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Pre-implementation assessment of tobacco cessation interventions in substance use disorder residential programs in California

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Abstract

Background: Across the United States, substance use disorder (SUD) treatment programs vary in terms of tobacco-related policies and cessation services offered. Implementation of tobacco-related policies within this setting can face several barriers. Little is known about how program leadership anticipate such barriers at the pre-implementation phase. This study used the Consolidated Framework for Implementation Research (CFIR) during the pre-implementation stage to identify factors that may influence the implementation stage of tobacco-related cessation policies and services in residential SUD programs.

Methods: We conducted semi-structured qualitative interviews with sixteen residential treatment program directors in California. The analysis was guided by a deductive approach using CFIR domains and constructs to develop codes and identify themes. ATLAS.ti software was used to facilitate thematic analysis of interview transcripts.

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Findings: Themes that arose as anticipated facilitators for implementation included the relative advantage of the intervention vs. current practice, external policies/incentives to support tobacco-related policy, program directors' strong commitment and high self-efficacy to incorporate cessation into SUD treatment, and recognizing the importance of planning and engaging opinion leaders. Potential barriers included the SUD recovery culture, low stakeholder engagement, organizational culture, lack of workforce expertise and, lack of reimbursement for smoking cessation services.

Conclusion: To support successful implementation of tobacco-related organizational change interventions, staff and clients of residential SUD programs require extensive education about the effectiveness of evidence-based medications and behavioral therapies for treating tobacco dependence. Publicly funded SUD treatment programs should receive support to address tobacco dependence among their clients through expanded reimbursement for tobacco cessation services.

Keywords

policy implementation; Substance use treatment; Health disparities; smoking cessation

Introduction

Smoking prevalence remains disproportionately high among populations affected by substance use disorders (SUDs) (Weinberger et al., 2018). Among people in SUD treatment programs, the smoking prevalence is 2 to 4 times higher than the general population (Guydish, Passalacqua, et al., 2016). Those seeking SUD treatment also experience greater smoking-related health disparities as compared with the general population (Bandiera et al., 2015). Given the high prevalence of smoking and the deleterious effect that tobacco can have on long term substance use, integration of smoking cessation services into SUD treatment is needed (Baca & Yahne, 2009; Weinberger et al., 2017).

Prior research examining the impact of organizational change interventions in SUD treatment programs highlight the potential benefits of integrating tobacco-related services and tobacco-free grounds policies (Asamsama et al., 2019; Conrad et al., 2018; Richey et al., 2017; Romano et al., 2019). States such as New York, New Jersey, Oregon, Utah, and Texas have introduced statewide policies that support the integration of smoking cessation services into SUD treatment (Brown et al., 2012; Correa-Fernández et al., 2019; Drach, 2012; Marshall, 2015; Williams et al., 2005). In California, a branch of the department of public health, the California Tobacco Control Program (CTCP) has supported tobacco cessation among people with SUD by offering grant funding to treatment programs to implement tobacco free policies (CTCP, 2018). Despite the efforts of these programs, challenges remain that can influence successful integration of smoking cessation services.

A 2017 systematic review examined the barriers and facilitators to smoking cessation for people in SUD treatment including populations within Veterans Health Administration programs (Gentry et al., 2017). Results suggested that many persons with SUDs were motivated toward smoking cessation but were not offered support. Some people with SUD felt interventions should be delivered subsequent to SUD treatment while others felt simultaneous interventions would be beneficial, due to strong associations between smoking

and other substances use. Elements of the organizational and SUD community culture were identified as barriers. Treatment providers' also felt they lacked training and resources to support smoking cessation. They were further concerned about the potential impact of smoking cessation on mental health outcomes among clients (Gentry et al., 2017).

A qualitative study conducted with a national sample of 24 directors of SUD treatment programs (i.e., outpatient, residential, and methadone clinics) also revealed several barriers to implementing tobacco-related policies and integrating tobacco cessation services (Pagano et al., 2016). The directors noted that a traditional lack of focus on smoking cessation services within SUD treatment, client resistance, lack of financial support and resources, staff smoking rates, and environmental factors all served as barriers. These barriers hold potential to complicate successful integration of smoking cessation services into SUD treatment. It is important to note that these studies present data that were collected post-implementation. While post-hoc assessments of implementation are valuable, the use of an implementation evaluation assessment model during the pre-implementation stage would allow researchers and program directors to identify and address factors that could impact implementation before project implementation (English, 2013; Robins et al., 2013; VanDevanter et al., 2017).

Further exploration of the barriers and facilitators, which may impact effective implementation, is key for successful integration of evidence-based practices in SUD treatment settings. Often in SUD treatment programs, organizational factors that impact implementation remain unaddressed, despite evidence that they can be detrimental (Damschroder & Hagedorn, 2011). Thus, gaining a better understanding of the challenges faced by SUD treatment programs prior to implementation of a tobacco-related policy could serve as a method for facilitating the integration of tobacco cessation services. Guided by the Consolidated Framework for Implementation Research (CFIR), this study aimed to identify factors that could impact the implementation of tobacco cessation policies and services prior to integration in residential SUD treatment facilities.

Materials and Methods

Program Selection and Recruitment

This study analyzed baseline interview data collected among residential SUD programs directors who were participating in three studies described in detail elsewhere (Guydish et al., 2020a). The first study was designed to promote the adoption of tobacco-free grounds and other wellness initiatives. Programs applied to participate in an 18-month policy development intervention led by the UCSF Smoking Cessation Leadership Center, who provided tailored feedback and support as programs developed and implemented tobacco free grounds (McCuistian et al., 2022). The second study focused on improving tobacco intervention services (including facilitating a smoking cessation group) within four residential SUD treatment programs in San Francisco, CA (Guydish et al., 2016). The third study was designed to examine the impact of a staff training intervention on increasing implementation of tobacco-free grounds policies and reducing client smoking. All programs participating across the three studies had expressed interest in developing or improving strategies to address tobacco use among clients, and all programs received incentives to

offset costs of study participation (ranging from $15,000 to $24,000 per program per year) (CTCP, 2018). Across the three studies, 16 programs were enrolled. The 16 programs were located in 11 of California's 58 counties, from Lake County in the north to San Diego County in the south, spanning a distance of over 500 miles. Data included in the current study are from pre-intervention interviews with program directors, prior to the delivery of any intervention, support, or education within the respective programs. Prior to their participation in this study, two programs had voluntarily implemented tobacco-free grounds policies prohibiting use of all tobacco products on all facility premises. Data collection occurred in 2019.

Data collection, procedures, and measures

Using a purposeful sampling approach, 16 SUD residential program directors completed key-informant interviews between January and December 2019 during the pre-implementation stage of their respective smoking cessation intervention. Interviews were conducted by Zoom videoconferencing and lasted approximately 60 minutes. The interview covered topics within five CFIR domains as they related to tobacco policies and the integration of smoking cessation into SUD treatment (see Supplemental Materials which shows the interview guide).

Directors also completed an online survey to gather demographic information and assess organizational policies, which support tobacco-free grounds (TFG) and smoking cessation services provided in their respective programs. Demographic questions asked about race/ethnicity, gender, age, year of service in SUD treatment, smoking status, and personal SUD recovery status. The organizational characteristics of the SUD treatment programs were assessed using six salient items drawn from prior research concerning implementing policies to support tobacco free grounds such as provision of nicotine replacement treatment (NRT) products, assessing smoking among clients, smoking among staff, staff and clients smoking together and tobacco screening and counseling options (Campbell et al., 2022; Guydish et al., 2017, 2020a). Greater endorsement of these policies indicates higher likelihood of reduced use of tobacco products among clients and staff. The survey can be accessed at https://tinyurl.com/2br7xkus. Seven of the interviews were conducted by two of the authors (CMa and ES) and other research staff conducted the rest. All interviewers were female and trained in qualitative interviewing. Interviews were digitally recorded and professional transcribed. Interviewees received a $50 gift card for their time. All participant information was de-identified to ensure confidentiality. Research procedures were approved by the Institutional Review Board of the University of California San Francisco.

Qualitative Coding and Data Analysis

Interviews transcripts were integrated into ATLAS.ti, a qualitative data management software program. Thematic analysis of interview transcripts was informed by grounded theory (Boyatzis, 1998; Glaser & Strauss, 2009). Thematic analysis was also guided deductively by the CFIR model (Damschroder et al., 2009). The CFIR synthesizes 18 existing implementation theories and evidence-based factors into a single taxonomy. The CFIR model includes five domains: (i) the intervention characteristics (ii) the outer setting, (iii) the inner setting, (iv) the characteristics of the individuals involved, and (v) the

process of implementation. Thirty-nine constructs are then organized within these five domains, all of which interact with one another to impact implementation. The model can be used to evaluate implementation, explain research findings, or assess context prior to implementation (Damschroder et al., 2009). The CFIR model has been used with interventions spanning several different topics, including mental health and physical health conditions, though, few studies have employed the CFIR model to explore factors at pre-implementation stage (Kirk et al., 2016). Studies that have used the CFIR pre-implementation were able to identify and address factors that could potentially impact implementation (English, 2013; Robins et al., 2013; VanDevanter et al., 2017)

Members of the research team (KF, CMc, JW, CMa and ES) initially each read four transcripts independently identifying preliminary codes and subthemes. The first author then read all transcripts and, informed by the existing literature and the preliminary analysis of interviews, developed the initial codebook. Researchers met weekly over three months to compare preliminary coding choices, suggest possible codes and provide code definitions for the codebook. Differences between the coders were resolved by team discussion. Major themes were then mapped onto the domains and constructs of the CFIR. The relative importance (Ri) of CFIR constructs was determined by of two criteria (1) the relative frequency (%) of a construct being reported across all interviews and (2) the degree of emphasis placed on a single theme by an interviewee within the given interview. Two members of the research team independently coded a random sample of 20% of transcripts, which they had not previously coded, to establish 81% inter-rater agreement on parent (i.e., domain) codes. Finally, the first author selected passages that exemplified the themes, which mapped onto the CFIR constructs and domains.

Members of the coding team were also part of the larger research teams and therefore worked extensively with several of the agency directors represented in this sample. Therefore, the members of the coding team had an understanding of the workflow and current policies at several of the agencies and could therefore speak to the quality of the data.

Results

Participants and Program Characteristics

The participants were mostly female and most reported over ten years of experience within the SUD treatment industry (Table 1).

Almost half of the directors identified as persons in recovery from SUD, and half reported being former smokers. Organizational TFG related policies and services of the 16 participating programs appear in Table 2. Only nine programs (56%) endorsed four or more supporting policies at pre-implementation. Over half of this sample (75%) allowed their clients to smoke nicotine products outdoors, and half of the programs (50%) allowed clients to smoke during designated smoking breaks on campus or on off-campus walks. Half of the sample (50%) allowed staff to smoke nicotine products outdoors, and a few programs (31%) permitted their staff and clients to smoke together. The majority of the programs

provided their clients with access to NRT products (63%) and provided tobacco screenings and/or counseling for smoking cessation (88%).

We present findings within each of the five CFIR domains evaluated. Domains are in **bold**, CFIR constructs appear in *italics*, and themes are underlined. Example quotes exemplifying each theme are displayed in Table 3.

Domain I: Intervention Characteristics

Intervention characteristics include key aspects of the intervention that could influence successful implementation (Damschroder et al., 2009). Within the current study, the following findings emerged.

Relative advantage (Ri=75%).—Participants expressed an interest in developing and implementing smoking cessation policies and services within their residential treatment program, highlighting a perceived need to address smoking among their clients and to obtain smoking cessation resources. They acknowledged the potential reduction in smoking rates among clients through organizational-level interventions as an advantage over the current practice.

Evidence strength and quality. (Ri=68%)—There was uncertainty about whether residential treatment programs should permit e-cigarettes use (which have mixed evidence of effectiveness for tobacco product cessation) (Kalkhoran & Glantz, 2016) as a form of harm reduction. Some directors perceived e-cigarettes as a tool to help smokers quit combustible tobacco products. These perceptions were reflected in organizational-level policies, in which a few programs encouraged the use of e-cigarettes among clients and staff while others prohibited use due to the products visual similarity to cannabis vaporizers.

Domain II: Outer setting

The outer setting includes the larger context (e.g., political, social, economic) in which the organization resides (Damschroder et al., 2009). Themes related to the outer setting are identified below.

Patient needs and resources (Ri=94%).—All the participants described a degree of concern about residents' reaction to tobacco free grounds policies. Some directors believed clients did not have an interest in smoking cessation. Directors highlighted the prominent role that smoking can play within the SUD recovery culture. According to directors, the SUD recovery culture often allows the use of tobacco products to facilitate the cessation of other substances. Directors further raised the concern within the organizational culture that prohibiting smoking in residential settings would interfere with rapport building between staff and clients. Directors therefore expressed some ambivalence toward removing smoking from residential treatment programs.

Directors of the two programs which had previously adopted and sustained tobacco-free policies and tobacco related services discussed their anticipated fears related to enforcing quit mandates, particularly as it related to client and staff resistance. However, they both reported that culture change was easier than they had initially anticipated. However, culture

change was reportedly more challenging for other programs. Four directors described previous attempts to implement tobacco-free grounds that resulted in clients leaving treatment early and the dismissal of clients for violation of the policy. According to one director, implementation of tobacco-free policies was a challenge, partially due to client's use of tobacco to cope with comorbid mental health disorders. An additional challenge was the added workplace burden on staff (who may themselves be smokers) to ensure clients adhere to the policy. Negative consequences also included clients smoking tobacco in high fire risk places (e.g., in their bedroom or bathrooms). Within ten months of implementation two program directors reported that the policy was amended to permit designated smoke breaks for clients.

External policy and incentives. (Ri=81%)—Many directors were aware of current government mandates (e.g., city, county, state, federal) related to nicotine products. However, they reported a lack of mandate adherence. For example, in 2018, San Francisco County passed the ban of flavored tobacco products including menthol products (Vyas et al., 2021; Yang & Glantz, 2018), however several program directors reported that they would still permit their clients to smoke menthols while in the program. Program directors also remarked that while they ensured their clients followed public no-smoking rules when participating in program activities off campus (e.g., no smoking in public areas when going on a walk), lack of adherence to public policies from other community members may pose a barrier for encouraging clients to remain smoke-free.

Directors reported that external incentives, including a need for grant funding, were important factors in their motivation to integrate tobacco cessation services in SUD treatment. The majority of directors stated they were able to provide partial support for NRT and smoking cessation services to their clients through partial funding from grants or private donations. A few directors stated they were able to fully provide those services through the financial reimbursement system of their affiliated federal qualified health center.

Domain III: Inner setting

The inner setting includes factors of the program (e.g., structural, cultural contexts) that may be associated with implementation (Damschroder et al., 2009). The following themes emerged related to the inner setting.

Implementation climate. (Ri=81%).—Residential directors believed that the implementation climate of their programs was compatible with smoking cessation interventions, and that tobacco-related services were a priority in SUD treatment. Directors believed that smoking cessation was a priority because of the impact of smoking on their clients' overall health. They reported using a holistic approach to providing SUD treatment, and acknowledged the health risks associated with smoking. Some directors demonstrated strong leadership commitment to enforce an institutional smoking ban.

Readiness for implementation. (Ri=87%).—Despite directors' expressed strong commitment to develop and implement smoking cessation policies, they also noted major reasons why they had not offered treatment for clients. Directors reported low staff training/

knowledge about tobacco-related services. They also stated that SUD counselors smoking status was also a barrier, which seemed to send a “mixed message” to clients. Most programs did not require staff to be nicotine-free nor did they provide smoking cessation services for staff. Directors expressed a desire to aid employees in achieving better health outcomes (e.g., referral to an EAP) but did not find it appropriate to impose smoking cessation mandates for their employees. Workforce resources are further discussed under the CFIR construct, *Planning and Engaging*. Most programs screened clients for nicotine use disorders and some occasionally provided informal smoking cessation counseling as part of wellness process groups. However, several directors mentioned that smoking cessation counseling services are not reimbursed under the current public financial reimbursement system. Although clients may buy NRT products over-the-counter, directors acknowledged the cost of smoking cessation medications as a barrier for clients. Therefore, programs sought public health grant funding to subsidize NRT for clients unable to pay. Programs unable to obtain funding used a referral to NRT approach, by referring residents to local clinics and national quit lines. Directors recognized workflow as a viable concern in the implementation process. Directors noted that the structure of their programs do not have workflow processes and services such as onsite healthcare services that would allow medical personnel to prescribe and dispense NRT.

Directors reported that they anticipated state policy makers would eventually impose smoking-free campus mandates. Thus, many expressed being highly motivated to participate in this research study simply because the project provided access to smoking cessation services and training. Others expressed the need for treatment standardization of tobacco cessation policies across all facilities providing SUD treatment services.

Domain IV: Characteristics of Individuals

Characteristics of individuals in an organization include factors of the individual’s beliefs, knowledge, self-efficacy, and personal attributes that may be associated with implementation (Damschroder et al., 2009).

Self-efficacy. (Ri=56%)—Despite the challenges of service and policy integration, all directors expressed self-confidence and optimism that they could successfully incorporate smoking cessation interventions into SUD treatment curricula. Many reported a personal motivation to integrate smoking cessation interventions within their treatment programs and acknowledged the potential health benefits for clients and staff.

Domain V: Process of implementation

The process of implementation includes stages of implementation such as planning, executing, reflecting and evaluating, and the presence of key intervention stakeholders and influencers including opinion leaders, stakeholder engagement, and project champions (Damschroder et al., 2009). The following theme emerged related to the process of implementation.

Planning and engaging. (Ri=73%).—Directors conducted planning activities that included assessing their settings and making environmental plans and assessing workforce

needs to identify potential barriers to implementation. Directors also recognized the need for the active resident inclusion in policy development. SUD residential program directors discussed that executive committees developed policies, most often without client input, which were communicated to residential clients via a meeting (e.g., “a house meeting”). Client reactions to policies served as a catalyst for policy amendments that had occurred in some programs. Some directors therefore suggested that residents should be engaged in the process of developing policies and services, while another suggested that the implementation approach should be gradual and repetitive.

Discussion

This study applied the CFIR framework to identify anticipated barriers and facilitators that could influence the implementation of tobacco policies and services in residential SUD treatment programs during the pre-implementation stage of a tobacco free policy intervention. At the pre-implementation stage, the majority of the programs lacked supportive policies to implement tobacco free grounds and smoking cessation services. Programs with four or fewer policies supporting tobacco free grounds and smoking cessation services reported higher barriers within CFIR domains. All five CFIR domains emerged from the analysis: intervention characteristics, outer setting, inner setting, characteristics of individuals, and the process of implementation. However, the outer setting and inner setting domains were represented both as barriers and facilitators at pre-implementation. Leadership engagement and commitment to adopting tobacco cessation policies and services were key facilitators. Across all participating programs, directors were engaged, motivated, and reported self-efficacy to implement tobacco cessation policies and services. Integrating smoking cessation policies and services in residential SUD programs was viewed as compatible with a holistic approach to the treatment of SUDs, superior to current practices, and facilitated by local government mandates and incentives. However, important barriers to implementation were identified within several CFIR domains: the intervention characteristics, outer setting, inner setting, and process of implementation.

In the inner setting, directors reported the complexity of implementation of smoking cessation treatment services within their settings. Directors emphasized that existing resources were insufficient to support implementation of comprehensive smoking cessation policies. Program directors cited a number of barriers related to the inner setting that impacted the extent to which they could change policies, services, and practices including the resources available to treat tobacco use disorder, financial costs of NRT medications, and the ability to be reimbursed for smoking cessation services. They also cited the SUD recovery culture as an important barrier to adopting tobacco cessation policies. According to directors, the SUD recovery culture was connected to both staff and client resistance to tobacco-free grounds. They further explained the organizational culture that permitted clients to smoke on the premises was used to facilitate prosocial behaviors and that smoking played an important role in helping clients to cope with stress and build provider rapport. Other barriers specific to the inner setting centered on the organizational culture: ambivalence about imposing tobacco-free grounds, uneven attention given to staff smoking, and the view that promoting smoking cessation among staff was not part of their role. Prior research has documented these barriers to the integration of smoking cessation care

within SUD treatment programs (Fallin-Bennett et al., 2018; Guydish et al., 2007; Knudsen, 2017; Laschober et al., 2015; Pagano et al., 2016). In SUD residential treatment, rapport is a critical skill and clients perceive supportive staff as motivators for their personal tobacco cessation efforts (Gentry et al., 2017). Despite these barriers, directors reported high commitment to implementing these policies and services. Directors collectively identified nicotine as a harmful substance, which negatively impacts their clients' health. The finding shows that directors regard smoking cessation services as a priority in residential treatment settings. They reportedly believe allowing nicotine use in residential treatment settings goes against their values of client-centered and holistic recovery.

In the current study, directors discussed their reluctance to address smoking among their workforce. However, to increase the success of tobacco cessation policy interventions, it is critical to address staff smoking. Staff smoking is common in SUD treatment and could reinforce client tobacco use (Baca & Yahne, 2009). A recent study, found that higher rates of SUD treatment program staff and clients smoking together was associated with lower rates of client intent to quit smoking in the next 30 days, more negative client attitudes toward quitting smoking, and with clients receiving fewer tobacco services (Guydish et al., 2017). This finding highlights the importance of addressing staff smoking in SUD treatment programs and provides support for a policy to prohibit staff smoking together with clients.

The successful implementation of tobacco services in residential SUD treatment programs would require organizational culture change interventions. Interventions would include program wide staff and client training and workshops on the long term effectiveness of tobacco cessation services, policies to prohibit staff and clients from smoking together and, provide holistic avenues for staff to build rapport with clients, such as gardening or sports (Guydish et al., 2007, 2012, 2017). Organizational change interventions have been associated with increased favorable attitudes toward treating tobacco use disorder in SUD treatment programs, use of NRT medications, client receipt of services from their programs or counselors, and a reduction client smoking prevalence and cigarettes smoked per day (Guillaumier et al., 2019; Guydish et al., 2012).

Furthermore, funding streams may serve as a barrier to the availability of smoking cessation services in SUD treatment programs (Knudsen, 2017). The expansion of Medicaid under the Affordable Care Act (ACA) has allowed for increased coverage of smoking cessation treatments. However, in the state of California, from where the study sample was selected, Medi-Cal, currently covers SUD treatment and tobacco-related cessation counseling and medications for clients receiving outpatient and inpatient hospitalization services. Presently, residential SUD treatment programs are not Medi-Cal-recognized practitioners of tobacco related cessation services and SUD providers' services are not reimbursed in residential settings. In California, the Department of Health Care Services (DHCS) has sole authority to license nonmedical SUD treatment facilities and does not consider tobacco-related services within its scope. Therefore, SUD program directors have no regulatory or financial incentive to provide tobacco-related cessation services for their clients. Unfortunately, this gap in clinical care has a negative impact on the prevalence of smoking among residential clients and its associated health comorbidities (Guydish et al., 2020b). Clients are more likely to have a quit smoking attempt when they have health coverage, and are three times more likely

to quit smoking while they participating in SUD treatment (Yip et al., 2020). Therefore, there is a critical need for the allocation of resources dedicated to build SUD programs' capacity to provide smoking cessation services including expanded insurance coverage of counseling-based smoking cessation programs.

Directors reported implementing changes to the program's smoking policies using a top-down approach where client input or participation in policymaking was not taken into consideration. Engaging clients as stakeholders early in the design of interventions is essential for implementation success (Pronovost et al., 2008). Clients could provide an insider perspective on the acceptability of specific policies or intervention components that could enhance buy-in. Furthermore, implementation will be more effective when all key stakeholders are involved (e.g., leadership, external change agents, clients) (Greenhalgh et al., 2004). A communication strategy should be in place before implementation to educate both providers and clients about the value of tobacco-free grounds and smoking cessation services.

Limitations

Although the findings of this study are comparable to past systemic reviews, this study focused on SUD residential treatment programs in California, and the factors influencing adoption of tobacco cessation policies and services may be different in outpatient settings or in other geographic locations. Our analysis relies on self-report from program directors, and does not take into account the views of clients or other staff members. Obtaining the perspective of other key stakeholders would increase understanding about barriers and solutions from multiple perspectives. Furthermore, it is unclear whether participation in the pre-implementation interview may have influenced ongoing implementation for this study. Future research should consider exploration of participant perceptions before, during, and after implementation. Finally, the residential treatment programs that participated in this study responded to a call for applications for SUD treatment programs willing to participate in implementing tobacco policy interventions. Thus, residential programs that had an investment in and a higher level of motivation to participate in this study may be over-represented.

Conclusions

Guided by the CFIR model, that current study illuminates anticipated barriers and facilitators to the implementation of tobacco policies and services in residential SUD treatment. Study findings indicate that challenges related to reimbursement for smoking cessation services persist in the context of SUD treatment programs. To increase adoption of tobacco policies and services in SUD treatment settings, it is essential to dedicate funding to increase training capacity, but also to expand reimbursement of smoking cessation-counseling services in SUD treatment.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Availability of data and materials:

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request. We confirm we had full access to all of the data in this study and we take responsibility for the integrity of the data and the accuracy of the data analysis.

List of abbreviations:

CFIR	Consolidated Framework for Implementation Research
CTCP	California Tobacco Control Program
DHCS	Department of Health Care Services
NRT	Nicotine replacement treatment
SUD	Substance use disorders

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Table 1.

Demographic Characteristics of Program Directors

	n (%) **n = 16**
Age (mean, SD) *	48.9 (8.5)
Male	6 (37.5%)
Race/Ethnicity *	
Non-Hispanic White	11 (73.3%)
Non-Hispanic Black/African American	1 (6.7%)
Hispanic/Latino	3 (20.0%)
Education *	
Some college, associates, or professional license	6 (40%)
Bachelor's	1 (6.7%)
Masters	8 (53.3%)
In recovery from substance use *	7 (46.7%)
Smoking status **	
Current smoker	1 (7.1%)
Former smoker	7 (50.0%)
Never smoker	6 (42.9%)
Years working at agency	
Less than 1 year	2 (12.5%)
1-10 years	4 (25.0%)
Over 10 years	10 (62.5%)

* missing n = 1

** missing n = 2

Table 2.

Program Policy Features that Support Tobacco Free Grounds

Program #	Outdoor smoking not allowed for clients	Outdoor smoking not allowed for staff	Staff/clients not allowed to smoke together	No designated smoking breaks for clients	NRT/cessation medication available	Smoking cessation screening or any counseling available	Number of Policies that Support Tobacco Free Grounds
1.						X	1
2. *	X	X	X	X	X	X	6
3.							0
4. *	X	X	X	X	X	X	6
5.		X	X	X	X	X	5
6.		X	X		X	X	4
7.	X	X		X		X	4
8.			X			X	2
9.	X	X	X		X	X	5
10.		X	X	X	X	X	5
11.				X	X	X	3
12.			X		X	X	3
13.					X	X	2
14.			X	X		X	3
15.			X	X			2
16.		X	X		X	X	4
Summary percentages	25%	50%	69%	50%	63%	88%	

* quitting a requirement for clients

Table 3.

Summary of qualitative themes and sample quotations

Construct	**Relative Importance (Ri %)**	**Barrier/ Facilitator**	**Themes**	**Quote (s)**
CFIR Domain I **Intervention Characteristics**				
Relative Advantage	75%	Facilitator	Perceived need	I actually have always wanted non-smoking facilities, […] because the way the facility is designed, folks smoke right within the facility and right outside of doors to offices and other space where you have non-smokers that are impacted by second-hand smoke. […] (This intervention) wasn't just creating a policy that stopped smoking with the facility but it was adding supports for both [smokers and non-smokers]. Program Director #3
		Facilitator	Perceived need	I mean, aside from our partnership with [an academic researching institution], the smoking cessation group is not directly reimbursed by Medi-Cal. Any nicotine replacement therapy – I guess that would be the health provider that would be reimbursed for that. Nothing directly. Because we're a residential program, it's really – we don't bill for [tobacco] services. Program Director #14
		Facilitator	Perceived need	We are all in agreement, as a management committee, that people who quit smoking have a better chance of staying quit from drugs and alcohol. And that's what we do here. Treatment. Program Director #15
Evidence strength and quality	68%	Facilitator	Harm reduction	Our staff seems to be okay with the vaping only requirement or rule, and secondly, our medical director believes that it (vaping) is a form of harm reduction. We don't want to discourage anyone with trying to quit smoking cigarettes by using vaping as a technique. Program Director #11
		Facilitator	Harm Reduction	I wouldn't allow them [e-cigarettes] because they can be mistaken for marijuana. Program Director #9
CFIR Domain II **Outer Setting**				
Patient needs and resources	94%	Barrier	Interest in smoking cessation	Clients want to be able to smoke. They don't like the policies at all, […], we are routinely finding contraband – e-cigarettes, lighters, cartridges, etc. The clients don't like it at all. Clients don't want to quit smoking. A very small percentage of clients that want to quit smoking tend to ask us for help. The majority of the smoking clients are not interested in giving up smoking and actively try to get around those rules. Program Director #12
		Barrier	SUD recovery culture	You know, I would say challenges occur as part of the culture, in – I don't want to say a field of addiction, but in the field of recovery – for many, many years, and if you think of the image of a smoked-filled Alcoholics Anonymous meeting, or smoking and addiction to alcoholism seem to have gone hand in hand – and part of it is the culture surrounding that. Program Director #8
		Barrier	Organizational culture	P: Putting a smoke-free campus is gonna pretty much take that away (smoke break), and so this is gonna be one barrier for our staff, who can rely on that as kind of a tool to calm people down or to take a break, or to connect with someone, this is gonna be taking that away from them as well. Program Director #1
		Barrier	Ambivalence	P: [….] If they want to smoke a cigarette, I was okay with them smoking, even though I knew it was a habit that was unhealthy and could lead to other things, but I know that they were dealing with some real tough decisions in their life at that specific moment in time, and it was better – it was like the lesser of two evils, I guess. Program Director #1
		Barrier	Culture change	Even the people that came to meetings on the outside, they were just like, oh, okay, it's non-smoking now, I can go an hour and a half and not smoke. And then people started to realize – in a short amount of time – just how much cleaner it was here, and – people were like, okay. And then here in town, other meetings started having their

Construct	**Relative Importance (Ri %)**	**Barrier/ Facilitator**	**Themes**	**Quote (s)**
				meeting spaces be non-smoking, and then society slowly started changing and – so I thought I was gonna get all kinds of push-back […] And it wasn't. Program Director #4
		Barrier	Culture change	My experience with the (nicotine) ban – […] It was very, very challenging. Lots of people started smoking inside the building. […] And that really started to become a safety hazard. Everyone was stressed out. I mean, I work with our clients – a lot of them have very severe mental illness, and I mean, the incidence of people with schizophrenia who smoke is very, very high, and so it's challenging, […] People were trying to find ways to get around the smoking – people would go out on appointments that didn't actually exist so they could go smoke, people would say they were having panic attacks and needed a stress walk so they could go smoke – the term "stress walk" became a code word that people would try to use to go smoke, and it really – it put the staff in a tough position, because they kind of became cops and had to police something that really didn't feel that necessary. So yeah, it was very tense. And I don't know – later that year, or whenever it was, when we were told that we could actually walk that policy back and implement smoking breaks – I remember going into a morning meeting with all the clients and letting them know, and it really felt like a weight had been lifted off everyone when I said that, because it was very, very unpopular, and it frankly wasn't working. Program Director #14
External policy and incentives	81%	Barrier	Lack of mandate adherence	Director: The only thing is that they [the City] stopped selling menthol cigarettes, and our clients who smoke menthol cigarettes have to go out of [the City] to get 'em, or to smoke shops in – further out of our district here. Interviewer: Are they allowed to have them? Director: As long as they smoke outside, we're ok with it. Program Director #9
		Barrier	Lack of mandate adherence	In fact, medical – well, the medical marijuana [policy] has been terrible for us because we're – really, there's a bus stop right outside our driveway, parking lot, and people smoke pot right there, and then the clients smell it, and so it's terrible for someone who's in recovery. So no, the bus stop is definitely not smoke-free. I wish it was. Maybe that's something that we can work on with you guys, if you could help me figure out how to petition for that bus stop, 'cause it is right in front of a recovery center, to be smoke-free. That would be great. Program Director #13
		Barrier	Need for grant funding	The program – we did receive a tobacco grant at one point, so that was covering a lot of [NRT] from that, and then we do have a grant that we've written in, that we've also said that we would focus on tobacco use and dependency, and so money from that grant also covers the cost of the products. Program Director #2
		Facilitator	Financial Reimbursement System	We have a clinic, so they can go get nicotine patches [NRT], so yeah – we support giving up smoking, through our clinic, through the Medication Assistance Treatment services, and also, smoking cessation and readiness group. […] It's dental, medical, everything, at intake, and […] it's not that far from us, we have the services. Program Director #16
CFIR Domain III **Inner Setting**				
Implementation climate	81%	Facilitator	Priority in SUD treatment	I would see people focused on just one component of health and neglect something else, … I've seen a lot of people …get clean and sober, and end up dying because of their tobacco use, or not … recovering from a liver transplant because they smoke. Program Director #5
		Facilitator	Priority in SUD treatment	Increased health, more long-term sobriety. 'Cause that's what we're looking – we don't want to just get 'em clean for two or three months that they're with us. We want 'em to be clean and changed forever now, afterwards. And I think that these policies and this program that we're gonna put in place is really gonna help that. Program Director #13
		Facilitator	Leadership Commitment	If we're saying we're assisting them to have better lives and we're working on the whole-person education, but yet we're still allowing a substance that ultimate kills people, too, then I think that we need to really figure out how we can assist them in quitting that, too. Program Director #10

Construct	**Relative Importance (Ri %)**	**Barrier/ Facilitator**	**Themes**	**Quote (s)**
		Facilitator	Leadership Commitment	You know, I just decided one day, we're going non-smoking, and that was it. I literally came to work one day and said , this is too much. This is too much energy, too much of their lives, too much "can I go smoke", and I thought, we're goin' non-smoking. That was it. Program Director #4
Readiness for implementation	87%	Barrier	SUD counselors smoking status	We educate them [the staff], we reinforce the behaviors that – what it would represent for a client to see a staff member provide lip service, request them to be healthier and take responsibility for their life, and then yet they're showing that they, too, struggle with this overt addiction to tobacco, which sends kind of a mixed message. Program Director #5
		Barrier	SUD counselors smoking status	They're employees, they're doing a job, and that kind of personal business really isn't my business, as long as it's not affecting their work performance. I do make sure they're aware of standards, and if they are gonna smoke, they're not allowed to smoke anywhere on the premises, that they do have to leave the premises to smoke during their authorized breaks. ….But it's not a dialog I get into with them, as a supervisor, because I feel like that's really honestly not my role when I'm dealing with staff. Program Director #6
		Barrier	Referrals for NRT approach	[…] The residents would go to the 800-nobutts, and they're able to get that, as well as they can use their Medi-Cal and they can get their own prescriptions from the doctor and Medi-Cal pays for it. Program Director #2
		Barrier	Treatment Standardization	I'm just grateful that this is happening, and I hope more people get on board and – because as long as – [clients] can switch where they're going to treatment because they can smoke one place and can't smoke another, that's not cool. It needs to be non-smoking across the board. Program Director #4
		Barrier	Financial Reimbursement System	I would allow every client to have gum or a patch or a lozenge if they wanted to quit smoking. However, all of those are looked at and considered a medication, and per our state licensing regulations, we can't just hand that out to clients. They have to have a prescription. […] – that's a challenge. For sure. It would be – so even if a client – identifies that they want to quit smoking, they would need to have somebody bring in those tools to them. We could not provide it for them. Program Director #8
CFIR Domain IV **Characteristics of Individuals**				
Self-efficacy	56%	Facilitator	Self-confidence	I would like to move forward with addressing it [smoking cessation] from a whole health perspective. I do think it's important, and so now that I'm in a director position, I'm moving it that way. […] We're used to barriers, so as a small non-profit, what I'll say, is that the team is great at stepping up and accomplishing whatever needs to be accomplishing, and coming together as a team. So we're used to barriers and overcoming them, and so I'm not too concerned about that. Program Director #3
		Facilitator	Personal-motivation	One of our staff members had a medical issue, and we felt tobacco played a role in his health issues and his ability to heal from his health problems, so we just – we thought – we didn't want to be the enabler, so we said hey, you know what? If this doesn't work, we're not gonna participate in someone literally killing themselves or being hospitalized for tobacco use. Program Director #5
CFIR Domain V **Process of implementation**				
Planning and engaging	75%	Facilitator	Environmental plans	…we want outdoor space for alternative activities – walking paths – so implementing the space to allow folks to participate in alternatives to smoking, and then a place where we can – if they choose to continue to smoke, that there's a place outside of the facility, that would still be visible to staff. Program Director #3
		Facilitator	Workforce needs	One thing that we're working on is having a professional or a counselor come in and actually explain visually other dangers of smoking, for example, a doctor – somebody that's actually working specifically with the tobacco field, to speak to our clients, and that would be very helpful. Program Director #7

Construct	**Relative Importance (Ri %)**	**Barrier/ Facilitator**	**Themes**	**Quote (s)**
		Facilitator	Resident inclusion in policy development	Yeah for the committee,[…] we invite some community partners to participate, that have an interest in our program, those potentially that could be involved in helping expand the offerings, […], and I always like to include clients, right, so you have their input, all the stakeholders and other staff. My goal would be that all the stakeholders somehow be represented within the group. Program Director #3