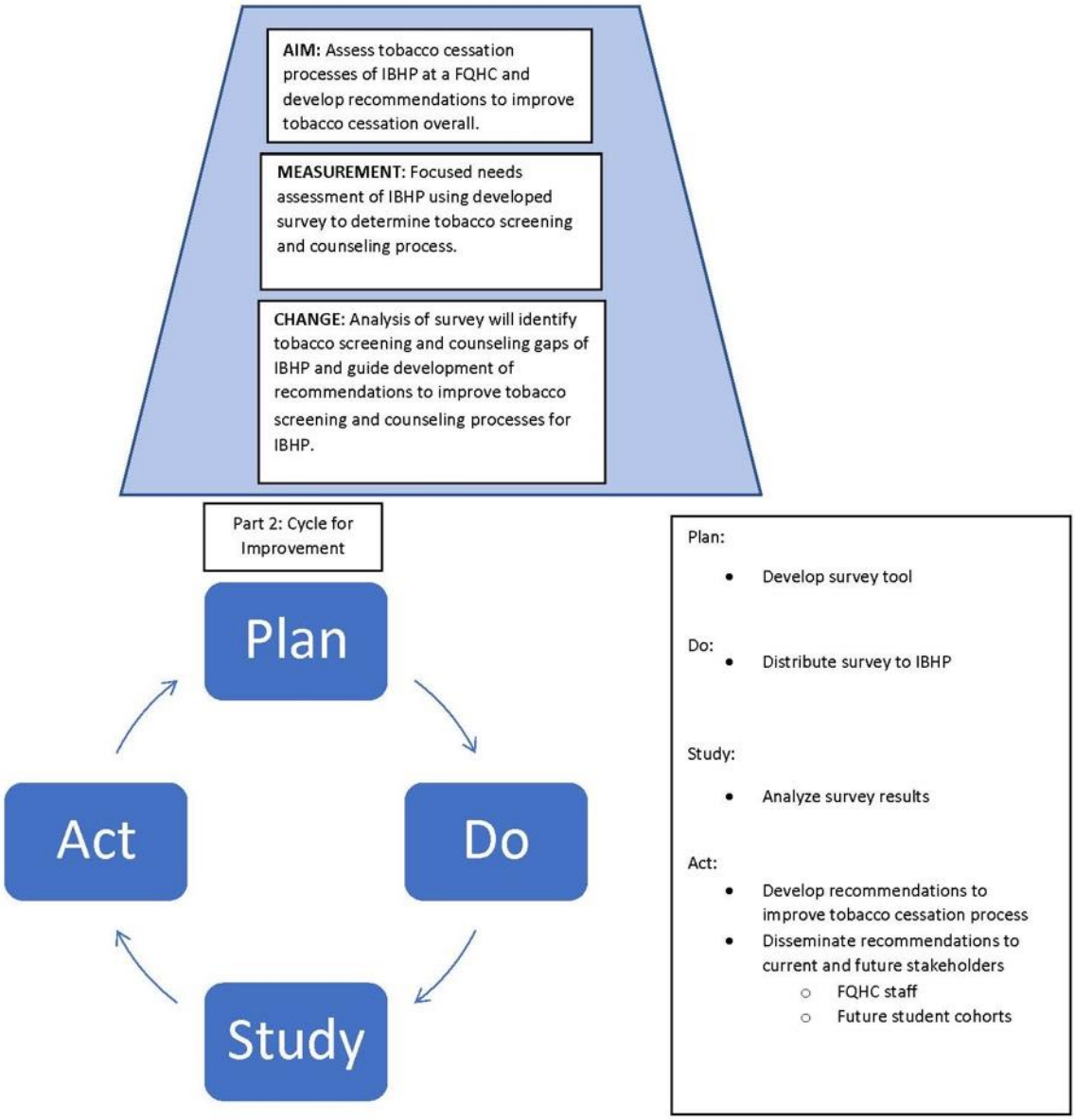
A scientific model developed by the Institute for Healthcare Improvement (IHI), a process improvement organization, to accelerate QI guided the implementation of this project (IHI, 2020). The two-part model, known as the *Model for Improvement*, has been widely used to facilitate QI projects in various healthcare settings across the globe (IHI, 2020). The first part of the model asked a series of three questions to identify ideas for improvement, and the second

part of the model tested those ideas for improvement in real-time (IHI, 2020). The questions were: (a) what the change agent was attempting to accomplish, (b) how the change agent knew what was attempted was an improvement, and (c) what change interventions will lead to improvement in the future (IHI, 2020).

Part 1 of the model for improvement the QI team focused on answering the three questions detailed above (IHI, 2020). Figure 5 illustrates the application of the model to the project. Addressing the first question helped the change agents to develop the aim of the project, which, in this case, was to enhance the FQHC's current tobacco cessation process. The second question established specific measures that allowed the change agents to quantify the extent of improvement (IHI, 2020). For this project, the PI conducted a focused needs assessment of the FQHC's IBHPs' tobacco cessation practices, which was described above. The final question identified specific outcome measures that were tested in Part 2 of the model (IHI, 2020). The PI used the survey results to identify tobacco screening and counseling gaps of IBHPs. In turn, the gap analysis informed the recommendations that will help future DNP student cohorts to create a comprehensive program or process to improve the FQHC's tobacco cessation processes.

Figure 5

Model for Improvement and Tobacco Cessation



In Part 2 of the model, the QI team engaged in a *Plan-Do-Study-Act* (PDSA) cycle of improvement. In contrast to Part 1, the four-part cycle addressed the application of new knowledge to future improvements (IHI, 2020). Figure 5 provides an illustration of the PDSA

cycle for the project. *Plan*, in this step of the project, a survey tool from literature was developed for analysis in collaboration with the QI team. The next step, *Do*, involved distributing the survey to all IBHPs at the implementation site. In the third step, *Study*, the PI and team examined the results thorough the statistical analysis of survey responses. Last, in the *Act* step, the QI team acted on the knowledge gained through previous steps to develop evidence-based recommendations to improve tobacco cessation and disseminated the recommendations to all relevant stakeholders.

Setting and Stakeholders

This project took place at an FQHC in Casa Grande, Arizona. The city of Casa Grande is located in Pinal County, which is mostly rural and the third-largest county in the state (Data USA, 2020a; SLFHC, 2017). In 2017, the estimated population of Casa Grande was 52,500. In that same year, approximately 18% of the city's population was living below the poverty line, which is a percentage point higher than the entire state of Arizona (Data USA, 2020a). The patient-to-primary care ratio in Casa Grande, at 5727:1, is significantly higher than the state's ratio of 1,519:1 (Data USA, 2020a). These numbers align with the FQHC's 2017 community needs assessment, which identified the lack of primary care providers and specialists as barriers to healthcare delivery (SLFHC, 2017).

Sun Life is a FQHC, which according to the Health Resources and Services Administration ([HRSA], 2018), must be in medically underserved areas to receive federal funding. The FQHC is also a certified primary care medical home (PCMH), which provides comprehensive medical and behavioral healthcare needs to members of the community (SLFHC,

2020c). Integration of behavioral health and primary care is a growing trend in QI with many health centers providing substance-use assistance (HRSA, n.d.).

This QI project to improve tobacco cessation processes aligned with the FQHC's system and evidence-based approach to QI (SLFHC, 2020d). The project built upon the sites already established integration of behavioral health and primary care (SLFHC, 2020c). The primary stakeholders in this project were the FQHC's IBHPs. To improve the initiative's feasibility and relevancy, the IBHPs' role was to complete a focused survey. Completion of the survey informed site-specific tobacco cessation recommendations that specifically addressed their and their patient population's needs. There were no risks involved for these stakeholders, as the project was non-experimental. Tobacco users were another group of stakeholders that will benefit from this project, as the planned integrative approach to tobacco cessation will positively impact their physical and mental health. Participation in the planned improvement will pose no risk to patients, as the process will incorporate evidence-based best practices for tobacco cessation. The final stakeholder was the DOP who initially granted the PI permission to implement the project at the site. His active role in the project provided internal insight into the site's current tobacco cessation processes. Implementation of the project posed no risk to the DOP. In fact, the developed recommendations have the potential to benefit the DOP and the FQHC because a well-developed program may help the site to secure future federal funding for tobacco cessation.

Planning the Intervention

Due to unforeseen circumstances and time constraints, the PI and investigative team had to adjust the planned intervention (see Results section for details). With the permission of the DOP, the investigative team spent one morning on site to carry out the intervention. All IBHP

team members on site the morning of the visit were notified by the PI about the QI project and invited to complete the 30-question online survey at that time. A printed QR code, linked to the survey, was provided to IBHP team members. The IBHPs were then able to scan the code and complete the online survey on their mobile devices.

The survey consisted of multiple-choice, yes-no, select all that apply, and rank order questions. Questions gathered participant demographics; current tobacco cessations processes; current provider knowledge, preferences, and perceived barriers to tobacco cessation. It also included one question that allowed a detailed response; this question attempted to illicit the IBHPs' personal thoughts about tobacco cessation at the facility. The survey was completed online by providers using *Qualtrics* survey software, which is PC and mobile-friendly. It was open for a total of two weeks for providers to complete. The data gathered from the survey identified existing gaps, needs, and provider preferences that helped to guide the development of tobacco cessation recommendations.

Participants and Recruitment

The inclusion criterion for participation in the project's survey was to be an IBHP at the FQHC who counsels tobacco users. Survey respondents held various professional titles, such as licensed clinical social worker (LCSW) or counselor. They also had varying levels of clinical experience and education. As previously mentioned, the original recruitment plan was altered and will be discussed in detail in the results and discussion sections of the paper. All contact and recruitment of participants occurred after IRB approval. Although participants were informed that participation was strictly optional, adequate participation helped to ensure the data collected

captured providers' needs and preferences and were considered in the development of comprehensive recommendations for a future tobacco cessation program.

Consent and Ethical Considerations

This DNP project adhered to guidelines set by UArizona's Institutional Review Board (IRB) (Appendix A). Before any contact with potential participants, the PI submitted the Determination of Human Subject form and other necessary attachments. Formal IRB approval was obtained on September 23, 2020. Consent for participation was implied, as participants were required to read the project disclosure before entering the online survey (Appendix B). Participants also had the right to terminate participation at any time during the project. The privacy of survey participants was protected through anonymous online surveys.

The ethical principles of beneficence, justice, and respect for persons helped to guide the implementation of this project. *Beneficence* ensures participates are protected and treated ethically by maximizing benefits and minimizing harm (Saint Mary's College of California [SMCC], 2020). The beneficence principle underpinned this project, as its primary purpose was to do good by improving tobacco cessation processes, which is beneficial to all previously discussed project stakeholders. *Justice* ensures participates are treated fair and equal (SMCC, 2020). The justice principle was carried out by granting participates equal time and opportunity to complete the same survey. *Respect for persons* ensures individuals are viewed as autonomous and protects individuals who lack autonomy (SMCC, 2020). The respect for persons principle was addressed by ensuring participants understood that completing the survey was optional and informing them of their right to terminate participation at any time during the process.

Timeline

A timeline was created to guide this DNP project from initiation to completion (Appendix G). Early planning stages began in January of 2020. Site-specific onboarding and approval began in March of 2020. IRB approval was obtained in September of 2020. Implementation of the project occurred in October 2020. The final evaluation and dissemination of recommendations occurred in November 2020.

Data Collection

The collection of data took place using the survey software Qualtrics (Appendix D). Qualtrics was the preferred survey platform of UArizona, as the software has broad functionality and tools to assist with statistical analysis. Only the PI had access to the survey results in Qualtrics through personalized NetID authentication. The results were shared with project collaborators and stored on password-protected devices to ensure participant privacy. Creation of the survey was a collaborative process to ensure data collected was similar across the disciplines: primary care, pharmacy, and behavioral health. It was also trialed by multiple faculty members, serving as content experts, for question appropriateness and survey functionality. The 30-question survey took approximately 5 to 10 minutes to complete using Qualtrics. Question format varied from multiple-choice, yes-no, select all that apply, 5-point Likert scale, and rank order of importance. There was also one open-ended question included in the survey.

Data Analysis

Data analysis for this DNP project utilized tools endorsed by UArizona's College of Nursing. Statistical analysis of data took place using Qualtrics and *Microsoft Excel*. Data from specific survey questions were entered into a Microsoft spreadsheet for further analysis and

management. Features within Microsoft Excel helped to create visual illustrations of data and calculate statistics not available in Qualtrics. All results were reported using descriptive statistics and displayed using various tables, charts, or graphs that best illustrated the data. Furthermore, data from this project was analyzed in collaboration with the primary investigators of the primary care and pharmacy project arms to inform deliverable recommendations for future tobacco cessation processes. All data were collected and analyzed methodically to ensure proper investigative rigor.

RESULTS

This QI project performed a program evaluation of the FQHC's tobacco cessation program and explored current tobacco cessation processes among IBHPs using a survey methodology. This collaborative project's overall purpose was to concurrently assess providers' processes, demographics, knowledge, preferences, and perceived barriers regarding tobacco cessation interventions for primary care, behavioral health, and pharmacy teams. In doing so, the investigative team identified tobacco screening and counseling gaps. These gaps then informed the team's proposal for a comprehensive tobacco cessation program that utilized the FQHC's interdisciplinary resources (Appendix E).

Survey Response and Participant Demographics

Of the four potential participants based on inclusion criteria, three IBHPs completed the survey (N = 3) or a 75% response rate. One participant identified their professional title as a licensed counselor (n = 1); another participant identified as a clinical social worker (n = 1). The third remaining participant identified their professional title as "other" and specified their title in free text (n = 1). This information was excluded to protect the participant's privacy. As seen in

Table 1, all participants had 10 or more years of experience, worked full-time, and saw an average of 21-40 patients weekly.

Table 1

Participant Demographics

Demographic Characteristic	Category	Number (n)
Professional Title	Licensed Counselor	1
	Clinical Social Worker	1
	Other (specified)	1
Years of Practice	Less than 1 year	0
	1-5 years	0
	6-10 years	0
	More than 10 years	3
Full-time or part-time	Full-time	3
	Part-time	0
	Intermittent or PRN	0
Average number of patients per week	Less than 20	0
	21-40	3
	41-60	0
	More than 60	0

Participant Recruitment

Due to the increased workload and responsibility of the DOP during the COVD-19 pandemic, the initial plan to notify clinic staff about the QI project was altered. The original plan was for the DOP to distribute an informational flyer to all IBHPs on staff and then post it in the lounge as a reminder before opening the survey (Appendix C). The flyer was created to generate interest in the project and to provide participants with the PI's contact information for questions. Next, on the first day of the two-week live period, an official invitation to complete the 30-question survey was to be sent by the DOP to all IBHPs on staff through internal email (Appendix B). This protocol was chosen as the DOP felt like an external email from the PI would automatically populate into potential participants' junk mailboxes. However, due to previously mentioned circumstances, the DOP was unable to distribute or post the recruitment

flyer nor send the initial and reminder emails (Appendices B & C). Therefore, the investigative team spent one morning on-site with the DOP's approval to recruit participants in-person one week after the survey went live. Participants were provided with a printed QR code linked to the online survey to scan and complete anonymously. The online survey was open from October 6, 2020, to October 20, 2020. All survey responses were obtained from in-person recruitment.

Outcomes

Statistical analysis of survey responses was performed primarily by Qualtrics. Although the survey was tested before going live, two "select all that apply" questions did not allow respondents to select more than one option. However, respondents were able to enter selections in the free text area for analysis. For these questions, Microsoft Excel was used to perform the analysis. There were also two "rank order of importance" questions that one participant only ranked the top three options, and the other two participants ranked the first seven of eight options listed. Therefore, this limited a more detailed analysis and only the top three options were identified. None of the participants responded to the one open-ended survey question; therefore, it was unnecessary to perform thematic analysis. Survey responses were grouped and analyzed by the following categories: (a) participant demographics, (b) current tobacco cessation processes and provider knowledge, and (c) perceived tobacco cessation barriers and provider preferences. Participant demographics are detailed in the previous section, and relevant findings for the remaining categories are highlighted below.

Current Processes and Provider Knowledge

When asked how often participants inquired about tobacco use, the responses varied. One participant indicated that they inquired about tobacco use at every clinical encounter. Another participant (33.33%) indicated they did this once per year. A third participant (33.33%) indicated they sporadically inquired about tobacco use.

Despite their differences in screening, all the participants reported they advise current tobacco users about cessation and make therapy recommendations after inquiring about use. All of the IBHPs reported offering nicotine replacement therapy and some form of individual support or counseling. Two participants offered prescribed medication, and one participant offered meditation as an alternative therapy. When asked about resources used to educate tobacco users, all participants reported using paper materials, two used verbal discussions, and two referred patients to phone (i.e., Quitline or Ashline) or online resources. One used the teach-back method (Figure 6). In contrast, only one participant (33.33%) felt that paper materials such as pamphlets or self-help materials were readily available. Two participants (66.67%) felt tobacco Quitline contact information was readily available.

Two participants (66.67%) also reported that they inquire about previous behavioral counseling participation for tobacco cessation; the other participant reported doing this sporadically. Two of the IBHPs also reported that they refer patients not using FDA approved medication to primary care. Of the patients seen weekly, all the participants reported providing tobacco cessation counseling to less than 10 patients. Two participants used individual therapy to counsel tobacco users; three reported using motivational interviewing, and two used cognitive behavioral therapy. None of the participants used group therapy, telephone, or video chat.

All of the IBHPs reported the clinic had a tobacco cessation policy in place; one was unsure if the policy was effective. Two participants were very confident in providing tobacco cessation interventions with the current facility processes, and one participant felt moderately confident. When asked how they stayed up to date with current tobacco cessation recommendations, answers varied. One participant used self-discovery; another participant used continuing professional development. The third participant stayed up to date through job-related development. When asked what resources they found useful, participants felt that three resources were beneficial to differing degrees (Table 2). Some 20% felt Ask, Advise, Connect approach was useful; 40% felt the STAR method was useful, and 40% felt the Quitline or Ashline (counseling in Tucson) were useful.

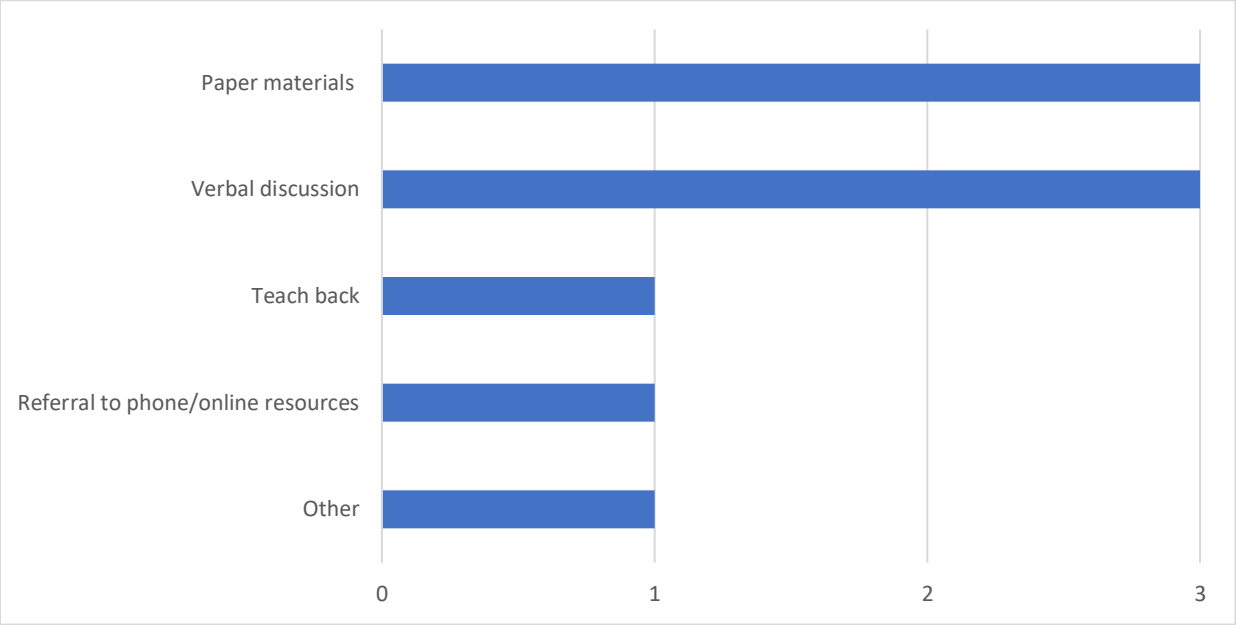
Table 2

Evidence-Based Resources to Screen and Counsel Tobacco Users

Evidence Based Resource	Number (n)
5A's (Ask, Advise, Asses, Assist, Arrange)	0
Ask, Advise, Refer	0
Ask, Advise, Connect	1
5R's (Relevance, Risk, Rewards, Roadblocks, Repetition)	0
Fagerstrom Test of Nicotine Dependance	0
STAR Method (Set a quit date, Tell family and friends, Anticipate challenges, and Remove tobacco products)	2
Quitline	1
Other (specified as Ashline)	1

Figure 6

Resources Used to Educate Patients



Perceived Tobacco Cessation Barriers and Provider Preferences

Of the participants, 66.67% felt delivering tobacco cessation interventions was a "very important" part of their professional role, and 33.33% felt it was moderately important. All of the IBHPs reported tobacco cessation includes multiple disciplines at the facility; 66% felt that a multidisciplinary effort was very important, and 33.33% felt it was moderately important. All of the participants felt very confident in teaching and discussing general health risks with tobacco users and in discussing different tobacco cessation methods. One participant felt very confident giving advice about nicotine replacement therapy, and the other two IBHPs felt moderately confident doing so.

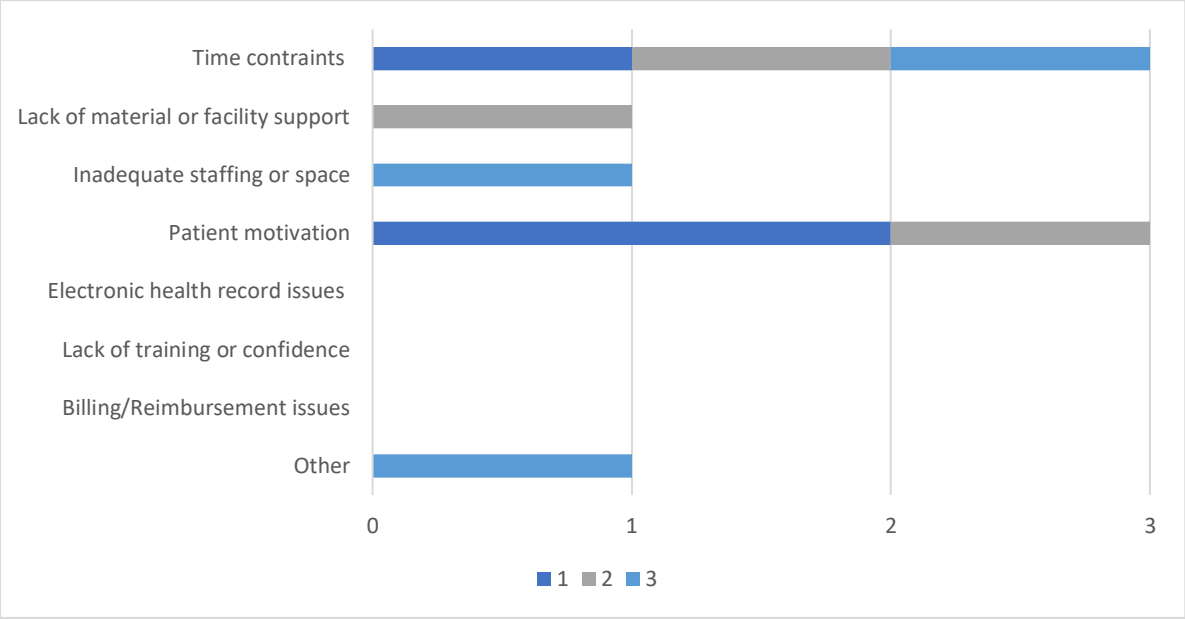
The top three barriers to screening and counseling tobacco users were identified. Two participants ranked patient motivation as the number one perceived screening barrier; and one

participant ranked time constraints. Next, one participant ranked patient motivation as the second perceived screening barrier; a second participant ranked time constraints; and the final participant ranked lack of material or facility support. Lastly, one participant ranked time constraints as the third perceived screening barrier; one ranked inadequate staffing or space; and the final participant selected "other" but failed to specify the perceived barrier in the free text area. Results for perceived counseling barriers were comparable to the above reported (Figure 7). Two participants ranked patient motivation as the top counseling barrier; and the final participant ranked it third. Each of the participants ranked time constraints in the top three. Lack of material or facility support and inadequate staffing or space were also ranked in the top three by two participants.

Regarding tobacco cessation training, two participants reported having previous training. When asked about future training preferences, two participants reported they would prefer hybrid (in-person and online) tobacco cessation education as an option. Two participants responded positively to the question asked to assess their intent to follow newly developed protocols. One participant indicated they were "very likely" to follow and the second indicated they were "moderately likely" to follow newly developed protocols. The third participant gave a neutral response to the question.

Figure 7

Barriers to Counseling Tobacco Users



DISCUSSION

This QI project sought to identify screening and counseling gaps of IBHPs at the FQHC. The purpose of identifying these gaps was to improve tobacco cessation processes overall and help to develop comprehensive recommendations to effectively move tobacco users through the continuum of care using a multidisciplinary approach. The survey was effective at identifying current tobacco cessation processes of IBHPs and top provider- and system-related barriers. Although IBHPs had the smallest population sample, results indicate IBHPs are engaged, confident, and knowledgeable about tobacco cessation. This section of the paper will expand on these findings and their implications.

Summary

Tobacco use remains one of the leading public health issues (USDHHS, 2020). Though tobacco use is down overall, there are several groups where numbers remain high (CDC, 2019b). Among these groups are uninsured adults with lower education attainment, those with annual incomes less than $35000 per year, and those experiencing physiological distress (CDC, 2019b). One proven strategy to help overcome provider- and system-level gaps for effective tobacco cessation is to provide users with easy access to cessation resources so that tobacco users can be connected with evidence-based interventions (CDC, 2019b).

The greatest strength of this project was the collaboration with the investigative team. Because many healthcare providers consistently miss opportunities to provide tobacco users with proven interventions, the lack of an established process to move tobacco users through the continuum of care indicated the need for an interprofessional approach to tobacco cessation (Martinez et al., 2017). The integrated patient care model at the implementation site of this project provides healthcare providers an opportunity to design a comprehensive tobacco cessation program to meet the needs of tobacco users in the community. The site is an FQHC that provides care for many uninsured individuals in a rural county and city where the poverty rate exceeds that of the national average (Data USA, 2020b). Although, tobacco cessation is important in all clinical settings, the previously stated statistics indicate why it is needed even more so at this location.

This project underlines the important role that IBHPs play in tobacco cessation. Although the sample size was small, the findings provide a snapshot of the clinic's tobacco cessation efforts. These findings, then, provide a foundation for the organization and future DNP student

cohorts to build upon. The clinic will be able to formalize a site-specific tobacco cessation program, which will utilize the availability of interdisciplinary team members, and provide tobacco users seamless access to both pharmacologic and behavioral interventions.

Interpretation

Findings demonstrate tobacco screening inconsistencies among IBHPs at the FQHC. These inconsistencies indicate the need for a well-defined policy. As previously reported, all participants were aware of an established policy, yet there was significant variation in the IBHPs' methodology and frequency of screening for tobacco use. Therefore, it is unclear if the current policy is effective among IBHPs at the site. When patients are screened and there is a discussion about tobacco cessation, IBHPs follow evidence-based recommendations and consistently advise patients to quit and make proper behavioral and pharmacological recommendations (Sui, 2015).

Regarding tobacco cessation counseling, the findings were analogous to those found in the literature synthesis, and that is that IBHPs experience the same barriers often identified in the existing literature. All of the participants felt patient motivation and willingness to participate in tobacco cessation counseling were significant barriers (Wray et al., 2019). This finding indicates that SLFHC may be more successful if the organization develops a methodology to encourage patients to become interested in tobacco cessation treatment before a provider sees them. This type of program would then need to provide interested patients a meaningful, timely way to then connect with providers. Furthermore, experts at motivational interviewing may help to entice unwilling or unmotivated users more convincingly. Time constraints were named as another major barrier to counseling tobacco users. Therefore, the adoption of group counseling may allot

IBHPs more time for counseling sessions while reaching more tobacco users in a shorter time period.

Findings demonstrate that having readily available educational resources would improve tobacco cessation protocols overall. Educational pamphlets would provide easy point-of-care resources that IBHPs could distribute to patients during counseling sessions. The pamphlets would contain content that is easily understood by people with low to moderate health literacy. In addition, Quitline referral would act as another effective intervention, making tobacco-cessation information readily available for people with mobile devices. The benefits of Quitline referral to helping people maintain tobacco cessation align with the literature (Wray et al., 2018).

Project findings also demonstrated that a multidisciplinary approach to tobacco cessation interventions is the most effective way to treat and manage tobacco users. These findings are consistent with nationally endorsed guidelines (Fiore et al., 2008; Sui, 2015) and other synthesized literature (Abdelmutti et al., 2019; Allen et al., 2019; Bloom et al., 2018; Johnson et al., 2020; Wray et al., 2019). Interdisciplinary collaboration is supported as a best practice by DNP Essential VI (American Association of Colleges of Nursing [AACN], 2006). This collaboration would be demonstrated with interdisciplinary teams comprising physicians, physicians' assistants, APRNs, pharmacists, and behavioral health consultants. Team members could draw upon their professional expertise, contributing to a comprehensive tobacco cessation program.

Implications (Practice, Education, Research and Policy)

Findings from this QI project have practice, education, research, and policy implications. The first key finding was that IBHPs felt firmly that tobacco cessation is a multidisciplinary

effort. This finding reinforces the need to develop a more robust, comprehensive tobacco cessation program at the FQHC, which capitalizes on and utilizes the interdisciplinary team. The leadership should also take note of the variation in the amount of tobacco cessation training within the behavioral health department. This finding has educational implications, as an interprofessional approach to tobacco cessation at the FQHC is dependent on a baseline level of knowledge regarding evidence-based tobacco cessation screenings and interventions. IBHPs are experts of behavior change. Therefore, trainings that enhance their tobacco cessation knowledge can help harness their expertise, which will then reinforce the interprofessional approach to tobacco cessation. This education needs to be standardized and easily accessible. Furthermore, for IBHPs to use alternative and complementary interventions (e.g. mind-body therapies), the organizational leadership will need to find ways to block adequate amounts of time for these types of interventions. The FQHC could also look at telemedicine to expand the clinic's capabilities.

Limitations

The most significant limitation of this QI project is that the findings are not generalizable because of small sample size and limited setting. The findings from this QI project are only specific to the participants at a specific point when considering the overall picture of tobacco cessation. Other limitations were the self-report methodology, and recruitment strategy. All these limitations introduce the risk of bias. The sample was one of convenience sample as it only included IBHPs at one site within the organization. Participants were also limited to those available on the morning of the in-person visit to the site. Although the initial plan was to send

emails to the entire IBHP team, the altered methodology still successfully recruited participants. However, the self-report nature of survey responses increases the element of bias.

DNP Essentials Addressed

There are eight *Essentials of Doctoral Education for Advanced Nursing Practice.* The Essentials were developed by the AACN in 2004 to guide doctoral education for advanced nursing practice (AACN, 2006). This section of the paper will discuss the role of the four primary Essentials applicable to this group DNP project.

DNP Essential I: Scientific Underpinning for Practice

Essential I visits the scientific underpinnings of doctoral education for DNP-prepared nurses and the complexities of practice at this level (AACN, 2006). The Essential prepares DNP-prepared nurses to address complex practice issues and provides a strong scientific foundation in nursing practice (AACN, 2006). This foundation in nursing science helps generate a body of evidence to guide current and future practice (AACN, 2006). The Essential was applied to the project when the QI team selected a theoretical framework, which underpinned the project and guided the QI team's choice of project outcomes.

DNP Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking

Essential II identifies critical organizational and leadership skills necessary for DNP-prepared nurses to improve care quality in clinical settings (AACN, 2006). Application of these skills is integral in the current healthcare arena, where health disparities and patient safety issues are plentiful (AACN, 2006). DNP-prepared nurses who possess these skills help to develop and evaluate care models to meet the needs of various patient populations or clinical settings

(AACN, 2006). The Essential was demonstrated in the early conceptual phases of this project and continued throughout the process. Initially, the PI and investigative team members met with the DOP to assess the organization's current and future QI initiatives. Then, throughout this project, the team was assessing the organizational capacity to support a more structured, formal tobacco cessation program.

DNP Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes

Essential VI is also relevant to this QI project and valuable in today's complex healthcare arena (AACN, 2006). Interprofessional collaboration has been identified as a highly functional care model to address complex health concerns (AACN, 2006). DNP-prepared nurses that are prepared to use effective communication strategies and work with or lead interprofessional teams are critical in improving patient care and health outcomes (AACN, 2006). The Essential is evident in the planning and design of this project. This project's creation resulted from interprofessional collaboration between the investigative team and the DOP during the planning stages. Next, the project was designed to gather information to develop comprehensive recommendations for a collaborative approach to tobacco cessation at the implementation site.

DNP Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health

Essential VII outlines health promotion strategies to support clinical prevention and improve health nationwide (AACN, 2006). Clinical prevention and population health are core tenets of the nation's *Healthy People* campaign (AACN, 2006). The Office of Disease Prevention and Health Promotion (ODPHP) update objectives for the campaign every 10 years.

One of the 2020 objectives (retained from 2010) of the campaign is to reduce tobacco use by adults (ODPHP, 2020a). The target for Healthy People 2020 was to decrease tobacco use from 20.6% to 12%, for Healthy People 2030 the unmet target was set for 16.2% (ODPHP, 2020a; ODPHP, 2020b). This project addresses this objective, as the overall purpose is to improve tobacco cessation processes.

Conclusions

Tobacco use is a public health concern. The literature demonstrates the need for comprehensive tobacco cessation processes, which treat tobacco users effectively. Today's healthcare environment presents many barriers for professionals to overcome. These barriers negatively impact their ability to deliver evidence-based tobacco cessation recommendations consistently. This project's results align with the literature and supports the need for a multidisciplinary approach to tobacco cessation. The results also align with the need for standardization of tobacco cessation training and education and a simplified behavioral health providers' approach. Implementing these practice, policy, and education changes in an integrated care setting can improve the delivery of tobacco cessation processes and positively impact tobacco users' health.

Plan for Sustainability

In QI, sustainability is the path to continual improvement. Future DNP student cohorts must expand upon the tenets established by this foundational project to ensure sustainability. Expansion of findings to include a larger sample size will provide greater insight into how to mitigate barriers and capitalize on tobacco cessation facilitators within the organization. It will also be necessary for future DNP student cohorts to assess to what extent the site implemented

the proposed recommendations. This action will determine how the recommendations have impacted moving tobacco users through the continuum of care. Lastly, the implementation should eventually be expanded to include all 14 of the FQHC's sites.

Plan for Dissemination

The results were included in an executive summary of the project, which was disseminated to the implementation site (Appendix E). The executive summary was shared with the DOP, who distributed the findings to relevant stakeholders, as tobacco cessation is a planned QI initiative for the organization in 2021. Findings were also disseminated to future student cohorts and UArizona's College of Nursing during the investigative team's final defense.

APPENDIX A:

SUN LIFE FAMILY HEALTH CENTER SITE APPROVAL / THE UNIVERSITY OF ARIZONA INSTITUTIONAL REVIEW BOARD DETERMINATION AUTHORIZATION LETTER

Sun Life Family Health Center
865 N. Arizola Road
Casa Grande, AZ 85122

September 8, 2020

University of Arizona Institutional Review Board
c/o Office of Human Subjects
1618 E Helen St
Tucson, AZ 85721

Please note that Mrs. Iesha Floyd, UA Doctor of Nursing Practice student, has permission of the Sun Life Family Health Center to conduct a quality improvement project at our facility for her project, "Improving Tobacco Cessation Processes for Behavioral Health Professionals in Primary Care.".

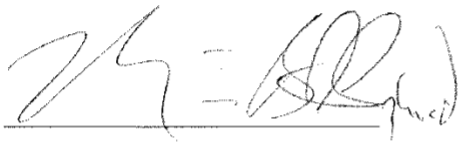
Mrs. Iesha Floyd will conduct a survey of integrated behavioral health care providers at Sun Life Family Health Center. She will recruit providers using a flyer. The flyer will provide a description of the project, what they will be asked to do, the time involved, and instructions on how to receive a link to the online survey. Mrs. Floyd's activities will be completed by *December 2020.*

Mrs. Floyd has agreed to provide to my office a copy of the University of Arizona Determination before she recruits participants. She will also present aggregate results to the providers at their monthly staff meeting.

If there are any questions, please contact my office.

Signed,

Dr. Matthew Bertsch, PharmD
Director of Pharmacy



THE UNIVERSITY OF ARIZONA
Research, Discovery & Innovation

Human Subjects Protection Program

1618 E. Helen St.
P.O Box 245137
Tucson, AZ 85724-5137
Tel: (520) 626-6721
http://rgw.arizona.edu/compliance/home

Date:	September 23, 2020
Principal Investigator:	Samantha Ashlee Wirth
Protocol Number:	2009060884
Protocol Title:	Improving Clinical Processes For Tobacco Cessation In Primary Care
Determination:	Human Subjects Review not Required

Documents Reviewed Concurrently:

HSPP Forms/Correspondence: *sunlifegroupIRBform.pdf*

Regulatory Determinations/Comments:

- Not Research as defined by 45 CFR 46.102(l): As presented, the activities described above do not meet the definition of research cited in the regulations issued by U.S. Department of Health and Human Services which state that "Research means a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge. Activities that meet this definition constitute research for purposes of this policy, whether or not they are conducted or supported under a program that is considered research for other purposes. For example, some demonstration and service programs may include research activities. For purposes of this part, the following activities are deemed not to be research."

The project listed above does not require oversight by the University of Arizona.

If the nature of the project changes, submit a new determination form to the Human Subjects Protection Program (HSPP) for reassessment. Changes include addition of research with children, specimen collection, participant observation, prospective collection of data when the study was previously retrospective in nature, and broadening the scope or nature of the study activity. Please contact the HSPP to consult on whether the proposed changes need further review.

The University of Arizona maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #00004218).

APPENDIX B:

DISCLOSURE FORMS

Tobacco Cessation Needs Assessment for Behavioral Health Professionals in Primary Care

My name is Iesha Floyd and I am a Doctor of Nursing Practice (DNP) student at the University of Arizona. As an integrated behavioral health professional, you have the opportunity to participate in a voluntary survey for a DNP project. The purpose of this project is to assess Sun Life Family Health Center's current tobacco cessation processes in behavioral health to identify areas of support for a future program based on findings from this evaluation

If you choose to take part in this project, you will be asked to complete a 30-question survey that will ask questions about the current tobacco cessation processes, and your feelings towards tobacco cessation at your facility. It will take approximately 5-10 minutes to complete this survey. There are no foreseeable risks associated with participating in this project and you will receive no immediate benefit from your participation. Survey responses are anonymous. The survey will remain open for a period of two weeks.

Participation in this project is voluntary and refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may withdraw at any time from the project. In addition, you may skip any question that you choose not to answer. By participating, you do not give up any personal legal rights you may have as a participant in this project.

The Institutional Review Board at the University of Arizona has reviewed this project. Thank you for your consideration in participating in this project. If you would like to proceed with the survey, please click the forward arrow at the bottom of this page.

For questions, concerns, or complaints about the project, you may call Iesha Floyd, BSN, RN at (623) 792-0565 or email ieshafloyd@email.arizona.edu.

Link to survey: https://uarizona.co1.qualtrics.com/jfe/form/SV_cMglO4L5Ph6vrwN

Greetings Sun Life Family Health Center Provider,

This is a reminder email to participate in the voluntary survey for a DNP project. The purpose of this project is to evaluate Sun Life Family Health Center's current tobacco cessation interventions among integrated behavioral health professional to support a future program based on the findings from this evaluation.

If you choose to take part in this project, you will be asked to complete a survey that will ask questions about the current tobacco cessation program, and your feelings towards tobacco cessation interventions. It will take approximately 5-10 minutes to complete this survey. There are no foreseeable risks associated with participating in this project and you will receive no immediate benefit from your participation. Survey responses are anonymous. The survey will remain open for a period of two weeks.

Participation in this project is completely voluntary, and refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may withdraw at any time from the project. In addition, you may skip any question that you choose not to answer. By participating, you do not give up any personal legal rights you may have as a participant in this project.

This project has been reviewed by the Institutional Review Board at The University of Arizona. Thank you for your consideration in participating in this project. If you would like to proceed with the survey, please click on this link, or copy and paste it into your browser.

For questions, concerns, or complaints about the project, you may call Iesha Floyd BSN, RN at 623-792-0565, or send an email to ieshafloyd@email.arizona.edu

Link to survey: https://uarizona.co1.qualtrics.com/jfe/form/SV_cMglO4L5Ph6vrwN

APPENDIX C:

RECRUITMENT FLYER

Doctor of Nursing Practice Project for Tobacco Cessation

What?

DNP students from the University of Arizona are conducting a quality improvement project to assess the needs for improvement of the tobacco cessation program at Sun Life Family Health Center. The project investigators are working closely with Matthew Bertsch, PharmD to conduct this project.

Goals

- Survey Sun Life's Primary Care, Pharmacy, and Integrated Behavioral Health about tobacco cessation programs, and encourage interprofessional collaboration
- Evaluate the needs for tobacco cessation in the clinic
- Develop a tobacco cessation program based on the specific needs of the clinic

Participation Needed

As a Sun Life healthcare provider, you have the opportunity to participate in this survey, which will directly impact your future tobacco cessation practice to improve patient care. For any questions, or to receive a link, email, or text, to the survey that pertains to your line of service via, please contact the corresponding project investigators below.

Project Investigators

- **Primary Care**: Samantha Wirth, BSN, RN, FNP Candidate
  Swirth1@email.arizona.edu
- **Integrated Behavioral Health:** Iesha Floyd, BSN, RN, FNP Candidate
  Ieshafloyd@email.arizona.edu
- **Pharmacy**: Martha Rukavena, BSN, RN, FNP Candidate
  Mrukavena@email.arizona.edu

THE UNIVERSITY OF ARIZONA
College of Nursing

APPENDIX D:

EVALUATION INSTRUMENTS

Integrated Behavioral Health Professionals Tobacco Cessation Survey

Start of Block: Participant Demographics

My name is lesha Floyd and I am a Doctor of Nursing Practice (DNP) student at the University of Arizona. As an integrated behavioral health professional, you have the opportunity to participate in a voluntary survey for a DNP project. The purpose of this project is to assess Sun Life Family Health Center's current tobacco cessation processes in behavioral health to identify areas of support for a future program based on findings from this evaluation

If you choose to take part in this project, you will be asked to complete a 30 question survey that will ask questions about the current tobacco cessation processes, and your feelings towards tobacco cessation at your facility. It will take approximately 5-10 minutes to complete this survey. There are no fore seeable risks associated with participating in this project and you will receive no immediate benefit from your participation. Survey responses are anonymous. The survey will remain open for a period of two weeks. Participation in this project is voluntary and refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may withdraw at any time from the project. In addition, you may skip any question that you choose not to answer. By participating, you do not give up any personal legal rights you may have as a participant in this project.

The Institutional Review Board at the University of Arizona has reviewed this project. Thank you for your consideration in participating in this project. If you would like to proceed with the survey, please click the forward arrow at the bottom of this page.

For questions, concerns, or complaints about the project, you may call lesha Floyd, BSN, RN at (623)792-0565 or email ieshafloyd@email.arizona.edu.

Page Break

Q1 What is your professional title?

- ○ Licensed Counselor (1)
- ○ Clinical Social Worker (2)
- ○ Psychologist (3)
- ○ Other (please specify) (4) _____

Q2 How many years of practice do you have?

- ○ Less than 1 year (1)
- ○ 1-5 years (2)
- ○ 6-10 years (3)
- ○ More than 10 years (4)

Q3 Are you full-time or part-time?

- ○ Full-time (1)
- ○ Part-time (2)
- ○ Intermittent or PRN (3)

Q4 On average how many patients do you see in a week?

- ○ Less than 20 (1)
- ○ 21-40 (2)
- ○ 41-60 (3)
- ○ More than 60 (4)

End of Block: Participant Demographics

Start of Block: Current Processes and Knowledge

Q5 How do you currently screen your patients for tobacco use? (select all that apply)

- ☐ Paper documentation (1)
- ☐ Verbal questioning (2)
- ☐ Electronic health record documentation (3)
- ☐ Other (please specify) (4) _____

Q6 How often do you inquire about tobacco use?

- ○ At every patient encounter (1)
- ○ As a new patient (2)
- ○ Once per year (3)
- ○ Sporadically (4)
- ○ Never (5)

Q7 Do you advise current tobacco users about cessation after inquiring about use?

- ○ Yes (1)
- ○ No (2)
- ○ Sometimes (3)

Q8 What therapy recommendations do you make for tobacco cessation? (select all that apply)

- ○ Nicotine replacement therapy (1)
- ○ Prescribed medication (2)
- ○ Use of e-cigarettes (3)
- ○ Support of individual/group (4)
- ○ Acupuncture/Acupressure (5)
- ○ Hypnotherapy (6)
- ○ Massage (7)
- ○ Meditation (8)
- ○ Other (please specify) (9) _____

Q9 Does the clinic have a protocol/policy for identifying tobacco use and tobacco cessation counseling in the electronic health record?

- ○ Yes (1)
- ○ No (2)
- ○ Unsure (3)

Skip To: Q10 If Does the clinic have a protocol/policy for identifying tobacco use and tobacco cessation counseli... = Yes

Q10 If the answer to the previous question is yes, do you find the protocol/policy to be successful in educating patients about tobacco cessation?

- ○ Yes (1)
- ○ No (2)
- ○ Unsure (3)

Q11 How do you educate tobacco users? (select all that apply)

- ○ Paper materials (1)
- ○ Verbal discussion (2)
- ○ Teach back (3)
- ○ Referral to phone/online resources (4)
- ○ Other (please specify) (5) _____
- ○ Do not educate patients (6)

Q12 Do you have any of the following materials readily available in your work area or waiting room? (select all that apply)

- ○ Posters promoting tobacco cessation (1)
- ○ Pamphlets or self-help materials (2)
- ○ Tobacco Quitline contact information (3)
- ○ Community-based tobacco cessation program information (4)
- ○ Unsure (5)

Q13 Do you inquire about patient participation or previous participation in behavioral counseling for tobacco cessation?

- ○ Yes (1)
- ○ No (2)
- ○ Sometimes (3)

Q14 If tobacco users are not using FDA approved mediation, as a behavioral health professional who do you refer them to? (select all that apply)

- ○ Primary care (1)
- ○ Clinical pharmacy (2)
- ○ Dispensing pharmacy (3)
- ○ None (4)
- ○ Other (please specify) (5) _____

Q15 Of the patients seen weekly, how many do you provide tobacco cessation counseling?

- ○ Less than 10 (1)
- ○ 11-20 (2)
- ○ 21-40 (3)
- ○ More than 40 (4)

Q16 How do you counsel tobacco users? (select all that apply)

- ☐ Group therapy (1)
- ☐ Individual therapy (2)
- ☐ Telephone (3)
- ☐ Video chat (4)
- ☐ Motivational interviewing (5)
- ☐ Cognitive behavioral therapy (6)
- ☐ Other (7) _____

Q17 How do you stay up to date with current tobacco cessation recommendations?

- ○ Self-discovery (1)
- ○ Continuing professional development (2)
- ○ Job-related development (3)
- ○ I don't stay up to date (4)
- ○ Other (please specify) (5) _____

Q18 What tools do you find useful when screening and counseling tobacco users? (select all that apply)

- ☐ 5A's (Ask, Advise, Assess, Assist, and Arrange) (1)
- ☐ Ask, Advise, Refer (2)
- ☐ Ask, Advise, Connect (3)
- ☐ 5R's (Relevance, Risk, Rewards, Roadblocks, and Repetition) (4)
- ☐ Fagerstrom Test of Nicotine Dependence (5)
- ☐ STAR method (Set a quit date, Tell family and friends, Anticipate challenges, and Remove tobacco products) (6)
- ☐ Quitline (7)
- ☐ Other (please specify) (8) _____

Q19 On a scale of 1-5, with 1 being "Not confident" and 5 being "Very confident", rate how confident you feel providing tobacco interventions with the current processes at your facility?

- Not confident (1)
- Minimally confident (2)
- Neither confident or not confident (3)
- Moderately confident (4)
- Very confident (5)

End of Block: Current Processes and Knowledge

Start of Block: Barriers, Facilitators, and Preferences

Q20 On a scale of 1-5, with 1 being "Not at all important" and 5 being "Very important", to what extent do you feel delivering tobacco cessation intervention is a part of your professional role?

- Not at all important (1)
- Slightly important (2)
- Neither important or not important (3)
- Moderately important (4)
- Very important (5)

Q21 Does tobacco cessation include disciplines other than yours at your facility?

- Yes (1)
- No (2)
- Unsure (3)

Q22 On a scale of 1-5, with 1 being "Not at all important" and 5 being "Very important", to what extent do you feel tobacco cessation should be a multidisciplinary effort at your facility?

- ○ Not at all important (1)
- ○ Slightly important (2)
- ○ Neither important or not important (3)
- ○ Moderately important (4)
- ○ Very important (5)

Q23 On a scale of 1-5, with 1 being "Not confident" and 5 being "Very confident", please rate how confident you feel performing the following tasks:

	Not confident (1)	Minimally confident (2)	Neither confident or not confident (3)	Moderately confident (4)	Very confident (5)
Teaching or discussing general health risk with tobacco users (1)	○	○	○	○	○
Discussing different methods of quitting tobacco use (2)	○	○	○	○	○
Giving advice about nicotine replacement therapy (3)	○	○	○	○	○

Q24 Rank, in order, perceived barriers to screening patients for tobacco use (with #1 being the top barrier)

_____ Time constraints (1)
_____ Lack of material or facility support (2)
_____ Inadequate staffing or space (3)
_____ Patient motivation (4)
_____ Electronic health record issues (5)
_____ Lack of training or confidence (6)
_____ Billing/Reimbursement issues (7)
_____ Other (please specify) (8)

Q25 Rank, in order, perceived barriers to counseling patients for tobacco cessation (with #1 being the top barrier)

_____ Time constraints (1)
_____ Lack of material or facility support (2)
_____ Inadequate staffing or space (3)
_____ Patient motivation (4)
_____ Electronic health record issues (5)
_____ Lack of training or confidence (6)
_____ Billing/Reimbursement issues (7)
_____ Other (please specify) (8)

Q26 Which patient-related factors are important to consider with tobacco cessation? (select all that apply)

- ☐ Age (1)
- ☐ Gender (2)
- ☐ Level of education (3)
- ☐ Primary language (4)
- ☐ Willingness to participate (5)
- ☐ Other (please specify) (6) _____

Q27 Have you had any previous training helping patients with tobacco cessation?

- ○ Yes (1)
- ○ No (2)

Q28 What type of training would you prefer for a tobacco cessation program? (select all that apply)

- ☐ Online self-paced (1)
- ☐ Online synchronous trainer lead (2)
- ☐ In-person trainer lead (3)
- ☐ Hybrid (in-person and online) (4)
- ☐ Other (please specify) (5) _____
- ☐ None (6)

Q29 Is there anything you'd like to add regarding tobacco cessation...

_____

Q30 On a scale from 1-5, with 1 being "Not at all likely" and 5 being "Very likely", how likely are you to follow a newly developed tobacco cessation program at your facility?

- ○ Not at all likely (1)
- ○ Slightly likely (2)
- ○ Neither likely nor unlikely (3)
- ○ Moderately likely (4)
- ○ Very likely (5)

End of Block: Barriers, Facilitators, and Preferences

APPENDIX E:

PARTICIPANT MATERIAL (EXECUTIVE SUMMARY)

Evaluation of Sun Life Family Health Center's Tobacco Cessation Program: An Interprofessional Collaboration

EXECUTIVE SUMMARY

Situation

Doctor of Nursing Practice Students from the University of Arizona conducted a quality improvement project to assess the needs for improvement of the tobacco cessation program at Sun Life Family Health Center. The project investigators worked closely with Matthew Bertsch, Pharm D to conduct this project.

This project aimed to evaluate a Sun Life Family Health Center's current tobacco screening process and cessation interventions with a survey of the primary care providers of the facility. The project was a combination of three DNP projects looking to evaluate the overall program with primary care, pharmacy, and integrated behavioral health.

Background

- Tobacco use is a leading cause of death and preventable disease in the United States [14].
- Although tobacco use is decreasing, nearly a half million Americans die from tobacco related illness [5].
- As demonstrated in the 2020 U.S. Surgeon General's report, and many research articles, comprehensive interventions are the most effective way to prevent and reduce tobacco use [3, 8, 12, 14, 15].
- Two Clinical Practice Guidelines endorsed by U.S. Preventive Services Task Force to treat tobacco dependence [7, 13] recommend:
    - Combination of behavioral and pharmacologic therapies.
    - *5A's* model to screen and treat tobacco use.
- Majority of healthcare professionals fail to *assist* and *arrange* for delivery of behavioral and pharmacological therapies [10].
- According to M. Bertsch, [4], there is a lack of established protocols to move tobacco users through the continuum of tobacco use treatment at Sun Life Family Health Center.

Assessment

- All three disciplines recognize tobacco cessation as an important part of their roles, but not all areas have an established program.
- Currently, there is not a consistent use of evidence-based guidelines to screen and counsel tobacco use.
- However, all disciplines found that a variety of evidence-based guidelines are useful for screening and counseling.

Recommendations

- Based on these findings, it is recommended that an interdisciplinary tobacco cessation program be developed that builds upon the strengths of each area and established evidence-based protocols.
- The evidence-based protocols that are most familiar across the disciplines and proven to be most effective are a combination of the STAR and 5A's method for cessation [3]. Additionally, incorporating the use of the Fagerstrom Nicotine Dependance Test to quickly assess tobacco use dependence may mitigate time constraint barriers expressed by providers.
- Survey results found that the most desired type of program training across all disciplines was hybrid learning.
- Literature found that education on the program should be brief, standardized, accessible, and routine [1, 2, 6, 9, 10, 11, 16, 17].
- As part of a hybrid model, the initial training class could be in-person led by members of the behavioral health and pharmacy team.
- The second part of the model would consist of targeted and brief annual online modules to ensure consistency in dissemination of program information and training across the specialties.
- Additionally, due to growing trends in vaping, it is recommended that there be required screening protocols for vape use, including screenings in the electronic health record.
- Furthermore, the use of a tobacco cessation program bulletin board can be used to foster interdisciplinary teamwork, and to encourage continuous engagement and sustainability.

Sincerely,

Martha Rukavena, Iesha Floyd, and Samantha Wirth
DNP-FNP Candidates

THE UNIVERSITY OF ARIZONA
College of Nursing

For any questions, comments, or concerns, please contact the projects primary investigators:

- Pharmacy: Martha Rukavena (mrukavena@email.arizona.edu)
- Integrated Behavioral Health: Iesha Floyd (ieshafloyd@email.arizona.edu)
- Primary Care: Samantha Wirth (swirth1@email.arizona.edu)

References

APPENDIX F:

PROJECT TIMELINE

Project Timeline

Completion Date	Planning	Pre-Implementation	Implementation	Evaluation
1/23/2020	Initial stakeholder meeting			
2/26/2020	Submission of Matthew Bertsch PharmD Director of Pharmacy at Sun Life Family Health Center to College of Nursing for approval			
1/2020-6/2020	On-going group project stakeholder planning and collaboration			
May-June 2020	Creation of Qualtrics Survey			
6/26/2020	Completion of written project proposal			
7/2020		Project Proposal Defense		
9/2020		Submission of IRB forms approval		
After IRB approval		Posting of participant recruitment flyer		
9/2020			Focused Needs Assessment (2 week live period)	
End of 9/2020-10/2020				Data Analysis and develop recommendations
End of 11/2020				Project Final Defense
11/2020-12/2020				Present proposed recommendations and handoff project to future student cohorts

APPENDIX G:

LITERATURE REVIEW GRID

Project Question: What current tobacco screening and counseling gaps exist among IBHPs at an FQHC, and what recommendations will improve tobacco cessation protocols overall?

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
2019 Abdelmutti et al.	Implementation of comprehensive smoking cessation program in cancer care	Quality improvement	Setting: Cancer Care Center Purpose/Background: Implementation of electronic/automated referral system (CEASE). Screens, educates, quit advise, and facilitate referral to tobacco cessation program. Methods: Adoption of Framework for Managing eHealth Change (CEASE) and Smoking Cessation Framework (counseling best practices) Governance and Leadership: Accountability, development of multidisciplinary teams and senior leadership buy-in are important to success Stakeholder Engagement: Accessed perceptions, issues and expectations. Sought input from HCP in designing protocol. Assessed patient needs. Partnered with IT to develop digital intervention. Established partnerships with outpatient pharmacy, quit line, and behavioral health clinic. Multidisciplinary team remained update on current evidence and initiatives. Communication: (Key to engagement) Used e-communication, messages, internal intranet	Provides framework/methodology on how to implement a comprehensive cessation program in busy clinic setting using evidence-based eHealth recommendations. Although it was a cancer center, it has some links to an FQHC because both have extra patient resources. Identifies barriers and interventions to avoid for optimal integration (don't rely on specific role to perform). Uses clinical electronic tool (CEASE) and summarizes feasible workflow and follow up. Applies Ask, Advise, and Act protocol (simplified approach to 5A's) Link to a need's assessment published elsewhere to reference (Giuliani et al., 2019). Discusses importance of sustained education of HCP- annual mandatory education? Level of Evidence: study design unclear. High quality. Framework adds to strength.

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			page. Monthly reports delivered by email-traffic-light system for quick identification of data. Platform for real-time feedback and data for screening, cessation, and referral rates. Workflow Analysis and Integration: Assess current practice. Initial phase- screening and surveys on paper. Identified opportunities and barriers. Second phase (eHealth) - specific clinics with high volume to test feasibility of intervention. Audits of eHealth performance. Final phase-system roll out. Monitoring and Evaluation: Monthly and yearly reports. Assessment of clinic performance (screening and referral). Pre and post assessment of HCP attitudes, knowledge, and competence-goal to establish a standard of care, to assess if further education is necessary, and reinforce knowledge. • 62% of new patients screened of those 10% were smokers and 4% reported quitting in past 6 months. All received brief tailored education encouraging cessation and active referrals. • 20% of current smokers and recent quitters accepted either internal (34%) or external (65%) referrals. • 80% refused or opted out. Training and Education: Patient and provider education essential to a cessation program. Scanned available resources. Patient	

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			education is tailored to disease process. Provider/staff training contained brief effects of smoking on disease process and introduced intervention.	
2019 Allen et al.	Multimethod formative research to improve the training and delivery of tobacco-cessation interventions in behavioral health settings	Mixed methods (multimethod formative research)	Setting: 9 clinical sites- 6 urban, 2 rural, 1 suburban. 8 sites with varying integrated care models (physicians, nurse practitioners, pharmacy, and behavioral health). Purpose: feasibility and efficacy of adapting the Helpers Program to BHP and promote system changes to support tobacco cessation interventions. Methods: • Key informant interviews (KII): Staff meetings set by supervisor to assess intent to participate in new training (view supplemental data). On site semi-structured interviews. (n=8) • Field observations: Assess availability of cessation resources (patient and provider). Used standardized checklist adapted from prior research (view supplemental data). (n=9) • Structured group interviews: Equal provider and patient sessions. Developed questions to ensure consistency (view supplemental data). Giveaways and incentives for participation. Audio recorded (technical issues in two groups-detailed notes used here). Provider and	Identifies Helpers Program (trained individuals perform cessation intervention)-this contrast to evidence presented by Abdelmutti et al. (2019). Program enlists motivational interviewing, handouts, and promotes use evidence-based resources. Barriers and facilitators are identified. May be able use supplemental data to develop focused survey to use for detailed assessment of IBH staff at my implementation site. Contributes to methodology section. Remember to generalize this to primary care setting. This is an on-going feasibility and efficacy study taking place in clinics in Southern Arizona offering similar services. Adapting Helpers Program to behavioral health setting to promote system change Level of evidence: V

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			patient spreadsheets. Recurring responses grouped and counted as quantitative data. (n=13) • Integration of data: Quantified recurrent themes, phrases from structured interviews between groups and compared to KIIs and field observations (see table 1). (n=10) Results: (1) need to identify acceptable and accessible training methods and (2) training content. • Training Delivery: 3 themes (1) training fatigue, (2) lack of time to participate in training activities (prefer in-person or combo over online training), and (3) training approach (lack of resources for providers to give patients and patients wanting them) • Curriculum Content: Four themes (1) competing clinical needs (cessation lower priority) (2) importance of overall wellness (3) dealing with frustration of multiple failed quit attempts (4) preference for quit advice from relatable non-medical person. Developed interventions/resources: (1) accessible and pertinent training/education materials, (2) additional referral options, (3) short in-person training with supplemental web-based training.	

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
2018 Amato et al.	Patient cessation activity after automatic referral to a dedicated cessation support service	Program evaluation (cross sectional survey)	Setting/Participants: Comprehensive Cancer Center. Patients apart of tobacco cessation support service. (n=499). Purpose/Background: Program evaluation. Determine tobacco use, cessation, and satisfaction 3 months post participation. Methods: At a cancer center, all patients were screened by nursing staff for tobacco use in past 30 days (using EMR). This is repeated every 30 days for subsequent visits. Those who desired to quit (using 5A's of smoking cessation) or recently quit are all automatically referred to a dedicated cessation service. Cessation support service includes: • coaching behaviors to reduce use • strategies to cope with smoking urges • pharmacologic support (optional) • 1-8 calls support calls with patients choosing interval between calls (no set schedule) • Results of support calls: average number of calls 4.47 with 60.33 days between referral and first successful contact • Multiple options to respond to the survey were given by study investigators 3 month follow up survey (web, paper, or telephone)	Gives insight into patient satisfaction and outcome of tobacco cessation programs with automatic referrals. Does having this information increase intent of BHP to screen and refer? This study concludes patient may opt out of automatic referral to cessation services. Pharmacologic agents are optional as well, this is not EB. Intervention is conducted by "specialist" and not an integrated process, this is not EB. Shows Ask-Advise-Connect is more effective than Ask-Advise-Refer! Important to note quit and motivation to quit rates may be higher in cancer patients. High response rate in cancer patients. Greater participation for married individuals (is this support related, pressure related, or self-efficacy?). Level of evidence: IV high risk of bias

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			Measures: (1) participation rates in 3-month follow up survey, (2) quit rates after 3 months, (3) characteristics associated with quitting, and (4) patient satisfaction with cessation services. Results: 52% (n=257) completed survey. 9.7% quit tobacco (past 30 days). 23.6% quit at first contact. 48.1% smoke free previous 7 days. 86.4% very or mostly satisfied with support service. 64.3% increase satisfaction with care.	
2019 Baltz & Lach	Perceptions, knowledge, and use of electronic cigarettes: A survey of mental health patients	Survey	Setting/Participants: Outpatient mental health office. Recruited sample (n=109). Purpose/Background: To explore mental health patient perceptions, knowledge, and uses of ENDS, and guidance received from HCP (psychiatric nurse practitioners, licensed marriage and family therapists, psychiatrists). Methods: Survey questionnaire developed from prior studies and literature, included: • demographic data • tobacco use (used questions from WHO) • assessed participant awareness, knowledge, and use of ENDS • if ENDS used assessed appeal (flavors?) • if ENDS not used assessed factors that might influence use • assessed all participants perception of ENDS- included open-ended questions to	Gives insight into HCP knowledge of ENDS and need for further education and training of their role in tobacco cessation in mental health setting. Addresses connection between tobacco use and mental illness. -Background Brings to light American Heart Association is exploring long-term risk of ENDS in cessation efforts they do recommend clinicians are knowledgeable about their role in cessation. Mention a systematic review (Glasser et al. 2017) that shows ENDS are as helpful in cessation as traditional therapies. Also presents public health data from England (2018) indicates lower risk with ENDS use and benefit in cessation.

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			assess discussion of ENDS use with HCP, and concerns or comments about ENDS use Results: • Average age 33.12 of participants; 85% under 45 years; majority white (63.6%) females (55.5%) with higher education levels (74.5%) • n=110 • Knowledge of ENDS from family and friends (74.3%); internet (54.1%); or TV (37.6%). 13.8% sought knowledge from HCP about ENDS. 46.7% unaware of liquid composition of ENDS. • 67% perceived ENDS could help quit tobacco; 56 % believed ENDS less harmful than cigarettes; 68.9% reported better respiratory effort and exercise tolerance with ENDS use; 60.4% perceived ENDS socially acceptable: 77.8% reported reduced urge to use tobacco. • 59% reported ENDS use-of this group 68.8% purpose to reduce or quit tobacco. • 10 providers believed ENDS less harmful than cigarettes but advised caution-a pulmonologist and cardiologist recommend cold-turkey best method to quit smoking; several stated need for further research; two warned against use of any nicotine products; one advocated	Did not discuss EB cessation therapies (pharmacologic and behavioral). ENDS seem to more appealing to younger population. In US, FDA preparing to ban flavoring of ENDS because can act as a gateway to nicotine addiction although evidence on this is not clear. Shows varied provider knowledge on ENDS use and best practices for cessation. Also, those patients are less often seeking advice from HCP about risk and benefits of ENDS use. Suggest clinical guidelines for ENDS use. Level of evidence: study design unclear. High risk of bias with survey.

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			for certain laboratory-test brands of liquid over others.	
2019 Barnes et al.	Hypnotherapy for smoking cessation	Systematic Review	Background/Purpose: Hypnotherapy promoted for tobacco cessation. Determine effect and safety. Methods: Review of literature, no language or publication date restrictions. Last search July 2018. Criteria: Hypnotherapy vs no treatment or other therapies (RCT with cessation after 6 months) Data Collection and Analysis: 2 independent investigators. Analyzed study characteristics, duration of treatment, nature of control group, smoking status, method of randomization, and completeness of follow up. Results: 14 studies (hypnotherapy with 22 different interventions); n=1926; most studies high risk of bias leading to low certainty of effect. • Hypnotherapy vs attention-matched behavioral treatment (RR 1.21, 95% CI 0.91-1.61)-not sig/6studies • Hypnotherapy vs intensive behavioral interventions (RR 0.93, 95% CI 0.47-1.82)- not sig/2studies	Hypnotherapy may facilitate cessation when used in adjunct to other therapies. MORE RESEARCH needed here with better designed studies. Level of evidence: high level of evidence with low to very low certainty of effect.

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			• Hypnotherapy vs no treatment (RR 19.00, 95% CI 1.18-305.88-ss/1study-caution HIGH risk of bias • NO difference: Hypnotherapy vs brief behavioral (RR 0.98, 95% CI 0.57-1.69,), Hypnotherapy vs rapid/focused smoking (RR 1.00, 95% CI 0.43-2.33), HT vs pharmacotherapy (RR 1.68, 95% CI 0.88-3.20) • *Hypnotherapy as adjunct to other therapies-(RR 2.10, 95% CI 1.31-3.35)-high risk of bias.	
2018 Bloom et al.	Billing practices among US tobacco use treatment providers	Anonymous online survey	Participant/Setting: n=131 HCP who provide tobacco use treatment (counseling or prescribe medication). Recruited through advertisement professional organizations. • Characteristics-education and professional background, work setting, years of experience with treatment, hours and # of patients treated weekly, type of treatment, organization accept insurance, patients billed? And how much, billing code?, billing manager? and perception of managers knowledge and experience, final open ended response to share positive or negative experience with billing for treatment Purpose/Background: Determine underutilization of tobacco treatment after mandated coverage through Affordable Care Act.	Provides background information about Affordable Care Act mandates for coverage of treatment and highlights discrepancies between billing and reimbursement for non-physician (trained, certified providers) Number of non-physician providers greater than physician providers. Unable to write RX so provide counseling. Level of evidence: low, high risk of bias

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			Methods/Design: Survey using Research Electronic Data Capture tool. Results: • 46% of all do not bill for treatment; 8% do not know-13 nurses/NP, 2 physician, 11 social workers, 5 educators, 5 resp therapist, 2 pharmacists • 72% (of sample) trained/certified specialist (46% master's degree, 7.6 years of experience with treatment, 13.4 hrs. per week providing treatment, 11.5 pts per week) • 21% of participant organizations no insurance accepted; 6% did not know: 93% private insurance; 87% Medicare, 91% Medicaid Results indicate providers, administrators, billing managers, should collaborate to facilitate adequate reimbursement.	

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2018 Boland et al.	The methodological quality and effectiveness of technology-based smoking cessation interventions for disadvantaged groups: A systematic review and meta-analysis	Systematic review and Meta-analysis	Background/Purpose: Assess quality and effectiveness of technology-based tobacco cessation interventions in disadvantage groups. Methods: Search of 4 databases. 1980-May 2016. Criteria: RCT comparing technology-based tobacco cessation interventions vs. no intervention among disadvantage smokers. (Studies with samples of 45% or greater disadvantage participants). Data Collection/Analysis: 3 reviewer assessed studies for inclusion criteria. 1 extracted participation and intervention, crosschecked by a second reviewer. Findings: 13 studies targeted use of technology in disadvantage smokers. Only 1 study scored high for scientific rigor. n=4802 disadvantaged participants (low SES, blue collar workers, incomes less than 200% of federal poverty line, mental illness, AA, HIV positive, substance abuse disorders, indigenous smokers). Use of: • website (n=5) • computer programs (n=5) • NRT in addition (n=7)	This study is pertinent because it addresses disadvantage groups and aims to assess effectiveness of technology-based interventions in this group. Level of evidence: High level of evidence. Most studies low risk of bias. 5 in total high risk of bias for various reasons. "few methodological rigorous studies identified"

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			• tailored intervention and study materials (n=9) Statistical analysis: odds ratios and confidence intervals at 1, 3, 6, and 18 months post intervention, Results technology-based interventions increase cessation efforts: • 1 month- OR 1.70, 95% CI 1.10, 2.63 and moderate heterogeneity • 3 months- OR 1.30, 95% CI 1.07, 1.59 and low heterogeneity • 6 months- OR 1.29, 95% CI 1.03, 1.62 and low heterogeneity • 18 months- OR 1.83, 95% CI 1.11, 3.01 and low heterogeneity Verified by self-report or biochemical testing.	
2018 Brown & Wei	The impact of insurance gain and discussions with healthcare providers on quitting smoking	Longitudinal analysis of survey data	Participants/Setting: n=6384, adult smokers from a longitudinal data file from Medical Expenditure Panel Survey (2003-2014). Oversampling of ethnic minorities and low-income individuals. Purpose/Background: Analyze impact of gaining insurance of different types has on discussing tobacco cessation with HCP. Methods/Design: survey via telephone interviews and mailed questionnaires.	This study analyses the impact of having health insurance and discussing cessation with HCPs in previously uninsured individuals. FQHC serve a mix of patients with private insurance, public insurance, or uninsured. This information may contribute to policies on who will qualify for low or no cost pharmacotherapy. Those gaining private insurance are more likely to quit and those gaining private

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			Analyses behaviors of uninsured smokers between year 1 and 2. With interest if gained insurance and if so what type. And if discussion about cessation occurred with HCP Results: • 5056 (77.8% weighted) remained uninsured between year 1 and 2 • 681 (13.2% weighted) gained private insurance • 647 (9.0% weighted) gained public insurance	insurance there is no difference between uninsured. Supports the idea that universal healthcare decreases health disparities because smoking cessation is the leading preventable cause of death Level of evidence: IV. Strength: longitudinal data. Weakness: patient report survey
2019 Chavarria et al.	A pilot study of Counsel to Quit: Evaluating an Ask Advise Refer (AAR)-based tobacco cessation training for medical and mental healthcare providers	Pilot study-intervention with pre and post-survey	Participant/Setting: n=297 direct care and allied staff members of community health center, nonprofit mental health centers, faith-based organizations, low-income housing programs, hospitals, substance abuse treatment centers, and academic institutions. Purpose/Background: feasibility study of counsel to quit program across multiple healthcare institutions and providers. Methods/Design: Training sessions in medical and mental healthcare institutions. Low to no cost in communities with high use of tobacco. Pre-post training survey of AAR practices and agency (belief in use of smoking cessation counseling), implementation (confidence and ability to provide smoking cessation counseling), importance (importance of	Training addressed how to approach non-approved methods of cessation (e-cigarettes, hypnotism, and acupuncture) May be able to use questions from survey to develop focused survey for proposal (Appendix Table A. 1-included in article). In contrast to other research that indicate mental health providers don't believe smoking cessation counseling is effective among their population, this study (although a pilot) indicates brief EB training of BH professionals may increase intent to participate in SCPs. This study also reinforces data from other studies about brief in-person training. Also the importance of training support staff for consistency.

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			providing smoking cessation counseling), & e-cigarettes (prepared to counsel on use). Intervention/Sample characteristics: 60 to 90-minute training intervention of medical (39%), mental health (35%), and support staff (26%). 98% post survey completed. 11 questions Results: intervention improved ability to ask, advise, and refer across groups (greatest among medical providers, p<.001;mental health providers, p<.01) Mental health providers showed greatest increase in agency (p=.02). Improved providers preparedness of all to answer questions about e-cigarettes (p<.001).	Level of evidence: pilot study; lower level of evidence. Strength-diverse sample and incorporated new information on e-cigarettes. Limitation-mostly self-report.
2017 Chen et al.	Smoking cessation and electronic cigarettes in community mental health centers: Patient and providers perspective	Quality Improvement survey	Participant/Setting: patients (n=231), psychiatrist (n=45), caseworkers (n=97) @ 4 community mental health centers. Purpose/Background: Examine interest of patients and providers to offer tobacco cessation treatment in community mental health centers. Methods/Design: Quality improvement imitative survey. Usual care annual assessment of tobacco use by caseworkers and referral to group counseling and pharmacotherapies. 13-item survey: 1. Self-	Identifies growing trend of ENDs in cessation attempts Only pulled provider specific information from article Shows skewed provider perceptions of patients desire to quit or comply with treatment Verifies lack of training, referral resources, and time as barriers.

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			report of current practice 2. Perceived treatment barriers (allowed selecting multiple 3. Assessed use of 5A's 4. Cessation medication use 5. Barriers to medication use 6. S-KAP instrument to measure knowledge, attitudes and practices Results: (90% participation across all 4 clinics) Psychiatrist 69% very often or always Ask, 62% very often or always Advise, 62% very often or always Assess, 60% very often or always Assist, and 29% very often or always Arrange follow up. Caseworkers reported similar numbers. Psychiatrist 18% very often or always use NRT, 0% very often or always use varenicline, and 2.2% very often or always use bupropion. 82% of patients interested in cessation or decreasing use. In contrast, 91% of psychiatrist report patients not interested, 84% report patients do not comply, and 62% lack training, 58% lack referral resources, and 49% lack time. Caseworkers reported similar numbers.	Does lack of referral resources indicates needs for automatic referral process because most literature indicates lower provider compliance with assist and arrange. This study indicates 50% difference in arrange from preceding A's. Level of evidence: low. Strengths-data aligns with known research. Weakness-self report. High risk of bias.

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2017 Compton	The need to incorporate smoking cessation into behavioral health treatment	Peer-reviewed article	Key points: • Cessation is low treatment priority for professionals treating psychiatric disorders. • Smoking associated with worsening behavioral health outcomes (increase SI and attempts, more vulnerable to relapse). • 2014 meta-analysis showed less stress, anxiety, and depression. Long-term success for substance abuse and psychiatric disorders if SC is included in treatment plan. • reinforces behavioral interventions and pharmacologic therapies in SC.	Helpful for background and need for tobacco cessation in behavioral health treatment. Level of evidence-expert opinion, from The American Journal on Addictions. Written using peer-reviewed articles.
2008 Fiore et al.	Treating tobacco use and dependence: 2008 update	Clinical practice guideline	Scope and purpose: clear and relevant. Stakeholder involvement: Public health service sponsored guideline Rigor of development: high Clarity of presentation: Key guidelines highlighted in beginning of document. Applicability: Highly relevant. Editorial independence: Independent panel of 24 scientist and clinicians selected by AHRQ on behalf of U.S. Health Service. Overall assessment: high	Level of evidence: high/strong

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			Supplemental Document: • Figure 1 update development process • Figure 2 model for treatment of tobacco use and dependence • Table 1 topics chosen by panel for 2008 update • Table 2 provides language associated with 5A's framework and detailed steps within each. • Table 3 Elements of counseling • Table 4 Prescribing guidelines • Table 5 Pharmacotherapies (precautions, contraindications, adverse effects, dosage, duration, and availability) • Table 6 Effectiveness and abstinence rates for medications (also medications shown not to be effective) • Table 7 Effectiveness and abstinence rates relative to nicotine patch • Table 8 5R's of enhancing motivation • Table 9 How to address patient reported barriers • Table 10 Components of intensive tobacco-dependence interventions	

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2019 Garcia-Gomez et al.	Smoking cessation treatments: Current psychological and pharmacological options	Systematic Review of evidence (meta-analyses, systematic reviews etc.)	Background/Purpose: Overview of tobacco cessation treatments (medication and behavioral) Methods: Review of 4 databases 2007-2018 Criteria: Meta-analysis, systematic reviews, RCT, quasi-RCT, clinical practice guidelines from Mexico and other countries. Results: 37 articles selected. Group by intervention. • Brief advice- strategy used to motivate cessation, encourage treatment, and decrease consumption. (Compared to no advice increases quit attempts-RR 1.24, 95% CI 1.16-1.33). Examples are 5A's model and AAC (Ask-Advise-Connect)/ • Pharmacological treatment (CPG recommend dual treatment: medication + counseling regardless of how many cigarettes per day) - NRT, Bupropion, Nicotine receptor partial agonists. EAGLES study evaluated safety of all. They are effective and safe. • Vaccines: generating antibodies that bind nicotine. Must be compatible with other SCT. Indicated for heavy smokers, highly motivated to quit, and positive view towards vaccines. • Combined treatment with medications: See table 1 for studies	Introduces new information on the use of vaccines. New concept of third generation therapies. Indications for new research. Novel technologies to complement behavioral interventions Figure 1: Pyramid model for tobacco cessation Level of evidence: high. Strength: global review, indications for future research. Weakness: does not address limitations.

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			• Psychological treatment: brief counseling, individual or group CBT, telephone counseling, technology-based interventions (mobile apps, websites, digital programs), motivational interviewing, social networks, mindfulness. • Relapse in smoking: cessation treatment: Addition of regular exercise to pharmacologic therapies or extended pharmacologic treatment. • Implementation of tobacco cessation: formal clinics, multidisciplinary approach, drugs free of charge, identify and treat, Concludes need to research combinations of treatment with a multidisciplinary vision.	
2019 Giuliani et al.	Implementation of a novel electronic patient-directed smoking cessation platform for cancer patients: Interrupted time series	Time-series design	Participants/Setting: Cancer treatment center. n=17,842 Background/Purpose: Lack of routine tobacco screening and treatment in cancer setting. To establish as a standard of care. Methods/Design: Implementation of CEASE tool at cancer center in Canada. CEASE-(1) patient-reported smoking assessment tool, (2) brief standardized education, (3) patient-directed automated referral. 5A's approach-Ask, Assess, Advise, Assist, Arrange	This study is related to Abdelmutti et al. 2019 Implementation of a smoking cessation e-referral system (CEASE). Electronic patient-directed platform. New innovative tool, time and cost-effective. Sustainable. Post implementation 1% request paper screening. Increased screening and referrals but not quite rate. To implement need to overcome number of patients that want to quit on their own and low interest in smoking cessation

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			See figure 1 for referral process. Facilitators to implementation: Utilized Awareness-to-Adherence Model of behavior change. Promote awareness and seek agreement. Gather stakeholder feedback to fine tune workflow. Patient interviews for feedback on platform. Presentation to implementation sites. Final revisions. Results: Process-of-Care Outcomes: screening rates, referrals offered, and referrals accepted. 20-month rollout period started 6 months prior, 8-month transition period from paper to CEASE, and 6 months follow up. Patient-Reported Outcomes: effect of CEASE on contact with cessation program, and quit attempts. Screening rates increased (44.28% to 65.72%); Referrals offered increased (18.6% to 98.8%). Referrals accepted decreased (41% to 20.4%), however, users' willingness to quit increased (7.7% to 20.2%) due to increase in referrals. Pre (29.7%) and post (41.9%) surveys completed. Pre-cohort 24% received referrals but 0% follow up. Post-cohort 24% accepted referrals but 78% follow up.	program, this can be done with provider-based AAR or AAC. CEASE is a straightforward and simple way to automate referrals but does not replace the value of providers trained, confident, and willing to provide EB smoking cessation advice. Level of evidence: 3. Strengths: shows feasibility, reaches large population, and use of technology. Weakness: self-report, only in English, follow-up not long term

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2018 Graydon et al.	A statewide initiative to train behavioral health providers in smoking cessation	Mixed method	In Maryland from Feb 2014-Dec 2015, free full day of training, continuing education credits offered. Training content to disseminate research and CPG. Tailored to non-prescribers. Basic knowledge of pharmacotherapy and benefits of adjunct behavioral intervention (emphasis on group CBT). Used change and motivational framework. Intervention designed to 4-90 min group therapy session (possibly up 10 based on need). 4 modules. Used S-KAP instrument (validated tool) Pre and post training and follow up survey at 2 and 6 months to evaluate (see Table 1 for schedule) smoking status, implementation attempts, and barriers 15-60 min semi-structured telephone interview n=351 (see Figure 2 for complete data; flow sheet showing n=73 complete pre/post, and 2 and 6 month follow up) Table 3 pre-training, 2 month, and 6 month barriers: lack of reimbursement, lack of access to medications, staff tobacco use, concern about compliance, lack of knowledge and training, lack of time, lack of agency/administrative support	Paints the overall picture that cessation is a low priority for behavioral health providers due to their perceptions of patients. Commonly reported barriers Gives insight of intent to implement Level of evidence: 5. Strength: addresses gap to disseminate education to BHP, longitudinal follow-up (low response rate-weakness). Weakness: self-report, lack of baseline practice patterns, bias sample,

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			Results: 18.1% (n=27) implemented at 2 months 33.3% (n=29) implemented at 6 months 59.9% (n=88) taking steps to implement at 2 months 54% (n=47) taking steps to implement at 6 months Correlation of training and implementation at 2 (r=0.89,p<.05) and 6 months(r=0.30,p<.001). Also importance to treat (r=0.27,p<.05) at 6 months n=23 phone interviews conducted (average 9 months post training) 82.6% reported groups sessions at their facility (implementation). 60.9% (n=14) report increased interprofessional collaboration (referrals, encouragement to screen, consulting medical professionals about NRT). Improved quit line referrals (34.7%, n=8) barriers: 21.7% staff turnover impedes maintenance, 13% difficulty collaboration, 8.7% staff resistance to patient centered outcomes, inadequate resources 30.4%, 13% inconsistent smoke free policies, 26.1% perceived patient resistance (not setting quit date), 21.7% lack of engagement in group solutions: 47.8% felt additional training (online preference) would benefit, 17.4% felt interview allowed opportunity to discuss	

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			challenges, 21.7% felt adapting program materials would facilitate patient engagement.	
2020 Japuntich et al.	Proactive tobacco treatment in a behavioral health home	Pilot study	Participant/Setting: Adult patient who's community health home is a community mental health center. Background/Purpose: Testing feasibility of proactive outreach in behavioral health home Methods/Design: Proactive (n=9) vs Usual Care (n=11) Consent process then randomized to proactive versus usual care. Called for 3-month follow up assessment. Usual care-no formal tobacco cessation program; case manager helped patients connect with medical providers on occasion to seek cessation efforts. Proactive care- called by study counselor (clinical psychologist); 5A's approach to cessation; offered telephone counseling in addition to medications and facilitation of receiving medications by counselor (through contacting case manager to coordinate appointment with prescriber); up to 8 counseling calls over 3 months (patient directed intervals with increasing frequency near quit date); use of motivational interviewing, problem-solving to reduce	Mental health providers low intervention rates for smoking cessation. Low rates represent missed opportunities. Challenges myths. Proactive or automated connection of psychiatric patients to smoking cessation treatments in behavioral health homes may increase abstinence rates. Level of evidence: low/pilot study. Strength: demonstrate feasibility and responsiveness to EB cessation intervention. Weakness: small sample

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			cravings and stress; 1st call 60 mins-subsequent calls 30 mins. Measured: feasibility, satisfaction, safety, efficacy of PC for increasing treatment utilization and reducing tobacco use, participant characteristics. 70 eligible participants, 20 enrolled, 31 opted out, 14 expressed interest but did not complete consent process, and 5 weren't reached. Results: 9 to PC and 11 to UC. PC group-100% reached, 100% counseled, 89% requested medications (6 received). Mean counseling calls 5 and length of call 98.11 min. Mean satisfaction 26.44/32. No safety concerns. Efficacy at 3-month follow up-22% of PC attended smoking cessation and 0% of UC. 56% of PC and 27% of UC reported taking medications. None of UC participants were smoke free and 11% of PC participants were. PC group had larger reduction of use than UC group. 78% of PC and 36% of UC group had a quit attempt. 100% of PC participants accepted counseling and participated in at least 1 call.	

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2020 Johnson et al.	Feasibility of a consumer centered tobacco management intervention in community mental health services in Australia	Feasibility study	Participants/Setting: Community mental health centers in Australia. 5 intervention and 3 control sites in Australia Background/Purpose: Test feasibility of Kick the Habit vs. Business-as-usual (coaching, motivational interviewing). Methods: Kick the habit program- trained staff working individually with participants to develop cessation management plan with free NRT, motivational interviewing, and other behavioral strategies Research assistant at each site. Central RA to collect all data KTH: (1) start conversation, (2) introduce KTH, assess interest, and encourage reduction, (3) introduce to study and RA to obtain consent, (4) develop tobacco management plan (NRT and behavioral therapies), (5) clarify alliance with participant, and (6) review, consolidate, and celebrate. Pre and post questionnaire. Results : Staff summary: • Training-too much time between training and implementation at some sites. Too little time between training and	Historically, "self-medicating" with tobacco has been acceptable among mental health providers. With time, they can grow more confident and comfortable with such programs if feel adequately trained. Question if program should involve organizational change and policy, this study did not, so adoption was site dependent. References Ennals et al. 2019-full detailed study report showing reductions of several variables. This paper provides staff feedback. Level of evidence: feasibility study/low/robust design. Strength: decrease cessation, period of free NRT. Weakness: barriers and delays to implement, did not involve organization changes

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			implementation-no time to reflect. Desired more hands on training and increased clarity of roles and responsibilities. • Attitudes, perceptions, and workload-lack of confidence in implementation time was a barrier. Negative attitudes about participant desire to quit and belief in program. Low motivation and confidence, and unsure how to introduce program- this grew with time and familiarity with program. Engagement was low initially but grew with time and success of one tobacco management plan. • Recruitment and implementation process-recruitment was smooth but difficulty starting conversation if felt patient was in a crisis. • Barriers to participation and motivate of consumers-participant unapproachable or unwilling and barrier to stay motivated (crisis, homeless, hospitalized, not ready for change , bigger problems or addictions, changing mental health status, stress, restricted from NRT due to medications, feeling inadequate, living with smokers, etc. • Availability, cost, and dispensing of NRT-participants wanted access to free NRT for long period. Difficulties getting prescription after use of annual quota. Problems with timely dispensing at site.	

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2017 Lancaster & Stead	Individual behavioral counseling for smoking cessation	Systematic review	Background: Individual counseling from trained cessation specialist may increase success of tobacco cessation attempt. Objective: Test three hypotheses: 1. Individual vs no treatment or brief advise increase cessation 2. Individual vs self-help increase cessation 3. More vs Less intense increase cessation Methods: searched Cochrane Tobacco database through May 2016. No limitation on field. Data collection and analysis: 2 authors extracted duplicate data. Recorded characteristics, target population, method of randomization, and extent of follow up. Biochemical validation of cessation. Meta-analysis performed when possible. Assessed quality of evidence and risk of bias. Review of randomized and quasi-randomized trials that involved counseling by a trained therapist and at least one in-person session, not related to medical care. Session at least 10 mins, majority longer. Possible telephone follow-up for additional support. Primary outcome: smoke free 6 months after 49 trails and 19,000 participants.	References an ongoing systematic review exploring behavioral intervention and control elements (de Bruin 2016). See page 22. Contrast to Stead & Lancaster 2017 Level of evidence: High to moderate quality. 22% of studies low risk of bias. Strengths: findings consistent with Fiore et al. 2008 practice guideline.

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			33 trails individual counseling compared to control with minimal support (usual care, brief advice, or written materials). 27 of these no medication offered. 6 provided NRT or other medications. 12 explored the intensity of counseling (more to less) and 5 compared types of counseling Results: • Increase probability of cessation 40-80% compared to minimal support. Seven out of 100 quit for 6 months with minimal support (RR 1.57, 95% CI 1.40-1.77) and 10-12 (11) out of 100 have same success after individual counseling (RR 1.24, 95% CI 1.01-1.51). (high quality of evidence) • With NRT 11 to 100 in control group and 11-16 (13) in 100 with intervention (RR 1.24, 95% CI 1.01-1.51). (Moderate quality of evidence because of wide CI interval). • More intense or more sessions slightly benefit (moderate quality of evidence-size of benefit uncertain). Nine per 100 (less, without meds) 10-14 (12) per 100 (more, without meds. 14 per 100 (less, with meds) 15-21 (18) per 100 (more with meds). RR 1.29, 95% CI 1.09-1.53 • No difference observed with different types of counseling.	

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2018 Malone et al.	Mental health service user and staff perspectives on tobacco addiction and smoking cessation: A meta-synthesis of published qualitative studies	Meta-synthesis	Participants/Setting: Mental health patients and staff. Purpose/Background: Synthesize data from literature to better understand perspective of mental health patients and treating tobacco dependence. Methods/Design: Search of 3 databases at three different times July 2015, November 2017, and March 2017 dating back to 1980. Two authors performed parallel independent searches. Criteria: English language, perspective of smoking or smoking cessation from mental ill patients and treating staff. Data extraction: quotes from interviews, focus groups. Results: n=15 (see figure 1 flow chart) • Environmental and social context-cigarettes viewed as currency for mental health providers to encourage good behavior. Smoking is a form of support. • Living with mental illness-staff encourage patients to start smoking again if perceived increased stress during period of cessation due to pressure to meet immediate mental health needs over long term health effects from smoking. Did not want to tell patients with to do, priority	Study highlights whose responsibility to provide cessation support services. Explores both patient and staff (primarily nursing)-only included data related to staff. Findings support routine training of mental health professionals. Results indicate clear facilitators and give behavioral staff factors to focus on during cessation support. Health awareness was facilitator, which indicates patients referred from primary care setting might be more responsive. See Trainor & Leavey 2017 (referenced review uncovering role of health provider support in cessation) See Sharma, Meurk, Bell, Ford, & Gartner, 2017 (referenced lack of cessation training in mental health providers). Level of evidence: all studies in synthesis used appropriate qualitative methods. No report of research bias. Few studies have theoretical underpinning.

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			given to having a good rapport (although patients welcomed the support because it showed staff cared out them and their overall wellness). Felt motivation to quit was closely related to mental health disorder. • Facilitators to quitting- prior unsuccessful attempts, health (respiratory, heart disease) awareness, financial awareness (cost of addiction), and cessation support during quit attempt (quitting direct result of support-although staff felt lack knowledge).	
2017 Martinez et al.	Factors associated with implementation of the 5A's smoking cessation model	Cross-sectional survey	Participants/Setting: Clinical healthcare workers (n=580) enrolled in online tobacco cessation course. Purpose/Background: Tobacco cessation practices of clinical healthcare workers using 5A's model. Methods/Design: Participants completing training approached to complete cross-sectional survey. 6-hour course. Brief online training for clinical health workers. 715 participants. (63 item post survey via hyperlink). 13 left more than 20% blank. 699 (97.8%) completed survey.	Identifies theories that support organizational change as most effective due to individual and contextual barriers of clinical staff's comfort with cessation support. Barrier identify opportunities health care work performed high in Ask, Advice, Assess but lower in Assist and Arrange. This identifies area behavioral staff at implementation site can contribute to cessation management if organizational support is in place. Level of evidence: high risk of bias

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			Measured cognitive, behavioral factors: motivation, knowledge about cessation, self-efficacy, importance of interventions, importance of barriers, and preparedness. Also, self-report level of implementation of 5A's model, personal characteristics, type of organization, etc.. Results: Doctors higher self-reported 5A implementation than nurses and others. Non-smokers, previous trained, higher than smokers and non-trained. No difference in age groups. Similar performance between organization types. Identified barriers (table 4): low level of preparedness, lack of familiarity with CPG, low previous positive results, perceived lack of organizational support. Assessed performance of each component of model (table 5): Ask-greater among doctors and nurses due to associated cognitive and behavioral, organizational factors. Advice-cognitive and behavioral factors increased performance. Assess-cognitive, behavioral, and organizational factors. Assist-cognitive, behavioral, and organizational factors. Arrange-those with competency assisting smokers, previous positive experience, and organizational support.	

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
2018 Marynak et al.	Tobacco cessation interventions and smoke-free polices in mental health and substance abuse treatment facilities-United States, 2016	Morbidity and Mortality Weekly Reports	Mental Health Facilities 2016 (National): 48.9% report screening for tobacco use 37.6% offer counseling for cessation 25.2% offer NRT 21.5% offer non-nicotine cessation medications 48.6% prohibit smoking on campus Mental Health Facilities 2016 (Arizona): 46.7% report screening for tobacco use 38.7% offer counseling for cessation 17.2% offer NRT 21% offer non-nicotine cessation medications 27.3% prohibit smoking on campus Substance abuse treatment facilities have higher performance Provider Barriers r/t patient perceived willingness, belief my exacerbate symptoms, lack of incentives (poor reimbursement) Facilitators: remove administrative and financial barriers, integrate screening and treatment into protocols and workflow, eliminate copayments	Background Information

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
2018 Meernik et al.	Evaluation of community-based cessation programs: How do smokers with behavioral health conditions fare	Cross sectional survey	Participants/Setting: 8 community-based tobacco cessation programs in health and behavioral health conditions. (3 health department, 2 community health, 2 behavioral health and 1 hospital). n=974. Current smokers. Recruited. Purpose/Background: Examine outcome of statewide community-based tobacco cessation in patients with mental illness or substance abuse. Methods/Design: Participants enrolled in in-person counseling administered by trained specialist in group (8 sessions) or (5 sessions) individual therapy (aligned with Fiore et al. 2008 and American Lung Association "Freedom from Smoking" -also tailored to mental illness "Learning About Healthily Living". 12 weeks of free NRT or other medication. Data Analysis: Self-report smoking status, health history, and prior quit attempts. Measures at 4 month follow up: smoking behavior (changes?), use of medications, cessation (30-day point prevalence abstinence), intent-to-treat quit rate, and responder quit rate. Program utilization and outcomes: average of 5 counseling session (more likely in	Addresses implementation in a community health center Training aligned with 2008 CPG for treating tobacco use and dependence (recommended by USTFPS). Findings aligned as well. Support system-level changes and tobacco associated assessment by behavioral health providers. Level of evidence: high risk of bias. Strengths: demonstrates realistic cessation treatment in variety of behavioral health setting. Mimics literature counseling and medications increase cessation. Weakness: possibility of reverse causation, self-report.

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			participants with behavioral health diagnosis but not statistically significant); 45% used NRT or other medication (greater in participants with behavioral health diagnosis p=0.03); table 3 demographics associated with quitting (age, 20+ cigarettes, NRT use, and sessions attended).	
2017 Neely et al.	RJ Reynolds has not published a negative randomized clinical trial of Camel Snus for smoking cessation	RCT	Participants/Setting: n=600 smokers Background/Purpose: Created by RJ Reynolds Tobacco "The Smoker Cessation/Migration Study" to compare Camel Snus to Nicorette NRT use to tobacco cessation after 1 year. Also provided education of benefits to switching to smokeless tobacco for cessation. Methods/Design: RJR team created study protocols. 3-arm study 200 participants each: Camel snus with education; Camel Snus without education; and Nicorette lozenges. 12-week. Cessation biochemically verified. At 3, 6, and 12 months Results: Study did not compare Camel Snus to "cold turkey". Cessation rates were low in all arm 1%-5% and not statistically significant. No amount was reported of participants who continued to smoke but reduced use ($p<0.05$), using their product.	This article discusses the lack of published study protocol in a study conducted by RJ Reynolds Tobacco. Show bias of tobacco industry Level of evidence: Experimental design with obvious bias. Large sample.

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			Similar independent study was done using the product and no statistical significance was found, so RJR did performed their own study.	
2017 Okoli et al.	Factors associated with staff engagement in patients' tobacco treatment in a state psychiatric facility	Cross-sectional analysis	Participants/Setting: n=195, staff at state psychiatric hospital. Background/Purpose: Examine intention of BHP intentions of engaging patients in tobacco treatment. Methods/Design: 15 to 20-minute survey of behavioral health staff at a psychiatric hospital. (n=206 of 270 staff members-direct and non-direct providers). 76.3% participation response rate. Theoretical underpinning: Theory of planned behavior Survey in breakroom and upon request. Management engaged in staff participation. Cash incentive for participation. Researchers collected staff information separate from survey responses. Staff demographics: psychiatrist, advance practice nurses, pharmacists, nursing staff, social work, psychology, mental health associates, nursing assistants, therapist, and security, dietary, quality control, and unit clerks.	This article aligns with the USPSTF's 2015 CPG for tobacco cessation. Table 1 Questionnaire that maybe useful to develop focused survey. Show BH member did not intend to provide cessation treatment and supports education and training of these staff members. Level of evidence: Low. High risk of bias. Strength: theoretical underpinning, finding consistent with literature. Weakness: small convenience sample

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			Measures: Tobacco use status; intention to provide tobacco treatment; attitudes about tobacco treatment; subjective norms about providing tobacco treatment; perceived behavioral control in providing tobacco treatment; use of brief interventions for tobacco treatment in practice. 4-point Likert scale: never, seldom, occasionally, very often- adjusted in analysis. n=195 complete surveys for main outcome variables. Results: Significant difference ($p<0.0001$) detected by type of staff for providing all components of 5A's brief interventions. Also, low scores for providing all components. Table 4 shows results of intentions to provide tobacco treatment among type of staff and other demographics (age, medical, nursing, work tenure, subjective norms, and perceived behavioral control-all statistically significant). These results show social work, psychology, therapists did not intend to provide tobacco treatment.	

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
2017 Olenik & Mospan	Smoking cessation: Identifying readiness to quit and designing a plan	Peer-reviewed article	2008 CPG 2015 CPG Faferstrom Test of Nicotine Dependence (Patient focused question-point system) 5A's: Ask, Advise, Assess, Assist, Arrange Ask, Advise, Refer (AAR)-condense 5A's 5R's Model (motivational tool): Relevance, Risk, Rewards, Roadblocks, Repetition Pharmacotherapy regimen: Table 2 (First line treatments and dosing). Second line treatments clonidine 0.1 and 0.75 mg range and nortriptyline 75-100 mg (not FDA approved-adverse side effects) Varenicline alone best sustained abstinence Bupropion and dual NRT next high abstinence rate OTC NRT give Rx insurance may cover e-cigarettes not recommended due to growing health concerns Importance of monitoring and follow up	Identifies guidelines and health resources to reduce tobacco-related illness Discusses POC tools to identify level of dependence and assess readiness to quits Describes risk and benefits of pharmacotherapies used in tobacco cessation Practitioner guide to screening and EB treatment Strength: Evidence based review of literature synthesized for quick viewing and learning. Written in plain language and well organized.

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
2018 Schroeder et al.	Helping smokers quit: The smoking cessation leadership center engages behavioral health by challenging old myths and traditions	Peer reviewed article	Addresses myths and traditions studied and sponsored by tobacco industry that smoking was beneficial in the treatment of mental health symptoms. In San Francisco, the SCLC became engaged in cessation efforts in 2007. (this seems very recent and late) 2016 national initiative launched by American Cancer Society. 19 organizations attended the summit. 30% target to reduce smoking prevalence by 2020 (see Surgeon General Report to compare results)	not research but helpful for background information See CDC's Office on Smoking Health. Article supports advancement of cessation and shows progression to evidence-based education. Identifies behavioral health clinicians as key members of cessation teams.
2015 Sui	Behavioral and pharmacotherapy interventions for tobacco smoking cessation in adults, including pregnant women: U.S. Preventative Services Task Force (USPSTF) Recommendation Statement	Clinical practice guideline	Recommendations (Balance of benefits and Harms): • Provide pharmacotherapy and behavioral interventions for cessation in non-pregnant adults. • Provided behavioral interventions for pregnant adult women. • No recommendation for pharmacotherapy in pregnant adult women. • No recommendation for ENDS 5A's is recommended framework. Outlines components of effective behavioral interventions for cessation. Other recommendations: The USPSTF recommends to primary care clinicians provide education and brief counseling to	Most current recommendations from USPSTF and is considered key PCOR to disseminate to clinicians. They also recommend A clinical practice guideline for treating tobacco use and dependence: 2008 update (see copy)- addresses clinical interventions and system changes. Update of 2009 recommendations. Identifies need for further research. This resource is an exhausted review of cessation and will provide most reliable data going forward. Clinicians should look for updates from USPSTF.

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			prevent initiation in school-age children and adolescents.	Level of evidence: high
2017 Stead & Lancaster	Group behavior therapy programmes for smoking cessation	Systematic review	Background: Group therapy teaches behavioral techniques in a mutual support setting. Objective: Determine effect of group therapy on long-term tobacco cessation Methods: Cochrane Tobacco register using search terms in May 2016. Criteria: RCT comparing group therapy vs self-help, individual counseling, other intervention, or no intervention (usual care). Studies with more than one group program considered. Minimum of 2 group meetings and follow-up of smoking status at least 6 months after program. Excluded group therapy with active and placebo trials of pharmacotherapies. Data analysis/collection: 2 reviewers extracted duplicate data-interventions and controls, program length, intensity and components, outcome measures, method of randomization, completeness of follow-up. Main outcome: abstinence after 6 months with biochemical validation. Lost follow-up analyzed. Effect expressed as RR. Meta-analysis when possible. Risk of bias tool and GRADE criteria	Very few studies in this review included use of NRT or pharmacotherapy. References a review (Stead, 2015) that assessed effect of increased behavioral support with pharmacotherapy. No evidence to prove group better than individual or group is more cost effective; therefore, choice should be personalized which aligns with current CPGs. (see ongoing review for more de Bruin 2016) Level of evidence: Low to moderate quality. Risk of bias unclear in most studies.

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			Results: 66 trials met criteria: 13 compared group therapy to self-help (RR 1.88, 95% CI 1.52-2.33); 14 compared group program to brief support (RR 1.22, 95% CI 1.03-1.43); Low quality evidence to compare group therapy to no intervention; No evidence group therapy more effective than individual counseling. (see summary of findings-evidence moderate in quality) Group therapy better than self-help (written material). Group therapy more effective than brief advice from clinician (evidence low quality). Not enough evidence to support groups more effective, cost-effective than individual counseling.	

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
2017 Thomas et al.	System change interventions for smoking cessation	Systematic review	Background: System change interventions have potential to improve tobacco cessation outcomes in healthcare settings. Objectives: Assess effect of system change interventions for increased tobacco cessation or delivery of care Methods: Search of 5 databases in February of 2016. Search of WHO registry and US National Institute of Health. 'Grey' literature and hand searched bibliographies of relevant papers and publications. Criteria: RCT, cluster-RCT, quasi-RCT, and interrupted time series that included identification of smokers and use of EB medications. Data collection and analysis: Standardized form to extract data-study settings, participants, interventions, and outcomes of interest (cessation and system-level outcomes) Results: 7 cluster RCTs low quality of evidence due to low number of studies 4 studies how organization change impacts abstinence (2 found help, 2 found no difference) 4 studies provision of cessation counseling (3 favored intervention) low quality	Basic information to determine benefit to site: no effect on cessation improves processes Level of evidence- high. Low quality of evidence. Strength: robust search of literature Weakness: Small sample size. Small risk for publication bias Findings demonstrate despite endorsement of system change interventions most studies show not all components are being implemented at sites.

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			1 study improved documentation 3 studies improved quit line referral (all favored intervention) very low quality 2 studies improve quit line enrollment (both favored intervention) very low quality 3 improved screening (2 favored intervention) low quality 3 improved advise to quit (2 favored intervention) 2 studies improved NRT or med Rx (1 favored intervention) low quality	
2019 Tzelepis et al.	Real-time video counseling for smoking cessation	Systematic review	Background/Purpose: Video communication is a feasible approach to provide tobacco cessation counseling. Objective: Assess effect of real-time video counseling to individuals or groups on tobacco cessation, quit attempts, intervention adherence, satisfaction and therapeutic alliance, and economic evaluation of therapy. Methods: Search of 6 databases. Search of WHO registry. Check reference list of articles and contacted tobacco cessation researcher for additional studies. Date of last search August 13 2019.	Relevant in the era COVID-19 and use of telehealth. How to support patients in time of crisis, stress, and lack? Help ensure positive health outcomes? Level of evidence: High with. Very low quality of evidence Strength: large sample, shows growing trend and implications for future research. Weakness: risk of publication bias

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			Criteria: RCT, Cluster-RCTs of real-time counseling from any setting and cessation status at 6 months. Real-time counseling vs no intervention or other interventions, or both. Data Collection and analysis: 2 independent extracted data from included trials assess risk of bias, rated certainty of evidence (GRADE). Random-effects meta-analysis for smoking cessation. Analysis of intent-to-treat. Considered missing data. Results: 2 RCT with 615 participants (1 unclear risk of bias and 1 high risk of bias) video vs telephone counseling Evidence not clear how helps people quit People who used video more likely to recommend program to friend/family.	

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
2017 van den Brand et al.	Healthcare financing systems for increasing the use of tobacco dependence treatment	Systematic review	Background: Update of 2005 review. Objective: Impact of reducing cost for tobacco users or healthcare providers using healthcare financing on abstinence. The effects of different levels of financial support for prescription of cessation treatments on quit attempts. Methods: Cochrane Tobacco Register in September 2016 Criteria: RCT, controlled trials, and interrupted time series involving financial benefit to smokers and healthcare providers or both. Data collection and analysis: 2 independent reviewers extracted data and assessed quality of studies. RR for intent-to-treat bias and meta-analysis using random-effects model. Results: 6 new studies=17 studies-financial interventions for smokers, healthcare providers, or both. 15 directed at smokers. 3 at healthcare providers. Results on: • **Smokers** and abstinence (RR 1.77, 95% CI 1.37-2.28); No evidence to support full to partial coverage increased abstinence (RR 1.02, 95% CI 0.71-1.48); Partial was	Increased quit attempts (some evidence says this is indicator of future success). No financial impacts but demonstrates health impacts. Decrease long term cost? Level of evidence: high. Moderate quality of evidence. Risk of bias (allocation, blinding, incomplete data, source bias). Low follow up rate (below 80%)

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			greater than no intervention (RR 1.21, 95% CI 1.02-1.59) - moderate quality of evidence. • No effect on cessation with financial incentives directed at healthcare providers. • Quit attempt-full financial interventions increased quit attempts (RR 1.11, 95% CI 1.04-1.17); no evidence partial had impact on quit attempts. • Cessation treatment-full financial interventions increased cessation treatment (NRT: RR 1.79, 95% CI 1.54-2.09; Bupropion; RR 3.22, 95% CI 1.41-7.41; behavioral therapy: RR 1.77, 95% CI 1.19-2.65) compared to no interventions. • Small effect on use of bupropion with partial coverage (RR 1.15, 95% CI 1.03-1.29) • Interventions to HCPs increase behavioral therapy (RR 1.69, 95% CI 1.01-2.86) but not NRT and/or bupropion (RR 0.94, 95% CI 0.76-1.18) Conclusions: financial interventions towards smokers increase quit attempts, use of cessation treatment, and success in quitting. No effect seen financial interventions impact HCP.	

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
2017 Wang et al.	Intervention with brief cessation advice plus active referral for proactively recruited community smokers	Randomized control trial	3 arm (active referral, brief advice, and control). Proactive recruit to Quit-to-Win contest. N=1226. Self-report abstinence at 3 and 6 months. Brief telephone counseling offered to active referral and brief advice groups. Delivered by cessation ambassadors (volunteers) with short training. Response rate: 3 months (68.2%) and 6 months (72.3%) 7-day Point prevalence of abstinence 18.9% and 17.2 % in active referral, 8.9% and 9.4% in brief advice ($p \leq 0.001$), and control 14.0% and 11.5% ($p=0.03$ at 6 months) Abstinence at 3 and 6 months- active referral greater than all groups (10.2% and 9.0%; $p<0.05$; OR 2.84, 95% CI 1.57-5.15; @ 3 months OR 2.62, 95% CI 1.46-4.68); @ 6 months OR 1.85, 95% CI 1.06-3.23 and OR 1.81(95% CI 1.04-3.16) in brief advice and control groups. Cessation service 25.1% in active referral, 2.4% brief advice and 3.4% at 6 months ($p<0.001$) Secondary outcomes: biochemical abstinence validation; at least 50% reduction in daily consumption (Heaviness smoking index);	Active referral can increase use of underused cessation service in the community. References Ask-Advise-Connect, 5A's and 5R's. May use this to develop focused-survey tool. Level of evidence: high

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			self-efficacy (importance of quitting, difficulty quitting, and confidence in quitting).	
2018 Wray et al.	A meta-analysis of brief tobacco interventions for use in integrated primary care	Meta-analysis	Participants/Setting: IPC Background/Purpose: Summarize outcomes of brief behavioral interventions in IPC Methods and analysis: Search of studies examining tobacco cessation to be implemented in IPC. OR as effect size. Results: 36 studies met inclusion criteria intervention group OR 1.78, p<.001, 95% CI [1.44,2.21] bio-verification no significant difference between groups follow up time did not alter outcomes Intervention: motivational intervention, CBT, health education, 5As/5Rs, and simple advice no significant difference of cessation outcome by intervention type-	Discusses implications of cessation interventions performed by IBH providers because they are experts in behavior change and may have more time than PC providers Suggest IBH can choose intervention aligned with training/theoretical to deliver brief, EB advice in PC setting. Reduces need for extensive additional cessation training. Still important to assess IBH level of comfort. smokeless tobacco products may require different interventions-future cohorts Discusses implications of cessation interventions performed by IBH providers because they are experts in behavior change and may have more time than PC providers Suggest IBH can choose intervention aligned with training/theoretical to deliver brief, EB advice in PC setting. Reduces need for extensive additional cessation training. Still important to assess IBH level of comfort.

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
				smokeless tobacco products may require different interventions-future cohorts Level of evidence: high. Risk of publication bias. Methodology quality medium to high. Strengths: demonstrates feasibility of behavioral treatments in IPC.
2018 Wray et al.	Ways that psychologist can contribute to tobacco cessation efforts in integrated primary care settings	Peer reviewed article	Direct Clinical Services • Brief intervention: 5As; 1-3 mins, assess readiness • Brief course of individual treatment: 4-6 sessions, plan strategy and quit attempt • Linkage to other services: quit lines, smartphone applications, text messaging interventions, refer to specialty clinic • Team Based interventions: group visits (shared medical conditions, led by interdisciplinary team) , clinical pathways (common chronic conditions, identification, intervention, and follow up), conjoint appointments (PCP and IBH), tobacco cessation outreach (EHR to identify, mailed information), repeated intervention by all team members (every visit) • Training (by IBH to enhance communication • Scholarly activities (lead QI and program evaluation)	Not research but gives EB interventions for psychologists. Guide to psychologist on how to implement EB cessation interventions. Highlights need for clinical pathway to identify smokers. Foundation for implementation. PCP vs BHP-brief advice and brief counseling

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
2019 Wray et al.	Barriers to and facilitators of delivering brief tobacco and alcohol interventions in integrated primary care settings	Survey	Participant/Setting: BHP (psychologist, social workers) in IPC settings. Background/Purpose: Examination of barrier and facilitators of implementing brief interventions for at risk drinkers and smokers Methods/Design: Recruited to complete online survey through professional list Results: n=285 (median number of PCP in clinic=12) 23 patients per week (median 21, SD=11.5, range 0-60). 48.7% from provider handoff, 8.3% from conjoint appointment with PCP or 5.0% from group intervention. 13.3% (n=38) no previous tobacco cessation training. 58% report independent reading as knowledge base. Report brief intervention to less than 1/3 of patients (mean 31.7%, SD 32.7%, range 0-100%) Reported barriers: (table 2) more pressing needs, not interested, not a treatment priority for pt., not motivated to quit, lack of referral for tobacco dependency, pt. don't want to discuss	BHP perceptions support system-based interventions. Level of evidence: low. High risk of bias.

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support For and or Link to Project
			Reported facilitators: (table 2) pt. identified treatment priority, good rapport with pt., and referral from PCP.	

AA-African American; AAC-ask, advise, connect; AAR-ask, advise, refer; BHP-behavioral health providers; CBT-cognitive behavioral therapy; CEASE-Smoking *Cessation e-referral System*; CI-confidence interval; CPG-clinical practice guideline; EB-evidence based; ENDS-electronic nicotine delivery systems; FQHC-federally qualified health center; GRADE-grading of recommendations, assessment, development, and evaluation; HCP-healthcare providers; IBH-integrated behavioral health; IPC-integrated primary care; IT-information technology; KII-key informant interview; KTH-kick the habit; QI-quality improvement; NRT-nicotine replacement therapy; OTC-over the counter; OR-odds ration; PC-proactive care; PCOR-patient centered outcomes research; PCP-primary care provider; POC-point of care; RJR-RJ Reynolds; RCT-randomized control trial; RR-risk ratio; SCLC-smoking cessation leadership center; SCP-smoking cessation prevention; SD-standard deviation; SES-socioeconomic status; S-KAP-smoking knowledge, attitudes, practices; UC-usual care; USPSTF-United States Preventative Services Task Force; WHO-World Health Organization;

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