

Tobacco-free Workplace Program at a Substance Use Treatment Center

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Objectives: About 65%-87% of substance use disorder patients smoke cigarettes, compared to 14% of the general adult population. Few substance use treatment centers (SUTCs) have comprehensive tobacco-free workplace (TFW) policies or offer tobacco interventions. Taking Texas Tobacco Free (TTTF) implements an evidence-based TFW program in SUTCs, including at the Billy T. Cattan Recovery Outreach Center (BTC). We present a mixed methods case study of BTC's TTTF implementation, success factors, and challenges. **Methods:** TTTF provided policy development assistance, training, treatment resources, and technical assistance over ~9 months. Implementation was tailored using mixed methods. Quantitative data included surveys to stakeholders ($N_{\max} = 7$), a pre- and post-training questionnaire assessing knowledge gain, and reported quantities of tobacco use assessments (TUAs) administered and nicotine replacement therapy (NRT) provided. Qualitative data included stakeholder focus groups and interviews (18 participants). **Results:** All employees reported TFW policy compliance. Employees exhibited a 20% knowledge gain. Clinicians increased self-report of NRT provision and tobacco cessation counseling. During implementation, BTC administered TUAs to 171 patients and dispensed NRT to 70 of 110 tobacco-using patients. **Conclusion:** Qualitative findings contextualized quantitative outcomes. TTTF implementation changed clinician attitudes, knowledge, and practices regarding tobacco treatment, facilitating patient quit attempts.

Key words: smoking policy; smoking cessation; substance use treatment centers; co-morbidities

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Tobacco use is causally related to 17 different types of cancers, heart disease, stroke, and chronic obstructive lung diseases.¹ About 65%-87% of substance use disorder (SUD) patients smoke as compared to 14% of the general adult population; they also smoke more heavily.^{2,3} Moreover, SUD patients have more deaths attributed to tobacco use than the non-nicotine SUD for which they sought care.^{4,5}

Despite patient interest in quitting tobacco, the use of evidence-based tobacco control interventions is low in substance use treatment centers (SUTCs). Only 64% of SUTCs screen patients for tobacco use, 47% offer tobacco cessation counseling, and 26% provide nicotine replacement therapy (NRT).⁶ Moreover, only 35% have tobacco-free workplace (TFW) policies.⁶ This lack of system-wide, evidence-based tobacco control initiatives

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within SUTCs is rooted in clinical misconceptions, lack of training, and high smoking rates among clinicians.⁷ Clinicians are often concerned that treating tobacco during SUD treatment will overwhelm patients and jeopardize non-nicotine substance use recovery.⁸ However, smoking cessation mitigates smoking-related health risks while minimizing the risk of SUD relapse.⁹⁻¹² Despite the importance of training in addressing attitudes, skills, and knowledge, employees in addiction treatment settings receive little training in treating tobacco dependence.¹³ Additionally, among clinicians treating SUD patients, 14% to 40% smoke, which perpetuates a smoking culture and interferes with tobacco treatment provision for SUD patients.^{14,15}

To address the need for tobacco interventions among SUD patients, comprehensive TFW programs and practical guidance in their implementation within SUTCs are needed. Taking Texas Tobacco Free (TTTF) is a multicomponent, evidence-based TFW program that has been effective in addressing tobacco dependence within mental health treatment agencies.^{16,17} In this mixed methods case study, we describe its implementation in a new setting, a non-profit, outpatient SUTC. This mixed methods case study presents a model that other SUTCs can adopt to implement a comprehensive TFW program with a focus on the implementation process, success factors, and challenges. A mixed methods analysis was conducted to allow a more comprehensive evaluation not available through use of either method alone.¹⁸ Qualitative approaches allowed understanding of the contextual factors impacting implementation while quantitative data allowed examination of intervention content and results.

Overview of Billy T. Cattan Recovery Outreach Center

The Billy T. Cattan Recovery Outreach Center (BTC) is a state-funded, intensive outpatient SUTC in Victoria, Texas.¹⁹ It is located in a medically underserved area and serves 10 counties in southeast Texas. Victoria had approximately 67,000 residents in 2018 (86% white, 7% black, and 51% Hispanic/Latino) and a poverty rate of 17.2%.^{20,21} Within Victoria County, which includes the city of Victoria, about 15% of adults smoke cigarettes.²²

BTC provides outpatient drug and alcohol treat-

ment to over 370 patients annually. In its patient population, 70% have an alcohol use disorder and 30% have a cannabis, stimulant, hallucinogen, or opioid use disorder. About 85% of BTC's patient population uses tobacco in some form. The Center employs 6 clinicians and one general staff member (7 total employees); clinicians are employees who provide substance use counseling whereas the general staff member does not provide counseling services. BTC's offices were initially located within rented spaces; however, BTC relocated to a private property during TTTF participation.

Overview of the Taking Texas Tobacco Free (TTTF) Program

TTTF is an academic-community partnership between the University of Houston (Houston, TX) and Integral Care (Austin, TX). TTTF assists partnering centers to implement multiple evidence-based components of a TFW program, including: (1) TFW policy development and implementation; (2) a one-hour education session for general staff members on the hazards of tobacco use, purpose of a TFW policy, and so forth; (3) a 2-hour clinical training on providing tobacco interventions, which includes screenings through administration of tobacco use assessments (TUAs) and tobacco treatment; and (4) resource provision (eg, NRT, signage, passive dissemination materials). TTTF also recommends the integration of tobacco training into new employee orientation and annual training. Throughout implementation, TTTF team members provide ongoing technical assistance.

In 2013, TTTF received funding to work with select Local Mental Health Authorities (LMHAs) – administrative state agencies overseeing the provision of behavioral health services across Texas through non-profit community mental health centers.²³ TTTF has been implemented effectively in 22 LMHAs comprising about 300 mental health centers.^{16,17,24,25} In 2017, TTTF expanded with continued funding to partner with standalone SUTCs and community agencies serving individuals engaged with SUTCs. This mixed methods case study discusses the 9-month TTTF implementation at BTC, a participating SUTC in the 2017 roll-out.

TTTF's goals for program implementation at BTC included: Goal 1 – increase acceptability of

TFW programs; Goal 2 – increase employee knowledge on tobacco use and cessation; and Goal 3 – increase regular delivery of evidence-based tobacco dependence treatment, such as NRT provision and tobacco cessation counseling, which includes use of the 5 A's. The 5 A's is a recommended clinical intervention for tobacco use and consists of 5 steps: (1) Ask the patient about their tobacco use; (2) Advise them to quit; (3) Assess their willingness to make a quit attempt; (4) Assist those willing to make a quit attempt; and (5) Arrange for follow-up contact to prevent relapse.²⁶

METHODS

TTTF provided BTC with TFW policy development assistance, training, treatment resources (ie, NRT), and technical assistance. Throughout implementation, BTC had access to a TFW step-by-step program implementation guide on TTTF's website.²⁷ Because BTC employees consisted mainly of clinicians, BTC received only the 2-hour clinical training, which the general staff member also attended. TTTF used a pre- and post-evaluation design and collected additional data during the active implementation phase. Program implementation was tailored using a mixed methods approach, which included a formative evaluation process. This study used a mixed methods case study design based on an explanatory sequential approach, which begins with a quantitative phase followed by a qualitative phase to explain specific quantitative results.²⁸

Quantitative data included a demographics survey, a pre-implementation readiness survey, and pre- and post-implementation Center leadership, clinician, and employee surveys. Surveys were investigator-generated and approved by the project funder. Center leadership surveys included questions such as "After TTTF, people who work here are [much less, less, as, more, or much more committed than 6 months ago] to sustain the tobacco-free workplace policy." Clinician surveys included questions such as "With regard to patients that you saw last month who smoked, did you advise them to quit smoking" (yes/no). Employee surveys included questions such as "In the last 12 months, have you received any training regarding the hazards of smoking and benefits of quitting that are specific to individuals with mental health or sub-

stance abuse disorders" (yes/no).

Knowledge gain was measured by percentage comparisons of correct items on a 10-item questionnaire administered prior and after the TTTF training session with differences examined using an exact Wilcoxon 2-sample test. Changes in clinical practices (ie, self-reported administration of the 5 A's and NRT provision from pre- to post-implementation) were assessed using clinician surveys and Fisher's exact tests; we also computed effect sizes. Exact inference was used as the sample size was not large enough to justify asymptotic methods. Quantitative pre- and post-data (ie, surveys, 10-item questionnaire) were unmatched at the participant level. All statistical analyses were conducted using SAS 9.4. Alpha was set at .05. Quantities of TUAs administered and NRT provided to patients were assessed quarterly and summed.

Given the small size of BTC, we used total population sampling, a purposeful sampling strategy, to capture the widest possible range of responses in which all clinicians and Center leaders were interviewed.²⁹ Qualitative data included one pre- and one post-implementation focus group with 6 and 5 clinicians, respectively, and 2 interviews (one interview with 2 Center leaders and one group interview with 5 clinicians). Overall, the qualitative component involved 18 participants, as some individuals participated in repeated qualitative data collection procedures.³⁰ Researchers used interview guides for interviews and focus groups conducted, which each lasted 90-120 minutes. Pre-implementation focus group questions focused on BTC's needs, characteristics and populations, and implementation barriers and facilitators to enhance program fit. Post-implementation focus group questions sought deeper understanding of which interventions were successful, which unsuccessful, and why. Interview questions for Center leaders and clinicians focused on their experience with the implementation process, changes in tobacco dependence intervention at BTC, factors for successful program implementation on an organizational, clinician, and patient level, and encountered and anticipated challenges for the program.

Whereas interviews with patients were sought, BTC serves many patients under parole of the Texas Department of Criminal Justice which by contract does not allow interviewing of parolees.

Additionally, TTTF seeks to build organizational capacity for the integration of evidence-based tobacco cessation services into routine practice as the delivery of such interventions has proven effective in increasing cessation among patients. Consequently, TTTF focuses on changing clinician behavior and attitudes regarding tobacco treatment to affect positive change in patient behavior.³¹

The third author (IML), a cultural anthropologist and public health practitioner working as a qualitative research specialist on the project, moderated the focus groups. The first author (KL), a social and behavioral research scientist on the project, conducted the Center leader and clinician group interviews. Audio-recordings of focus groups and interviews were transcribed verbatim and analyzed using thematic analysis, the systematic process of inductively coding and identifying themes within the dataset.²⁹ The first and third authors independently conducted iterative coding and analysis, meeting to discuss and reach consensus in hand coding until a final coding scheme was developed and reapplied to the entire dataset.

Mixed Methods Integration

We collected qualitative and quantitative data separately and sequentially. As an explanatory sequential design, quantitative data were collected and analyzed first. Specific quantitative results for which we sought additional explanation were identified from the first phase and guided decisions regarding qualitative data collection, refinement of research questions, and development of interview questions.²⁸ Quantitative and qualitative data also were connected and compared during the final interpretation to draw conclusions about how qualitative findings explain and extend quantitative results.

RESULTS

Tobacco-free Workplace Program Implementation

Connecting with TTTF. The BTC director and TTTF personnel connected at a professional conference for SUD providers. Wanting to provide a tobacco-free environment for their patients, the BTC director and clinic coordinator (ie, Center leadership) met with TTTF to discuss program

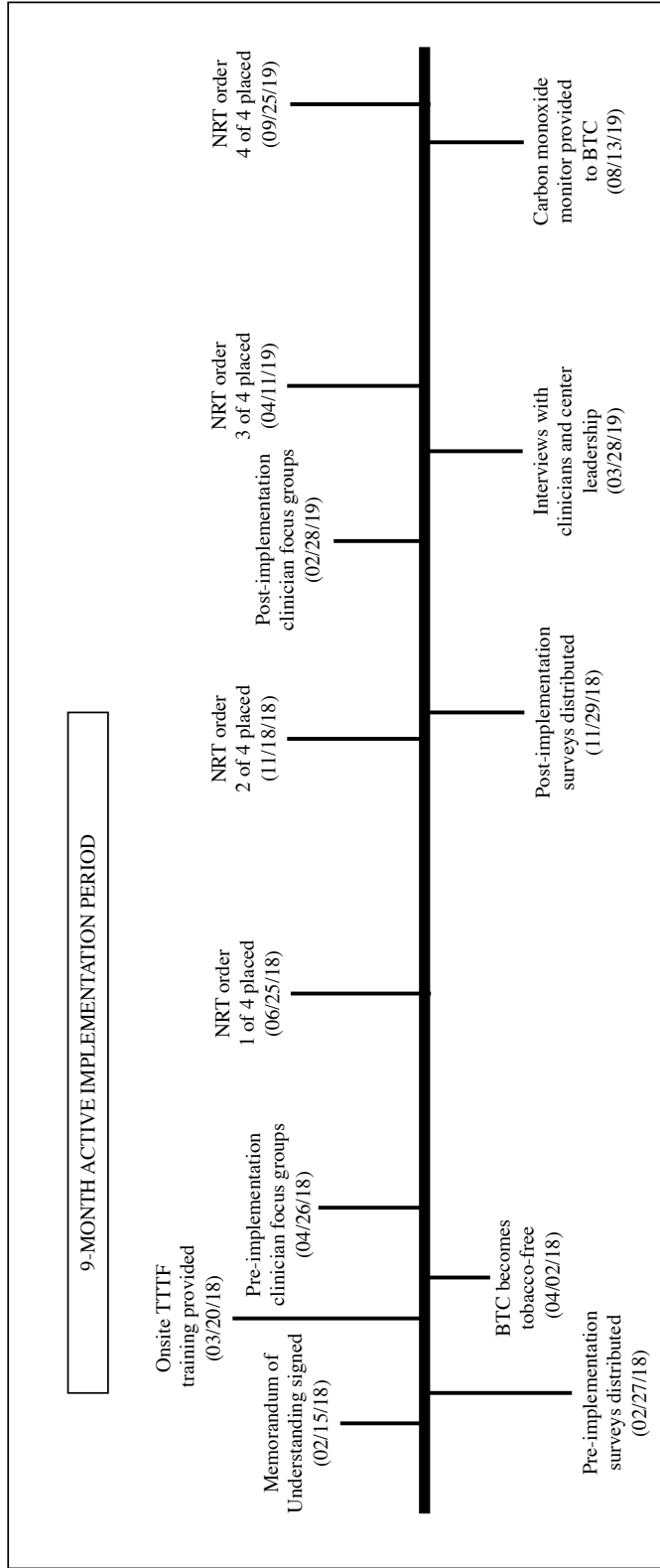
implementation. After receiving approval from their board of directors, the BTC director signed a Memorandum of Understanding with TTTF and shared details of the upcoming TFW program roll-out during an employee meeting. The clinic coordinator was designated as the program champion, which entailed coordinating the TTTF training, administering TTTF surveys, monitoring NRT distribution, and reporting on quantities of TUAs administered and NRT provided quarterly to TTTF; however, the Center director and clinic coordinator often co-led program implementation activities. Figure 1 displays the implementation timeline at BTC.

Policy development and implementation.

Research shows full rather than partial prohibition of tobacco use is more effective in reducing tobacco use and dependence.^{16,32} Prior to TTTF implementation, BTC had a partial TFW policy; whereas patients and employees could not smoke within the Center, smoking was permissible outside in specific areas. However, Center leadership and clinicians often found patients smoking outside of these areas. With TTTF's assistance, BTC leadership revised their TFW policy to prohibit the use and possession of all tobacco products and electronic cigarettes on their entire property; this policy began on the Center's tobacco-free date on April 2, 2018, which was also when the new BTC facility opened. Prior to the tobacco-free date, BTC leadership posted temporary signage informing patients that their new facility would be tobacco-free. TTTF worked closely with Center leadership and clinicians to create tailored, permanent tobacco signage for the new facility and adapt dissemination material (ie, educational rack cards and motivational posters) to represent BTC's patient population better.

During group counseling sessions, Center leadership spoke in-person to the first cohort of patients at the new facility to explain the TFW policy, sharing the rationale for it, including citing health benefits and addressing concerns. Clinicians built upon this initial discussion with reminders to patients about the policy's guidelines. Although clinicians had been concerned about patient resistance in response to the policy, patients were receptive during these discussions and throughout program roll-out.

Figure 1
Timeline for the Implementation of a Tobacco-free Workplace Program at Billy T. Cattan Recovery Outreach Center (BTC) with Dates. The 9-month Active Implementation Period is Designated Above the Timeline



Training and changes in clinician attitudes and knowledge. Pre-implementation survey results showed that of responding clinicians, 83% (N = 5) reported they had not received training in treating tobacco use with SUD treatment in the 12 months prior to TTTF implementation and 83% (N = 5) did not typically provide treatment for tobacco-using patients. Clinicians cited the belief that tobacco-using patients did not want to quit and a lack of knowledge (eg, how to motivate patients, appropriate interventions) as barriers to tobacco treatment.

TTTF provided BTC clinicians with onsite educational and skill-building training, which focused on the rationale for TFW policies, importance of treating tobacco use with evidence-based treatment, tobacco dependence treatment (eg, use of the 5 A's, NRT provision), and available tobacco cessation resources for employees and patients.^{8,33,34}

Survey results indicated training addressed the barrier of clinician beliefs and attitudes at BTC. Post-implementation surveys showed 100% of responding clinicians (N = 4) reported they agreed treating tobacco use was as critical as treating non-nicotine substance use. After implementation, 100% of responding employees (N = 7) reported compliance with the TFW policy; additionally, post-implementation survey results and qualitative findings showed that employees valued the TFW policy. Moreover, Center leadership who responded to the post-implementation survey (N = 1) reported that employees were more committed to sustaining the policy. Thus, BTC met Goal 1 (TFW acceptability).

After the training, employees who took the 10-item questionnaire (N = 5) demonstrated a 20% knowledge gain. Although knowledge gain was not statistically significant, likely reflective of a small sample size, results appear clinically significant as described under "Provision of Evidence-based Interventions." Additionally, post-implementation surveys showed all responding clinicians (N = 4) reported feeling competent in administering TUAs to patients. Thus, BTC met Goal 2 (knowledge increase).

TTTF sponsored the Center director's attendance to a 4-day tobacco treatment specialist training. This allowed the Center to have embedded specialized knowledge on tobacco interventions (eg, pharmacotherapy, relapse prevention) for pro-

gram sustainability and provided clinicians the opportunity for onsite consultation regarding tobacco treatment. TTTF also offered a one-day Motivational Interviewing (MI) training for BTC clinicians. MI is a counseling technique recommended by TTTF that research shows has promoted behavior change among SUD patients and tobacco users.^{35,36} However, BTC could not send clinicians to the training as attendance at the training would have created a shortage of available clinicians to provide patient care.

Provision of evidence-based interventions. BTC clinicians used an electronic health record system that included a screening tool for tobacco use. Consequently, at both pre- and post-implementation, clinicians administered TUAs to patients and reported they *Asked* patients about their tobacco use; however, after implementation, more clinicians reported they *Advised, Assessed, Assisted,* and *Arranged* services for patients who smoked (Table 1).

NRT provision is an evidence-based treatment that improves tobacco treatment outcomes, including for SUD patients.^{37,38} Prior to TTTF implementation, BTC clinicians referred patients to the quitline, which provided qualifying patients with a 2-week NRT supply and brief counseling. However, many of BTC's economically poor patients, especially those without consistent phone numbers, had difficulty contacting the quitline. TTTF provided BTC with approximately \$6000 of on-site NRT products throughout the implementation period. Specifically, the Center received 21 mg patches (108 boxes), 14 mg patches (36 boxes), 4 mg gum (72 boxes), and 4 mg lozenges (48 boxes); orders were created by the TTTF program manager who worked with BTC leadership to identify appropriate NRT products for BTC's patient population. Center leadership and clinicians discussed distribution procedures during an employee meeting. After procedures were established, clinicians administered 171 TUAs, identified 110 tobacco-using patients, and provided NRT to 70 patients for a 63.6% rate of NRT-assisted patient quit attempts over 8 months during the implementation period. During this period, BTC reported distributing 43 boxes of 21 mg patches, 4 boxes of 14 mg patches, one box of 7 mg patches, 54 boxes of 4 mg gum, and 10 boxes of 4 mg lozenges (valued

Table 1
Comparisons of Responses in Pre- and Post-implementation Clinician Surveys
on Administration of the 5 A's (Ask, Advise, Assess, Assist, Arrange) for
Patients who Smoked Cigarettes

	Pre-implementation (N = 6)	Post-implementation (N = 4)	p value	Effect Size (w)
Ask	6 (100.0%)	4 (100.0%)	N/A	N/A
Advise	4 (66.7%)	4 (100.0%)	.467	0.408
Assess	5 (83.3%)	4 (100.0%)	1.000	0.272
Assist	5 (83.3%)	4 (100.0%)	1.000	0.272
Arrange	3 (50.0%)	3 (75.0%)	.571	0.250

Note.

Pre- to post-implementation changes were assessed statistically using Fisher's exact tests.

at ~\$2500), and used additional NRT on site during therapy groups. Remaining products were dispensed over time and prior to expiration following program implementation. After implementation, 100% of responding clinicians (N = 4) reported providing, referring, or recommending NRT to tobacco-using patients, compared to 16.7% of those who responded at pre-implementation (N = 1) ($p < .05$; $w = .816$). Thus, BTC met Goal 3 (tobacco treatment provision).

Center leadership reported during interviews that BTC clinicians had fully integrated tobacco interventions into routine services. During intake, patients were screened using TUAs and given NRT if they were interested in quitting and scheduled for a follow-up appointment, a measure clinicians implemented to minimize relapse. Throughout their patients' treatment, clinicians regularly assessed their patients' tobacco and NRT use. NRT provision was recorded in electronic health records and prompted clinicians to assess patients' progress with their quit attempts and NRT products during each visit. Clinicians used this information to adapt quit plans for patients. BTC continued to make NRT available to patients after they graduated from their treatment programs to assist with their quit attempts.

Factors for Success

BTC met all TFW implementation goals. Qualitative analysis resulted in 4 major themes related to

factors for successful implementation: (1) Center leadership commitment and communication; (2) training and clinician attitudes; (3) consistent support and messaging to patients; and (4) non-smoking or former smoking employees (Table 2 shows quotes supporting each theme).

Center leadership commitment and communication. Throughout implementation, Center leadership demonstrated commitment to a TFW program. Despite having the challenge of relocating facilities and the director's attendance to a tobacco specialist training requiring him to be away during that time, Center leadership remained steadfast in organizing clinical training and other aspects of program implementation. In addition to communicating to employees about the program roll-out, Center leadership also prioritized communication to patients regarding the TFW policy, framing the policy change as a mechanism to improve patient health rather than as another restriction.

Training and clinician attitudes. Clinicians reported that the TTTF training helped dispel the misconception that tobacco treatment among SUD patients would hinder SUD treatment. Additionally, they noted that learning the benefits of concurrent SUD and tobacco treatment through the training assisted them in promoting tobacco treatment for their patients.

Consistent support and messaging to patients. Clinicians provided tailored support for patients as they initiated quit attempts. From intake, cli-

Table 2
Themes and Illustrative Quotes Related to Factors Supporting the
Successful Implementation of the TTF Program

Themes	Context	Participant Quotes
Center Leadership Commitment and Communication	Center leadership commitment to the policy and communication to employees and patients regarding the tobacco-free workplace promoted buy-in and acceptance of the program.	<p>(1) <i>I think if [we] were to give advice to another center, it would be to involve your upper management also. I think when the clients hear it from not just their counselors but they hear it from everybody involved, all the way from the top to even their counselors, I think that makes a big difference in your implementation, regardless of what type of implementation...</i> (Center Director)</p> <p>(2) <i>We didn't want to make [the policy] seem like it was something punitive...I've said this numerous times but you aren't just taking something away, you are offering them an alternative. I think it was in the presentation. I think that our staff were able to buy into that, and it's beneficial that we have such a small staff. They bought into that, and I think that kind of trickled down.</i> (Clinic Coordinator)</p> <p>(3) <i>If I had to guess [the reason for lack of resistance from clients], I think [the clients] knew it was coming well in advance. Being prepared for it, it wasn't thrust upon them...I think [the Center director] and myself going into the groups allowed them then the opportunity to ask questions about where can we [smoke]...</i> (Clinic Coordinator)</p>
Training and Clinician Attitudes	Training improved acceptability of a tobacco-free workplace that integrates tobacco intervention by addressing clinical misconceptions.	<p>(1) <i>I personally had to get rid of some of my own myths about cigarettes and substance use and how those go together and how asking someone to give up both things at the same time would be kind of like asking way too much. Once [TTF] gave us the training and the research that it is actually better for people to quit both at the same time, I became a convert and so then it was a whole lot easier for me to sell it to the clients.</i> (Clinician)</p> <p>(2) <i>There is a longstanding attitude in addiction treatment that you shouldn't ask too much. That you are setting them up to fail or something. So, that training also helped me kind of dispel some of that.</i> (Clinician)</p>
Consistent Support and Messaging to Patients	Clinicians' consistent support to their patients throughout and after their treatment programs as well as clinicians' consistent messaging promoted quit attempts among patients.	<p>(1) <i>I informed [the client] that [not being ready to quit smoking] was fine, but we did have the products here if at any point during his course of treatment he chooses to participate, then he is always welcome...I think the fact that he knows it's available may make him consider it.</i> (Clinic Coordinator)</p> <p>(2) <i>During group, tobacco cessation is one of the topics that is discussed, so it is brought up then also. Our counselors also, during break when we do have those smokers go out...and this was part of the training that [the TTF program manager] did, is offer that as an alternative to going out to smoke. Like would you like a piece of gum? That's another way in which they use it.</i> (Clinic Coordinator)</p> <p>(3) <i>[The counselors] know who our clients are that they are giving [NRT] to, and they are handed directly from the counselor to their clients, so it's not like the only time because we still provide for our former clients. Our clients know that they can come in after if they are still... because our program is not extremely long. After 3 months if they're still weening themselves off, they know they can come in and request the product, and we are still providing that for them.</i> (Clinic Coordinator)</p> <p>(4) <i>I think advice I would give is just to get the staff on board, to keep announcing it...Because it can kind of become an afterthought, after the initial excitement of 'oh, I'm gonna, you know, get this assistance.' What I tend to do is like...I can kind of forget to talk about it in each group. But I think the constant reminder helps.</i> (Clinician)</p>
Non-smoking or Former Smoking Employees	The absence of employees who smoked promoted tobacco treatment provision to patients.	<p>(1) <i>We don't have counselors that are smokers, so buy-in for them was really easy. I think if we had smokers, if it had even been 6 months before I think when we had a different staff or a year before where we did have smokers on staff, I think that might have been met differently because our counselors, I mean some of our staff, would regularly congregate outside our last building to go smoke. I think that was a non-issue for us because we didn't have a smoking staff.</i> (Clinic Coordinator)</p>

Note.

Total number of focus group participants and interviewees involved in qualitative data collection = 18 (focus groups = 6 clinicians pre-implementation + 5 clinicians post-implementation; interview = 2 Center leaders; group interview = 5 clinicians).

Table 3
Joint Display Table Presenting Comparison of Findings from
Qualitative and Quantitative Methods

Qualitative Findings		Quantitative Results
Theme	Interview and Focus Groups	Results from Pre- and Post-implementation Survey Results and Quarterly Reports on NRT Dispersed and TUAs Administered
1. Center Leadership Commitment and Communication	<p>Center leaders' leadership and commitment to implement and communicate TFW policy to patients and employees promoted program buy-in and integration in center culture.</p> <p>[The TFW program is] <i>just a part of what we do, so there's not that apprehension or any of that. We don't hear that from our staff anymore. It's just who we are, and it's the same for our clients. They know that these are just our rules now. It has become a part of our culture.</i> (Clinic Coordinator)</p>	<p>Post-implementation results indicate 100% of employees reported compliance with the TFW policy</p>
2. Training and Clinician Attitudes	<p>Clinicians and Center leaders cited receipt of the TTTF tobacco training as pivotal in changing their attitudes and dispelling misconceptions regarding smoking among SUD patients.</p> <p><i>The fact that's always stuck out with me [from the TTTF training] that resonates the most with the clients is that people who stop smoking are 25% more likely to stay sober. That fact is powerful because it fights the myth that you're trying to get sober from like meth, or another drug that you shouldn't quit smoking because that's how it's been, and that's been the old thinking. And that's the way I learned it too, you know.</i> (Clinician)</p>	<p>Pre-implementation results: 83% of clinicians did not provide smoking cessation treatments to patients</p> <p>Post-implementation results: 100% of clinicians agreed that treating tobacco use was as critical as treating non-nicotine substance use</p> <p>100% of clinicians felt confident in administering TUAs</p>
3. Consistent Messaging and Support to Patients	<p>Clinicians consistently provided patients with support to quit during and after their treatment program, which promoted patient quit attempts and resolve to quit.</p> <p><i>I challenge my people when they go to group, "Instead of smoking a cigarette for this one little break, why don't you try the gum for just this 15 minutes?" Cutting out one cigarette for a piece of gum that's doable. So, I try to start little baby steps... I know the people that I talk to that have cut down feel very proud of themselves. And it feels like an accomplishment, and I think it's a self-esteem booster. I think it makes the idea of being abstinent from their drug more realistic.</i> (Clinician)</p>	<p>Pre and post comparison of provision of 5 A's show an increase in 4 of the 5 A's as Ask was at 100% at both pre and post (see Table 1)</p> <p>At pre-implementation, 16.7% of clinicians referred or recommended NRT to patients; at post-implementation, 100% of clinicians provided NRT to patients, resulting in a 63.6% rate of NRT-assisted patient quit attempts</p> <p>Post-implementation results show 171 TUAs were administered during the implementation period</p>
4. Non- or Former Smoking Staff	<p>Though some clinicians were former smokers, all clinicians reported that they did not currently smoke tobacco, which Center leadership felt was a facilitator in implementing the program and assisting patients to quit.</p> <p><i>At the time of implementation, we didn't have any staff that were smoking... I don't think [the staff] were reluctant, again because we were a staff that was not smokers, so that was not going to have a direct impact on them per say.</i> (Clinic Coordinator)</p>	<p>Pre and post-implementation results show 100% of clinicians reported not smoking</p>

nicians worked with patients interested in quitting to identify the most effective NRT product.

If patients were hesitant about quitting, clinicians provided brief motivation and education and in-

formed them of available NRT. Throughout their patients' treatment, clinicians monitored their patients' progress weekly, which was facilitated by the clinicians' dedication to delivering tobacco treatment and partially by the Center's small size. This allowed clinicians to adapt treatment, provide additional NRT, and/or schedule additional counseling for the patient.

Moreover, during group counseling sessions attended by all patients in treatment, clinicians constantly addressed smoking cessation with patients and motivated quit attempts with creative practices. During breaks, clinicians had NRT available for patients to try instead of going off-campus to smoke even if patients did not show strong desire to quit smoking. This allowed patients to pursue "mini" quit attempts without experiencing withdrawals and cravings. Patients who took advantage of NRT during these breaks received information afterwards on proper NRT use. Prior to implementation, many patients smoked during breaks. Oftentimes, patients who did not smoke gathered with smokers to socialize during these breaks, which exposed them to secondhand smoke. Consequently, the reduction in patient smoking during breaks alleviated secondhand smoke exposure among patients.

Non-smoker or former smoker status among employees. At BTC, of the employees who responded, 100% (N = 5) reported they did not currently smoke, although 60% (N = 3) reported being a former smoker. The clinic coordinator reported in an interview that the absence of employees who smoked helped facilitate TFW program implementation.

Integration of Qualitative and Quantitative Findings

Qualitative and quantitative findings were connected and compared during the final stage of interpretation to draw conclusions from both data sets; qualitative findings supported quantitative descriptive results.

The qualitative data presented in Table 3 contextualize the quantitative outcomes and provide insight into the implementation environment and depth of clinicians' and Center leaders' commitment to program integration. For theme 1, both components provide data on full TTTF integra-

tion within BTC. For themes 2 and 3, the qualitative data provide a rich account of clinicians' changed attitudes as well as commitment and consistency in treating tobacco, respectively, and quantitative data provide evidence of changes in routine clinician practices. The quantitative data indicate changes in tobacco cessation services provision to BTC patients, which the qualitative data strengthen, explain, and expand. For theme 4, both components support non-smoking or former smoking staff as a program facilitator. Collectively, qualitative and quantitative findings indicate a change in culture regarding tobacco treatment within BTC and full program integration, which reinforces sustainability.

DISCUSSION

Using multiple methods allowed assessment of different, although related, aspects of program implementation, allowing increased understanding of the process and content of program implementation. One strength of mixed methods research is that it can temper the weaknesses and bolster the strengths of each method, allowing for greater methodological rigor.³⁹ Given the limitations presented by this study's small sample, qualitative findings were particularly significant in increasing understanding of the implementation process and TFW program integration into Center culture. Connecting the interpretations drawn from the separate qualitative and quantitative strands indicate full, successful program integration and supports sustainment.

In this mixed methods case study, we present the implementation process and discuss the factors contributing to the successful implementation of a TFW program at BTC, an outpatient SUTC. Through TTTF's tailored assistance, BTC clinicians' attitudes, knowledge, and practices regarding tobacco treatment changed, which facilitated the integration of tobacco treatment into routine substance use treatment and promoted patient quit attempts at the Center. Additionally, BTC's director delivered a presentation on the Center's successful TFW program implementation as part of BTC's community education efforts at a meeting for substance abuse professionals.

Through interviews and focus groups with Center leadership and clinicians, we identified 4

major themes in the factors for implementation success using thematic analysis: (1) Center leadership commitment and communication; (2) training and clinician attitudes; (3) consistent support and messaging to patients; and (4) non-smoker or former smoker status among employees. Despite encountering challenges, such as having to relocate their facilities during implementation, Center leadership not only remained committed to TFW program implementation, but also viewed the relocation as an opportunity to start anew. Additionally, Center leadership practiced transparency and thorough communication throughout implementation, which likely promoted employee and patient receptivity to the TFW program. Other studies have cited the importance of leadership support, communication, and employee buy-in for successful program implementation.^{33,40-43} In addition, training provision for BTC clinicians addressed clinical misconceptions and attitudes about tobacco treatment among clinicians, facilitating acceptability of the TFW program. Center clinicians and leaders reported that training promoted acceptability by addressing clinical misconceptions, promoting positive attitudes toward tobacco treatment, increasing knowledge, and equipping clinicians with the necessary skills to address tobacco use.^{14,44-46} BTC clinicians also integrated tobacco treatment into patients' SUD treatment, tailored tobacco treatment plans based on patients' needs, and continually assessed patient interest in quitting among those who were ambivalent. By tailoring treatment (eg, identifying appropriate NRT product, providing additional counseling as needed) for patients, clinicians increased the likelihood of continued abstinence from tobacco use and of positive tobacco treatment outcomes.⁴⁷ Among patients who were not yet ready to quit, clinicians continued assessing patient interest in quitting, provided education, and informed them of the available NRT at the Center. These practices have been shown to facilitate patient quit attempts.^{26,48} Lastly, BTC's homogenous population of employees who were non-smokers or former smokers likely promoted treatment provision. A common barrier to provision of evidence-based tobacco treatment is tobacco dependence among SUTC employees themselves as smoking employees are less likely to encourage quit attempts, view smoking as a treatment issue, and discuss tobacco

dependence with patients.^{14,45,46} Thus, the absence of currently smoking employees at BTC supported tobacco treatment to patients.

Throughout implementation, BTC faced challenges. During implementation, BTC was relocating to a new facility. The Center director also was traveling between Victoria and Houston for the tobacco treatment specialist training during this time. Additionally, though the TFW policy began in April 2018, NRT was unavailable until June 2018 due to contractual complications in ordering NRT. The TTTF program recommends making NRT available at least 2-4 weeks prior to the organization's tobacco-free date. Prior to having NRT available at the Center, BTC clinicians referred their patients to the quitline. However, although the use of quitlines is effective as a tobacco dependence intervention, quitline referrals are often not pursued, and NRT costs deter patients from accessing NRT independently.^{26,46,49,50} The clinic coordinator also noted that the impersonal quality of the quitline (eg, patients cannot "see" their clinician) may make it difficult for patients to stay engaged. Consequently, this delay hindered an important tobacco treatment option.

Through our work, BTC was well-positioned to sustain the TFW program but faced challenges in doing so after the active implementation period. TTTF provided a carbon monoxide monitor to the Center as a tool for clinicians to promote additional quit attempts among patients and, through sponsorship of the Center director's attendance to a tobacco treatment specialist training, embedded specialized knowledge within the Center. Additionally, BTC integrated screening, treatment, and annual tobacco training practices that support continuation of the TFW program. However, the Center faced challenges in continuing NRT provision without additional funding. After implementation, TTTF continued engagement with BTC for 10 months and provided additional NRT (valued at approximately \$6400). During this period, BTC administered an additional 265 TUAs and provided 83 patients with NRT. TTTF has worked with BTC to identify and apply for external funding that would support continued NRT distribution. Records of NRT use and cost provided to BTC serve as templates for future budgeting and grant applications. Additionally, BTC clinicians'

inability to attend TTTF-sponsored MI training may be a barrier to maintaining and sustaining the TFW program. MI training has been shown to increase confidence, knowledge, and skills in using MI, intention to use MI, and integration into clinical practice.^{51,52} Although BTC clinicians may have had previous MI training, additional training and coaching have been demonstrated to maintain MI skill proficiency and would have been beneficial.^{52,53}

Limitations

BTC successfully implemented a TFW program. However, the generalizability of these results is limited to outpatient settings, small SUTCs, and centers with low employee smoking rates. Patients in outpatient clinics can access tobacco products once off-campus, which also may have helped to minimize patient resistance. However, clinicians reported that patients often remained abstinent from tobacco use as part of their attempt to quit tobacco and substance use altogether. Additionally, BTC's small size may have reduced miscommunication between Center leadership and clinicians about the TFW program though many other SUTCs are similarly sized.⁵⁴ Finally, BTC's null employee smoking rate may have facilitated tobacco treatment provision, which reiterates the importance of encouraging both employee and patient quit attempts.^{14,44}

Due to the small sample size for pre- and post-implementation survey and training questionnaire results, changes in self-reported NRT provision and counseling as well as knowledge gain are limited in their generalizability to other settings. Additionally, although surveys were investigator-generated and funder-approved, they have not been tested for validity or reliability. As TTTF focuses on changing clinicians' behavior as a means of affecting patient smoking rates, more evaluation studies are needed that measure patient quit rates pre- and post-implementation. Due to contractual obligations with state agencies, researchers had limited access to patients and ability to conduct qualitative research with these important stakeholders.

Additionally, BTC faced challenges during and after implementation, which included: (1) the inability to send clinicians to TTTF-sponsored MI training, (2) relocation of their facilities, (3) the Center director's travel during implementation for tobacco treatment specialist training, (4) delay in

NRT due to contractual complications, and (5) difficulty with continuation of NRT funding.

Recommendations

Whereas information about patient quit attempts using Center-provided NRT were collected and presented, future tobacco-free workplace program implementation would benefit from collecting additional information, such as the number of patient quit attempts for non-NRT users, the rate of patient quit attempts pre- and post-implementation, rates of continued abstinence after graduating from the substance use treatment program for NRT and non-NRT users, and the type and quantity of NRT products dispensed for each tobacco-using patient. Future research evaluating comprehensive tobacco cessation programs in SUTCs also would benefit greatly from the inclusion of patient perspectives.

Human Subjects Approval Statement

The article describes a study with human participants that was approved by the IRB at the University of Houston (STUDY00000472). All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. We obtained informed consent from all individual participants included in the study.

Conflict of Interest Disclosure Statement

All authors of this article declare they have no conflicts of interest.

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