



Texas tobacco quitline knowledge, attitudes, and practices within healthcare agencies serving individuals with behavioral health needs: A multimethod study

Maggie Britton^{a,b,c,1,*}, Anastasia Rogova^{a,b,c,1}, Tzuan A. Chen^{b,c}, Isabel Martinez Leal^{a,b,c}, Bryce Kyburz^d, Teresa Williams^d, Mayuri Patel^e, Lorraine R. Reitzel^{a,b}

^a The University of Texas MD Anderson Cancer Center, Department of Health Disparities Research, Unit 1440, 1400 Pressler Street, Houston, TX 77030, United States

^b University of Houston, Department of Psychological, Health, and Learning Sciences, 3657 Cullen Blvd Stephen Power Farish Hall, Houston, TX 77204, United States

^c University of Houston, HEALTH Research Institute, 4349 Martin Luther King Blvd, Houston, TX 77204, United States

^d Integral Care, 1430 Collier St, Austin, TX 78704, United States

^e Texas Department of State Health Services, Tobacco Prevention and Control Branch, 1100 West 49th Street, Mail Code 1965, Austin, TX 78756, United States

ARTICLE INFO

Keywords:

Texas Tobacco Quitline
Tobacco Cessation
Health Equity
Behavioral Healthcare
Needs Assessment
Multimethod Design

ABSTRACT

Patients with behavioral health conditions have disproportionately high tobacco use rates and face significant barriers to accessing evidence-based tobacco cessation services. Tobacco quitlines are an effective and accessible resource, yet they are often underutilized. We identify knowledge, practices, and attitudes towards the Texas Tobacco Quitline (TTQL) within behavioral healthcare settings in Texas. Quantitative and qualitative data were collected in 2021 as part of a statewide needs assessment in behavioral healthcare settings. Survey respondents (n = 125) represented 23 Federally Qualified Health Centers, 29 local mental health authorities (LMHAs), 12 substance use treatment programs in LMHAs, and 61 standalone substance use treatment centers (26 people participated in qualitative interviews). Over half of respondents indicated familiarity with the TTQL and believed that the TTQL was helpful for quitting. Qualitative findings reveal potential concerns about inconsistency of services, long wait time, and the format of the quitline. About half of respondents indicated that their center promoted patient referral to TTQL, and few indicated that their center had an electronic referral system with direct TTQL referral capacity. Interview respondents reported overall lack of systematic follow up with patients regarding their use of the TTQL services. Findings suggest the need for (1) increased TTQL service awareness among healthcare providers; (2) further investigation into any changes needed to better serve patients with behavioral health conditions who use tobacco; and (3) electronic health record integration supporting direct referrals and enhanced protocols to support patient follow up after TTQL referral.

1. Introduction

In 2020, 12.5% of United States (US) population currently smoked (Cornelius et al., 2022). However, the proportion of people who use combustible cigarettes and other tobacco products is significantly higher within some population subgroups, including people with mental health conditions (MHCs) and non-nicotine substance use disorders (SUDs) (Drope et al., 2018; Prochaska et al., 2017). Collectively referred to as people with behavioral health conditions (BHCs), they have disproportionately high smoking rates; some studies suggest that between 50 and

65% of adults with BHCs smoke (Weinberger et al., 2020; Forman-Hoffman et al., 2017; Guydish et al., 2011; Lasser et al., 2000).

Adults with BHCs are interested in quitting tobacco at rates equivalent to the general population (Siru et al., 2009). Unfortunately, they face more difficulties (e.g., higher nicotine addiction, worse withdrawal symptoms) when trying to quit (Hitsman et al., 2013; Royal College of Physicians, Royal College of Psychiatrists, 2013), while simultaneously experiencing lower levels of access to evidence-based intervention (Roddy et al., 2006), even in the settings where they receive behavioral health care (Marynak et al., 2018; Keith et al., 2017; Shi and Cummins,

* Corresponding author at: Health Disparities Research Department, Unit 1440, UT MD Anderson Cancer Center, PO Box 301402, Houston, TX 77230, United States.

E-mail address: MBritton@mdanderson.org (M. Britton).

¹ co-first authors.

<https://doi.org/10.1016/j.pmedr.2023.102256>

Received 18 November 2022; Received in revised form 18 April 2023; Accepted 19 May 2023

Available online 24 May 2023

2211-3355/© 2023 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

2015). Barriers to providing these services in these settings are well known (Huddleston et al., 2022; Rogers et al., 2018), including, but not limited to healthcare providers' lack of time and high caseload (Smith et al., 2019; Chen et al., 2017; Ratschen et al., 2009; Siddiqi et al., 2022), absence of resources (Siddiqi et al., 2022; Parker et al., 2012), and a lack of adequate training (Siddiqi et al., 2022; Parker et al., 2012; Burns et al., 2018; Himelhoch et al., 2014). Tobacco quitlines may help to overcome these barriers.

Quitlines are primarily telephone-based programs that exist in each state and are designed to increase access to evidence-based tobacco cessation and help people who use tobacco to quit (Matkin et al., 2019; Mann et al., 2018; Stead et al., 2013; Anderson and Zhu, 2007; Borland and Segan, 2006). Quitlines are an effective cessation resource; people utilizing quitlines increase their chances of quitting by ~ 43% (Matkin et al., 2019). Although quitlines across the US differ in several capacities (e.g., hours of operation, language, treatment protocols), most offer free tobacco cessation counseling sessions by trained employees, educational materials, and other resources for people who use tobacco. Some quitlines also provide free or discounted nicotine replacement therapy (NRT) (Cummins et al., 2007). Quitline referral is arguably the most accessible way to connect people who use tobacco with evidence-based tobacco cessation services (Matkin et al., 2019; Mann et al., 2018; Stead et al., 2013; Anderson and Zhu, 2007; Borland and Segan, 2006), but quitlines remain extremely underutilized (Mann et al., 2018; Gibson et al., 2021; Gonzales et al., 2019; Lautner et al., 2018; Vidrine et al., 2013; Vidrine et al., 2013).

The Texas Tobacco Quitline (TTQL) serves Texans aged ≥ 13 years who use any tobacco product or e-cigarette (Texas Department of State Health Services, 2013), providing free evidence-based tobacco use interventions to enrolled users via a phone- or web-based program. Phone-based program enrollees can access 5 counseling sessions, a Text2Quit and Web Coach for motivational messaging and check-ins, unlimited brief calls for immediate lapse/relapse prevention assistance, community resources, and (for qualifying patients) up to 2 weeks of one free NRT product (patches, gum, or lozenges). The web-based program offers access to online self-paced modules, a Text2Quit and Web Coach for motivational messaging and check-ins, and community resources. The TTQL provides services in English and Spanish, with translation services available for other languages, and eligible Texans can enroll twice per year (Texas Department of State Health Services, 2013; Taking Texas Tobacco Free, 2022). Smokers with MHCs, among whom a sizeable proportion likely have co-occurring SUDs (National Institute on Drug Abuse, 2020; Ross and Peselow, 2012; Kelly and Daley, 2013), represent about half of quitline users (Morris et al., 2021). These patients benefit from standard or enhanced quitline care, wherein extended NRT and increased numbers of counseling sessions are provided (Carpenter et al., 2019).

While people who use tobacco can access TTQL services without healthcare center referral, they may be unaware of this service, unwilling to proactively call, or hesitant about using it for other reasons (Lautner et al., 2018). Direct patient connection to the TTQL in a healthcare setting through an electronic health record (EHR) or via an online or fax referral form can yield a 13- to 30-fold increase in treatment enrollment relative to self-referral (Vidrine et al., 2013; Vidrine et al., 2013). Despite this, quitlines remain underutilized by patients and their healthcare providers (Gonzales et al., 2019). Patients with MHCs and all patients, including those with SUDs, who are referred to the TTQL by their healthcare center/provider qualify for free NRT. In this context, behavioral healthcare settings are key settings within which to promote TTQL accessibility and execute patient referrals. As non-clinical employees can complete the referral form, all employees have a vital role to play in increasing TTQL utilization. This study assessed TTQL knowledge and referral practices in behavioral healthcare settings and identified potential barriers and facilitators of use to inform strategies to increase uptake.

2. Methods and materials

2.1. Procedures and participants

Data were collected in 2021 statewide needs assessment to determine the tobacco control policies and practices in settings providing behavioral healthcare. A multimethod design was used to provide a comprehensive understanding of factors affecting provider TTQL use (Morse et al., 2003). While quantitative data provided statistical results, qualitative data were collected to refine and explain statistical results by exploring participants' experiences, opinions, and perspectives in-depth, building on survey questions. Each strand thus provided complementary, yet distinct, data on the same topic (Greene et al., 1989). Combining both methods provided a more comprehensive understanding of the results and increased the reliability and validity of the findings through triangulation of methods. Quantitative survey and qualitative interview data were collected simultaneously, analyzed independently and blindly by respective analysts, and triangulated during final interpretation.

Recruitment was focused on settings providing behavioral healthcare services (e.g., substance use/chemical dependency treatment) in Texas; surveys were solicited from employees of Federally Qualified Health Centers (FQHCs; $n = 57$ solicited), Local Mental Health Authorities (LMHAs; $n = 39$), substance use treatment (SUT) programs in LMHAs ($n = 89$), and standalone substance use treatment centers (SUTCs; $n = 458$). All survey respondents indicated their interest in a subsequent interview. Interview invitations ($n = 48$) were primarily based on conducting > 1 interview from each of Texas' 11 Public Health Regions (Texas Department of State Health Services, 2022). Interviews were conducted on a Public Health Region quota and first-come, first-served basis. The University of Houston Institutional Review Board (IRB) concluded that this project did not meet the definition of human subjects research under 45 CFR 46.102 (I) (i.e., a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge); therefore, no IRB review/approval was necessary. Detailed recruitment procedures are described elsewhere (Siddiqi et al., 2022; Taing et al., 2022; Jafry et al., 2022; Britton et al., 2023; Britton et al., 2023).

2.2. Quantitative measures

2.2.1. TTQL knowledge

Respondents reported whether their center was familiar with the TTQL (yes, no/I don't know) and responded to two statements about actual services that the TTQL offers by answering true or false/I don't know.

2.2.2. Center-level practices regarding the TTQL

Respondents were asked whether their center has an electronic referral system that directly connects patients with the TTQL (true, false/I do not know) and whether they agreed their center promoted patient TTQL referral (1 = strongly disagree to 5 = strongly agree or N/A).

2.2.3. TTQL facilitators and barriers

Respondents were asked to rate agreement with nine statements about their and their center's patients' experiences with the TTQL that facilitate or impede referral provision and patient uptake (1 = strongly disagree to 5 = strongly agree or N/A/I don't know).

2.2.4. Descriptive statistics

Respondents reported on the following center-level characteristics: 1) the number of unique annual patients served (based on sample distributions, presented as: 50–200; 201–1,000; $> 1,000$), 2) the number of full-time employees (based on sample distributions, presented as: 1–50; 50+), 3) whether the center employed a certified tobacco treatment

specialist (yes, no/I don't know); and 4) whether the center had a comprehensive tobacco-free workplace policy that disallowed tobacco use indoors and outdoors on the property (yes, no/I don't know).

2.3. Qualitative interview questions

Interview questions addressed respondents' use of the TTQL, their associated referral processes, and the experiences patients reported to them about the support they received from the TTQL when trying to quit (inclusive of NRT).

2.4. Data analysis

Frequencies for each survey item of interest were presented, with differences between healthcare center types assessed using Chi-square/Fisher's exact tests with a significance value of $p < 0.05$. Coding of Likert scale questions is described in relevant table notes. Quantitative data were analyzed using SAS 9.4.

Qualitative interview recordings were transcribed verbatim using a professional service. An inductive analysis was conducted using thematic analysis and constant comparison, in which new and emerging data were compared with previously coded transcripts to identify categories and themes that were drawn directly from the data. Two cultural anthropologists trained in qualitative research (I.M.L.; A.R.) independently coded interview transcripts to develop and test an initial coding frame. Analysts refined the coding frame and reconciled any discrepancies to establish a final coding frame that was reapplied to all qualitative data. Through constant comparison of the data, codes were merged to refine and develop categories and themes, confirm accurate reporting of the data, attainment of data saturation, and establish analytic rigor (Morse and Field, 1995). Qualitative data were organized using Atlas.ti9 (ATLAS.ti Scientific Software Development GmbH, 2020).

3. Results

3.1. Analytic sample

Survey respondents (n = 135) were employees of FQHCs (n = 25; ~44% response rate), LMHAs (n = 30; ~77%), SUT programs in LMHAs (n = 14; ~16%), and standalone SUTCs (n = 66; ~14%). Fourteen multiple-choice TTQL questions were presented at the end of the survey and 10 respondents skipped these items, yielding an analytic sample of 125 respondents who represented 23 FQHCs, 29 LMHAs, 12 SUT

programs in LMHAs, and 61 SUTCs. Interview respondents were 26/48 (~54%), representing 10 Public Health Regions (Texas Department of State Health Services).

3.2. Quantitative results

3.2.1. Healthcare center descriptives

Most centers served ≤ 1000 unique patients annually and had 1–50 employees, with significant differences by healthcare center type. About a third of centers employed ≥ 1 certified tobacco treatment specialist, and just over half reported a comprehensive tobacco-free workplace policy. See Table 1.

3.2.2. TTQL knowledge

Over half of respondents (n = 78) indicated that their center was familiar with the TTQL. Endorsements of familiarity differed significantly based on the center type. Almost three-quarters of respondents (n = 91) knew that services were offered in both English and in Spanish, but only half (n = 62) knew that the TTQL provided NRT to eligible callers. The latter varied by center type; specifically, less than half of FQHC, LMHA, and SUTC respondents knew this was true, whereas almost all of SUT program in LMHA respondents knew this was true. See Table 2.

3.2.3. Center-level practices regarding the TTQL

Few respondents (n = 15) indicated that their center had an electronic referral system that could directly connect patients with the TTQL and about half (n = 65) indicated that their center promoted patient referral to the TTQL, with no significant differences by center type. See Table 2.

3.2.4. TTQL facilitators and barriers

Most respondents (n = 79) believed that the TTQL was helpful to patients who want to quit. About a quarter of respondents indicated that they had good experiences with (n = 34), or that their patients had good experiences with (n = 31), the TTQL. Few respondents reported that patients were not receiving follow-up calls at all (n = 9) or in a timely manner (n = 9), or that they were routinely told they did not qualify for telephone counseling (n = 8) or free NRT (n = 13). Similarly, few respondents indicated that the process to register/refer a patient with the TTQL was cumbersome or time-consuming (n = 10) and that patients were told that NRT could not be mailed to an inpatient treatment facility (n = 7). There were no significant differences between endorsements of these items by center type. Responses of N/A or "I don't know" ranged

Table 1
Characteristics of Participating Healthcare Centers Providing Behavioral Healthcare to Texans (N = 125 healthcare centers).

Center Characteristics	Total % [N]	Center Type				p-value of X2 or Fisher's exact
		FQHC	LMHA	LMHA SUT Program	SUTC	
# of unique patients/annually						<0.001 [§]
50-200	30.33 [37]	38.10 [8]	3.57 [1]	33.33 [4]	39.34 [24]	
201-1,000	40.98 [50]	23.81 [5]	21.43 [6]	50.00 [6]	54.10 [33]	
>1,000	28.69 [35]	38.10 [8]	75.00 [21]	16.67 [2]	6.56 [4]	
# of full-time employees						<0.001
1-50	60.80 [76]	56.52 [13]	6.90 [2]	75.00 [9]	85.25 [52]	
>50	39.20 [49]	43.48 [10]	93.10 [27]	25.00 [3]	14.75 [9]	
Has ≥ 1 certified tobacco treatment specialist						0.098
Yes	29.60 [37]	21.74 [5]	41.38 [12]	50.00 [6]	22.95 [14]	
No/I do not know	70.40 [88]	78.26 [18]	58.62 [17]	50.00 [6]	77.05 [47]	
Has a comprehensive tobacco-free workplace policy						0.131
Yes	57.60 [72]	60.87 [14]	72.41 [21]	66.67 [8]	47.54 [29]	
No	42.40 [53]	39.13 [9]	27.59 [8]	33.33 [4]	52.46 [32]	

Note. FQHC = Federally Qualified Health Center; LMHA = Local Mental Health Authority; SUT = Substance Use Treatment; SUTC = Substance Use Treatment Center
[§]Fisher's exact test.

Table 2

Texas Tobacco Quitline (TTQL) Knowledge and Practices Overall and by Healthcare Center Type (N = 125 healthcare centers).

	Total % [N]	Center Type				p-value of X2 or Fisher's exact
		FQHC	LMHA	LMHA SUT Program	SUTC	
TTQL Knowledge						
My center is familiar with the TTQL.						0.012
Yes	62.4 [78]	52.17 [12]	82.76 [24]	83.33 [10]	52.46 [32]	
No/I do not know	37.6 [47]	47.83 [11]	17.24 [5]	16.67 [2]	47.54 [29]	
The TTQL provides services in English and Spanish.						0.823
True	72.8 [91]	65.22 [15]	72.41 [21]	75.00 [9]	75.41 [46]	
False/I do not know	27.2 [34]	34.78 [8]	27.59 [8]	25.00 [3]	24.59 [15]	
The TTQL provides nicotine replacement therapies to some callers.						0.021
True	49.6 [62]	47.83 [11]	48.28 [14]	91.67 [11]	42.62 [26]	
False/I do not know	50.4 [63]	52.17 [12]	51.72 [15]	8.33 [1]	57.38 [35]	
Center-level Practices Regarding TTQL						
My center has an electronic referral system that directly connects patients with the TTQL.						0.072 [§]
True	12.0 [15]	26.09 [6]	3.45 [1]	16.67 [2]	9.84 [6]	
False/I do not know	88.0 [110]	73.91 [17]	96.55 [28]	83.33 [10]	90.16 [55]	
My center suggests that we refer smokers and other tobacco users to the TTQL.†						0.125
Yes	52.0 [65]	39.13 [9]	62.07 [18]	75.00 [9]	47.54 [29]	
No	48.0 [60]	60.87 [14]	37.93 [11]	25.00 [3]	52.46 [32]	

Note. FQHC = Federally Qualified Health Center; LMHA = Local Mental Health Authority; SUT = Substance Use Treatment; SUTC = Substance Use Treatment Center
 †Yes: Strongly agree/Somewhat agree, No: Strongly disagree/Somewhat disagree/Neither agree nor disagree/NA

[§]Fisher's exact test.

17.6% to 64.0% by item. See [Table 3](#).

3.3. Qualitative results

There were three major themes related to use of the TTQL. Supportive quotes for each theme can be found in [Table 4](#).

3.3.1. Theme 1. TTQL knowledge

Most respondents who participated in interviews shared that they were familiar with the TTQL. However, there were a few exceptions.

3.3.2. Theme 2. Lack of documentation/follow up/knowledge about patients' experiences with the TTQL

The most common response about patients' use of and experiences with the TTQL was the lack of knowledge in this area. Most respondents did not know whether patients used the TTQL services, and if they did, what their experiences were, due to a reported lack of a system that would ensure documentation of the referrals and systematic follow ups.

3.3.3. Theme 3. Perceived barriers and facilitators to the use of the TTQL

Respondents shared both positive and negative experiences that patients reported related to the quality, consistency, and access of services. Positive comments focused on the potential benefits of these services for patients and it being a good solution for the lack of tobacco cessation services at their centers. Those who received feedback from patients reported that some were able to receive good quality services that helped them greatly with their tobacco cessation treatment whereas others had mixed or negative experiences. One of the concerns with the TTQL was the perception of inconsistency in the services it provided. Furthermore, some respondents reported an inability for patients to receive free NRT products when calling the TTQL. Another concern shared by some of the respondents was the wait time, which created an interruption between when patients decided to make a quit attempt and when they could get NRT products and support. One barrier specific to the populations they serve was employees' concern that the format of the TTQL did not work well for patients with BHCs who, they believed, would need a more personalized approach to establish long-term trustful relationship with their healthcare providers to be able to quit tobacco use and maintain abstinence.

4. Discussion

Although there is extensive evidence supporting the importance and feasibility of providing tobacco cessation services in behavioral healthcare settings, prior studies have suggested that delivery is severely limited ([Taing et al., 2022](#); [Samples et al., 2018](#); [Marynak et al., 2018](#); [Keith et al., 2017](#); [Dai and Clements, 2018](#); [Rogers and Wysota, 2019](#); [Siddiqi et al., 2023](#)). For example, a nationwide study revealed that only 64.0% of SUTCs reported screening patients for tobacco use; 47.4% offered tobacco cessation counseling; and 26.2% offered NRT ([Marynak et al., 2018](#)). These numbers suggest significant room for improvement in the provision of tobacco cessation services. While integrating these services into existing treatment practices is possible, it requires resources that are often unavailable in these settings ([Siddiqi et al., 2022](#); [Knudsen, 2017](#); [Hunt et al., 2013](#); [Le et al., 2020](#); [Martinez Leal et al., 2020](#)). Here, quitlines are especially valuable, and may be a particularly feasible way to connect patients with evidence-based cessation services, particularly given relatively low resource requirements associated with their use.

The TTQL is a free resource that can increase access to evidence-based tobacco cessation services for patients with BHCs and address tobacco use disparities with evidence-based care. While knowledge about this resource should be ubiquitous in settings providing care to patients with BHCs, there were evident gaps in familiarity with the TTQL, knowledge about the services offered, and the languages in which it was provided. As MHCs and SUDs disproportionately impact individuals with low socioeconomic status ([Reiss, 2013](#); [Lewis et al., 2018](#)), increasing access to free NRT and counseling through the TTQL within these settings have the potential to increase access to evidence-based combination treatment for tobacco use disorder ([Leas et al., 2018](#); [Molyneux, 2003](#)). Trainings on TTQL services that specifically explain how to make a referral (through EHRs, fax, or online) are necessary to increase the use of the TTQL for patients with BHCs ([Baker et al., 2021](#); [Carpenter et al., 2012](#)). These trainings should be targeted toward all employees, given that anyone can complete the referral process (e.g., administrative employees, medical assistants, etc.). Connecting patients directly with the TTQL considerably increases quitline engagement relative to relying on patients to initiate contact ([Vidrino et al., 2013](#); [Piñeiro et al., 2020](#)). This is important for patients with BHCs, as a common perception shared during interviews was that their patients need more active support and encouragement in their quit

Table 3
Perceived Texas Tobacco Quitline (TTQL) Facilitators and Barriers Overall and by Healthcare Center Type (N = 125 healthcare centers).

TTQL Facilitators and Barriers	Total % [N]	Center Type				p-value of Fisher's exact
		FQHC	LMHA	LMHA SUT Program	SUTC	
The TTQL is helpful to patients who want to quit.						0.252
Yes	63.2 [79]	43.48 [10]	65.52 [19]	83.33 [10]	65.57 [40]	
No	19.2 [24]	30.43 [7]	24.14 [17]	8.33 [1]	14.75 [9]	
N/A	17.6 [22]	26.09 [6]	10.34 [3]	8.33 [1]	19.67 [12]	
I have had a good experience with the TTQL.						0.121
Yes	27.2 [34]	26.09 [6]	10.34 [3]	41.67 [5]	32.79 [20]	
No	36.0 [45]	26.09 [6]	55.17 [16]	33.33 [4]	31.15 [19]	
N/A	36.8 [46]	47.83 [11]	34.48 [10]	25.00 [3]	36.07 [22]	
My patients have had a good experience with the TTQL.						0.176
Yes	24.8 [31]	21.74 [5]	13.79 [4]	33.33 [4]	29.51 [18]	
No	41.6 [52]	34.78 [8]	55.17 [16]	58.33 [7]	34.43 [21]	
N/A	33.6 [42]	43.48 [10]	31.03 [9]	8.33 [1]	36.07 [22]	
Patients do not receive follow up calls at all when referred to the TTQL.						0.725
Yes	7.2 [9]	4.35 [1]	3.45 [1]	16.67 [2]	8.20 [5]	
No	36.8 [46]	43.48 [10]	37.93 [11]	41.67 [5]	32.79 [20]	
N/A	56.0 [70]	52.17 [12]	58.62 [17]	41.67 [5]	59.02 [36]	
Patients do not receive follow up calls in a timely manner when referred to the TTQL.						0.375
Yes	7.2 [9]	4.35 [1]	0.00 [0]	16.67 [2]	9.84 [6]	
No	34.4 [43]	39.13 [9]	37.93 [11]	41.67 [5]	29.51 [18]	
I don't know	58.4 [73]	56.52 [13]	62.07 [18]	41.67 [5]	60.66 [37]	
Patients are routinely told they do not qualify for telephone counseling through the TTQL.						0.258
Yes	6.4 [8]	0.00 [0]	10.34 [3]	8.33 [1]	6.56 [4]	
No	40.8 [51]	47.83 [11]	34.48 [10]	66.67 [8]	36.07 [22]	
I don't know	52.8 [66]	52.17 [12]	55.17 [16]	25.00 [3]	57.38 [35]	
Patients are routinely told they do not qualify for free nicotine replacement therapy through the TTQL.						0.276
Yes	10.4 [13]	4.35 [1]	20.69 [6]	16.67 [2]	6.56 [4]	
No	36.0 [45]	39.13 [9]	27.59 [8]	50.00 [6]	36.07 [22]	
I don't know	53.6 [67]	56.52 [13]	51.72 [15]	33.33 [4]	57.38 [35]	
The process to register a patient with the TTQL is cumbersome and time consuming.						0.455
Yes	8.0 [10]	8.70 [2]	3.45 [1]	25.00 [3]	6.56 [4]	
No	40.0 [50]	39.13 [9]	44.83 [13]	41.67 [5]	37.70 [23]	
I don't know	52.0 [65]	52.17 [12]	51.72 [15]	33.33 [4]	55.74 [34]	
Patients are told nicotine replacement therapy can't be mailed to an inpatient treatment facility.‡						0.920
Yes	5.6 [7]	0.00 [0]	6.90 [2]	8.33 [1]	6.56 [4]	
No	30.4 [38]	30.43 [7]	31.03 [9]	33.33 [4]	29.51 [18]	
I don't know	64.0 [80]	69.57 [16]	62.07 [18]	58.33 [7]	63.93 [39]	

Note. N = 125 healthcare centers; FQHC = Federally Qualified Health Center; LMHA = Local Mental Health Authority; SUT = Substance Use Treatment Program; SUTC = Substance Use Treatment Center.

‡Yes: Somewhat agree/Strongly agree, No: Strongly disagree/Somewhat disagree/Neither agree nor disagree.

attempts. A proactive call from the TTQL partially addresses this problem; therefore, the benefit of direct referrals should be emphasized through trainings.

Unfortunately, few respondents indicated that their center had an electronic referral system enabling direct TTQL referrals and center-promoted referral to the TTQL was far from ubiquitous. These findings strongly support the need for top-down solutions within settings providing behavioral health care to promote a culture where TTQL is a first-line treatment for tobacco use. Furthermore, achievement of leadership buy-in is necessary to increase the number of centers with the ability to directly refer via their EHR. The eTobacco Protocol is a referral tool for Texas healthcare centers that can be integrated into an existing EHR and allows providers to refer patients to the TTQL with the click of a button (UT Tobacco Research and Evaluation Team, 2022). Free technical assistance, training, and other materials and resources (sometimes, financial assistance) are offered no cost to support healthcare centers that choose to adopt the eTobacco Protocol. However, changes to EHRs will likely incur expenses, as might the need for a third-party Health Information Service Provider to securely communicate patient information (Definitive Healthcare, 2023), emphasizing the need for leadership support for changes. Finally, some healthcare centers use paper documentation for patient records. In these cases, it is important to train providers on use of TTQL fax and online referrals, which can be made without access to an EHR. Although more time consuming than the eTobacco Protocol, these processes provide the same patient benefits as direct EHR referral.

In most cases, respondents indicated through interviews that there was no routine or standardized practice of denoting TTQL referral in patient records and that there was usually no follow up with patients regarding their TTQL experience. Consequently, healthcare providers might only have limited knowledge about their patients' experiences with the TTQL, as well as about their patients progress in their quit attempts. A follow-up from healthcare providers is particularly important for patients with BHCs to ensure that any behavioral health medications and their dosages are not affected by the change in their tobacco use patterns (American Academy of Family Physicians, 2022), as well as to provide additional support and motivation in their quit attempts. Improved clinical workflows with provider nudges and attention to choice architecture are needed in settings where patients with BHCs are seen to ensure that there is routine follow-up to TTQL referrals.

One of the more prevalent concerns stated in interviews was related to inconsistency of TTQL services. In some cases, respondents suggested that the wait time created an interruption between patients' decision to make a quit attempt and when they could get NRT products and support from the TTQL. Some potential difficulties with getting free NRT products were also reported. Assuming the veracity of these reports, these concerns may need to be addressed at the level of the TTQL administration and/or through additional funding to bolster the TTQL capacity such that healthcare providers will be encouraged to refer their patients to the TTQL.

Most respondents of qualitative procedures indicated that they felt the TTQL was helpful for patients who want to quit. Fewer respondents reported that they or their patients had good experiences with the TTQL. Although this suggests the potential need for improved services, it is curious that potential areas for improvement assessed on the survey (e.g., receipt of timely calls, qualifying for services, cumbersome registration process, and mailing NRT to inpatient treatment facilities) were not highly endorsed, indicating a need for further exploration in future work. This work may include recruitment of patients to discuss their experiences with the TTQL counselors, or the amount and type of NRT

Table 4
Themes and Supportive Quotes Related to the Use of Texas Tobacco Quitline (TTQL) in behavioral healthcare settings (N = 26 healthcare center employees).

Theme	Topical Area	Quote
TTQL Knowledge		<i>In fact, your email to me to fill out the survey was the first time I'd ever heard of Texas Quitline. (Executive Director, D17*)</i>
Lack of documentation/follow up/knowledge about patients' experiences with the TTQL		<i>I think part of it too, I didn't follow up with them on it. I may have given them the information and just time passed, and it's slipped my mind. I didn't document it somewhere. (Licensed Chemical Dependency Counselor, D1)</i> <i>I've made a lot of referrals for Quitline while I've been here but generally, I haven't heard anything about outcomes [...] I give the information and there's no real follow-up that I can have with them on how it was. (Senior Counselor and Manager, D18)</i>
Perceived barriers and facilitators to the use of the TTQL	Good quality services	<i>Sometimes I'll see them, sometimes I don't, but yes, a lot of them will say, "Yes, I got the patches," or gum or whatever, "and it really helped me." For the most part, these things do work for them, and they do help them. (Quality Mental Health Professional/ Realization Case Manager, D11)</i>
	Perceptions of inconsistent services	<i>For those that have followed through and actually contacted it [the TTQL] has been very good, very great information, very responsive. Our difficulty is getting clients to follow through with contacting. (Senior Clinical Department Administrator, D20)</i> <i>I myself have called [the TTQL] several times when I was setting this up because I never really wanted to give out a resource unless I try it first myself. I think I called in probably four or five different times to the quitline and probably had four or five different experiences with the call [...] It was never a consistent thing but none of it was bad. It was just not consistent. Sometimes you would talk to somebody, and they knew very little - it's like anything else in life. (Director of Special Programs, D3)</i>
	Unable to receive free NRT	<i>Sometimes, it just depends on the person [...] It's kind of hit or miss. I wouldn't say it never works; it's just you never know. (Director of Operations, D13)</i> <i>It was always a no, no, no as far as providing NRT for clients. It was always an across-the-board no. [...] It wasn't supplied in our area. (Director of Special Programs, D3)</i>

Table 4 (continued)

Theme	Topical Area	Quote
	Wait time	<i>I haven't really heard too much feedback other than one or two times that I've heard that it just takes a little bit of a long time to get the patches in the mail and the information in the mail. The ones that are really interested and wanting to stop smoking they wanted a lot faster than what they're getting it. It can take up to two weeks sometimes after the initial call. (Director of Program Operations, D10)</i>
	Behavioral health patients	<i>Typically, they usually don't follow through is my understanding, but if the case manager is with them and says, "Hey, let's call right now," then they'll follow through with it, but some of the staff feel like it doesn't work very well because there's no relationship established. So, you're calling somebody, and you're getting something, but what are you really getting? Are they going to be there when you really need them to talk about something? So, they're not as trusting is what some of the staff told me. (Director of Behavioral Health Care Services, D21)</i>

Note. NRT = Nicotine replacement therapy; *Quotes are followed by D1, D2, etc. to identify the different healthcare center and to indicate scope of respondents' responses across the qualitative data analysis.

provided. However, it is also notable that a large proportion of the responses to these items (about experiences with the TTQL and the services) were N/A or "I don't know." This aligns with qualitative findings indicating that providers do not know about their patients' experiences with the TTQL because there are no protocols for conducting appropriate follow-ups. For respondents who were not direct service providers, responses of N/A or "I don't know" might indicate a lack of involvement with patients; however, these responses were equally as likely from direct service providers vs. non-direct service providers (Supplemental Table 1). Alternatively, the prevalence of these responses may reflect methodological limitations, such that respondents were not the appropriate person to complete the survey or that the question wording and response options could be improved.

Additional limitations include that respondents were asked to answer certain items on behalf of the entire center. Although precautions were taken to ensure that the respondent was the person who knew the most about how tobacco use was handled at each represented center (i.e., via survey instructions), respondents' choices could reflect personal knowledge and practices rather than center-wide knowledge and practices. Furthermore, the TTQL questions were embedded into a longer survey that assessed tobacco use knowledge and practices more generally. The TTQL questions were positioned at the end of the survey; thus, respondents who did not complete all sections of the survey did not respond to these items. Finally, response rates were low, especially in some settings, which limits generalizability of the findings.

Strengths include a strong representation of Texas LMHAs and the inclusion of both providers with direct patient contact as well as employees without, both of whom can refer patients to the TTQL, schedule follow-up appointments to discuss progress, and provide print educational materials to support quit attempts (Taking Texas Tobacco Free, 2022). Although few respondents felt that the referral process was time-consuming, providers in behavioral healthcare often cite time

constraints as issues to provision of any tobacco cessation services (Siddiqi et al., 2022; Allen et al., 2019). Therefore, trainings in healthcare settings that target all employees (and not only providers) to increase knowledge about the TTQL and how to make referrals could be effective in increasing center-wide practices related to this resource by reducing provider burden.

5. Conclusions

The TTQL is an important tobacco cessation resource for patients with BHCs who use tobacco. Given known disparities in tobacco use for this group, healthcare centers serving them have an obligation to provide tobacco cessation resources that are both effective and practical for use. These findings display a clear need to intervene with training efforts to improve knowledge of the TTQL and its services with healthcare centers, as well as build or bolster employees' capacity to refer patients to the TTQL. Furthermore, implementation efforts may be needed to develop and streamline practices, including documentation of TTQL referrals and follow-ups to ensure continuity of tobacco-related care. Finally, it is vital that training efforts be targeted toward all employees; effort distribution across multiple clinical touchpoints may address provider time limitations and increase TTQL referrals.

6. Disclosures

We have no formal conflict of interest; however, at the time of data collection, Ms. Mayuri Patel worked for the Department of State Health Services (DSHS) and acted as the study team's research liaison. The Texas Tobacco Quitline, which is the subject of this paper, is funded by the DSHS. Ms. Patel's role as liaison included connecting us with community organizations involved in tobacco control to facilitate recruitment as well as ushering approvals from the DSHS evaluation team on our materials.

Funding

This project was funded by from the Department of State Health Services, contract HHS000961900001 to L.R.R. (funded via the Centers for Disease Control and Prevention, National and State Tobacco Control Program grant: NU58DP006805) on which, A.R., M.B. I.M.L., T.A.C., B. K., and T.W. were supported. Additionally, work on the manuscript and its revisions were supported by the National Institute on Drug Abuse (NIDA) of the National Institutes of Health (NIH), award R25DA054015 to L.R.R. as MPI, on which M.B. was a scholar and on which T.A.C. and A.R. were supported as well as NIDA of the NIH, award U54MD015946-03S1 to M.B. and I.M.L. as MPIs of the science, and to L.R.R. as Co-I.

CRedit authorship contribution statement

Maggie Britton: Conceptualization, Validation, Investigation, Data curation, Writing – original draft, Writing – review & editing, Project administration. **Anastasia Rogova:** Conceptualization, Methodology, Software, Validation, Formal analysis, Investigation, Data curation, Writing – original draft, Writing – review & editing. **Tzuan A. Chen:** Methodology, Software, Validation, Formal analysis, Investigation, Data curation, Writing – review & editing, Visualization. **Isabel Martinez Leal:** Methodology, Software, Validation, Formal analysis, Investigation, Data curation, Writing – review & editing. **Bryce Kyburz:** Investigation, Writing – review & editing. **Teresa Williams:** Investigation, Writing – review & editing. **Mayuri Patel:** Investigation, Writing – review & editing, Supervision. **Lorraine R. Reitzel:** Conceptualization, Investigation, Resources, Writing – original draft, Writing – review & editing, Supervision, Funding acquisition, Project administration.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

We greatly appreciate the study promotion efforts of various individuals and organizations to include Integral Care, the University of Houston's HEALTH Research Institute, the Coalition for Behavioral Health, the Association of Substance Abuse Programs, the United States Association of Opioid Treatment Providers, the Network of Behavioral Health Providers, the Texas Association of Addiction Professionals, the Department of State Health Services, the University of MD Anderson Cancer Center's Project TEACH, the Texas Association of Community Health Centers, the Texas Association of Rural Health Centers, the Big Texas Rally for Recovery, the Texas Targeted Opioid Response Program, and Community Resource Coordinating Groups.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.pmedr.2023.102256>.

References

- Allen, A.M., Muramoto, M.L., Campbell, J., Connolly, T.E., McGuffin, B.A., Bernstein, A. D., 2019. Multimethod formative research to improve the training and delivery of tobacco-cessation interventions in behavioral health settings. *J. Addict. Med.* 13 (6), 470–475. <https://doi.org/10.1097/ADM.0000000000000522>.
- American Academy of Family Physicians, 2019. Drug interactions with tobacco smoke. <https://www.aafp.org/family-physician/patient-care/care-resources/tobacco-and-nicotine.html> (accessed 14 August 2022).
- Anderson, C.M., Zhu, S.H., 2007. Tobacco quitlines: Looking back and looking ahead. *Tob. Control* 16 (Supplement 1), i81–i86. <https://doi.org/10.1136/tc.2007.020701>.
- ATLAS.ti Scientific Software Development GmbH, 2022. ATLAS.ti9 (version 9). <https://atlasti.com>.
- Baker, T.B., Berg, K.M., Adsit, R.T., Skora, A.D., Swedlund, M.P., Zehner, M.E., McCarthy, D.E., Glasgow, R.E., Fiore, M.C., 2021. Closed-loop electronic referral from primary care clinics to a state tobacco cessation quitline: Effects using real-world implementation training. *Am. J. Prev. Med.* 60 (3), S113–S122. <https://doi.org/10.1016/j.amepre.2019.12.026>.
- Borland, R., Segan, C., 2006. The potential of quitlines to increase smoking cessation. *Drug Alcohol Rev.* 25 (1), 73–78. <https://doi.org/10.1080/09595230500459537>.
- Britton, M., Chen, T.A., Martinez Leal, I., Rogova, A., Kyburz, B., Williams, T., Patel, M., El-Zein, R., Bernicker, E.H., Lowenstein, L.M., Reitzel, L.R., 2023. Lung cancer screening eligibility and referral practices in Texas organizations serving people with substance use disorders. *Cancers* 15 (7), 2073. <https://doi.org/10.3390/cancers15072073>.
- Britton, M., Martinez Leal, I., Jafry, M.Z., Chen, T.A., Rogova, A., Kyburz, B., Williams, T., Reitzel, L.R., 2023. Influence of provider and leader perspectives about concurrent tobacco-use care during substance-use treatment on their tobacco intervention provision with clients: A mixed-methods study. *Int. J. Environ. Res. Public Health.* 20 (7), 5260. <https://doi.org/10.3390/ijerph20075260>.
- Burns, A., Webb, M., Stynes, G., O'Brien, T., Rohde, D., Strawbridge, J., Clancy, L., Doyle, F., 2018. Implementation of a quit smoking programme in community adult mental health services—a qualitative study. *Front. Psychiatry* 9, 670. <https://doi.org/10.3389/fpsy.2018.00670>.
- Carpenter, K.M., Carlini, B.H., Painter, I., Mikko, T.A., Stoner, S.A., 2012. Refer2Quit: Impact of web-based skills training on tobacco interventions and quitline referrals. *J. Contin. Educ. Health Prof.* 32 (3), 187–195. <https://doi.org/10.1002/chp.21144>.
- Carpenter, K.M., Nash, C.M., Vargas-Belcher, R.A., Vickerman, K.A., Haufle, V., 2019. Feasibility and early outcomes of a tailored quitline protocol for smokers with mental health conditions. *Nicotine Tob. Res.* 21 (5), 584–591. <https://doi.org/10.1093/ntr/ntz023>.
- Chen, L.-S., Baker, T., Brownson, R.C., Carney, R.M., Jorenbly, D., Hartz, S., Smock, N., Johnson, M., Ziedonis, D., Bierut, L.J., 2017. Smoking cessation and electronic cigarettes in community mental health centers: Patient and provider perspectives. *Community Ment. Health J.* 53 (6), 695–702. <https://doi.org/10.1007/s10597-016-0065-8>.
- Cornelius, M.E., Loretan, C.G., Wang, T.W., Jamal, A., Homa, D.M., 2022. Tobacco product use among adults — United States, 2020. *MMWR Morb. Mortal. Wkly Rep.* 71 (11), 397–405. <https://doi.org/10.15585/mmwr.mm7111a1>.
- Cummins, S.E., Bailey, L., Campbell, S., Koon-Kirby, C., Zhu, S.H., 2007. Tobacco cessation quitlines in North America: A descriptive study. *Tob. Control* 16, i9–i15. <https://doi.org/10.1136/tc.2007.020370>.

- Dai, H., Clements, M., 2018. Trends in healthcare provider advice on youth tobacco use, 2011–2015. *Am. J. Prev. Med.* 55 (2), 222–230. <https://doi.org/10.1016/j.amepre.2018.04.015>.
- Definitive Healthcare. Health Information Service Provider (HISP). [\(https://www.definitivehc.com/resources/glossary/health-information-service-provider#:~:text=What%20is%20a%20Health%20Information,health%20information%20exch ange%20\(HIE\)\)](https://www.definitivehc.com/resources/glossary/health-information-service-provider#:~:text=What%20is%20a%20Health%20Information,health%20information%20exch ange%20(HIE)) (accessed 5 April 2023).
- Drope, J., Liber, A.C., Cahn, Z., Stoklosa, M., Kennedy, R., Douglas, C.E., Henson, R., Drope, J., 2018. Who's still smoking? disparities in adult cigarette smoking prevalence in the United States. *CA Cancer J. Clin.* 68 (2), 106–115. <https://doi.org/10.3322/caac.21444>.
- Forman-Hoffman, V.L., Hedden, S.L., Miller, G.K., Brown, K., Teich, J., Gfroerer, J., 2017. Trends in cigarette use, by serious psychological distress status in the United States, 1998–2013. *Addict. Behav.* 64, 223–228. <https://doi.org/10.1016/j.addbeh.2016.09.003>.
- Taking Texas Tobacco Free. Provider Resources. <https://www.takingtexas tobaccofree.com/provider-materials> (accessed on 12 June 2022).
- Gibson, B., Kramer, H., Weir, C., Fiol, G., Borbolla, D., Schlechter, C.R., Lam, C., Nelson, M., Bohner, C., Schulthies, S., Sieperas, T., Pruhs, A., Nahum-Shani, I., Fernandez, M.E., Wetter, D.W., 2021. Workflow analysis for design of an electronic health record-based tobacco cessation intervention in community health centers. *JAMIA Open.* 4 (3) <https://doi.org/10.1093/jamiaopen/ooaa070>.
- Gonzalez, K., Berger, A.M., Fiandt, K., 2019. Federally Qualified Health Center use of the Nebraska Tobacco Quitline. *Tob. Prev. Cessat.* 5, 43. <https://doi.org/10.18332/tpc/113354>.
- Greene, J.C., Caracelli, V.J., Graham, W.F., 1989. Toward a conceptual framework for mixed-method evaluation designs. *Educ. Eval. Policy Anal.* 11 (3), 255–274. <https://doi.org/10.3102/01623737011003255>.
- Guydish, J., Passalacqua, E., Tajima, B., Chan, M., Chun, J., Bostrom, A., 2011. Smoking prevalence in addiction treatment: A review. *Nicotine Tob. Res.* 13 (6), 401–411. <https://doi.org/10.1093/ntr/ntq048>.
- Himelhoch, S., Riddle, J., Goldman, H.H., 2014. Barriers to implementing evidence-based smoking cessation practices in nine community mental health sites. *Psychiatr. Serv.* 65 (1), 75–80. <https://doi.org/10.1176/appi.ps.201200247>.
- Hitsman, B., Papandonatos, G.D., McChargue, D.E., DeMott, A., Herrera, M.J., Spring, B., Borrelli, B., Niaura, R., 2013. Past major depression and smoking cessation outcome: A systematic review and meta-analysis update. *Addiction* 108 (2), 294–306. <https://doi.org/10.1111/add.12009>.
- Huddleston, L., Shoesmith, E., Pervin, J., Lorencatto, F., Watson, J., Ratschen, E.A., 2022. A systematic review of mental health professionals, patients, and carers' perceived barriers and enablers to supporting smoking cessation in mental health settings. *Nicotine Tob. Res.* 24 (7), 945–954. <https://doi.org/10.1093/ntr/ntac004>.
- Hunt, J.J., Gajewski, B.J., Jiang, Y., Cupertino, A.P., Richter, K.P., 2013. Capacity of US drug treatment facilities to provide evidence-based tobacco treatment. *Am. J. Public Health* 103 (10), 1799–1801. <https://doi.org/10.2105/AJPH.2013.301427>.
- Jafry, M.Z., Reuven, S.M., Britton, M., Chen, T.A., Martinez Leal, I., Rogova, A., Kyburz, B., Williams, T., Patel, M., Reitzel, L.R., 2022. Providers' non-cigarette tobacco use intervention practices in relation to beliefs about patients, prioritization of and skills for intervention, and referral knowledge in Texas healthcare centers providing care to persons with behavioral health needs. *Int. J. Environ. Res. Public Health* 19 (21), 14269. <https://doi.org/10.3390/ijerph192114269>.
- Keith, D.R., Stanton, C.A., Gaalema, D.E., Bunn, J.Y., Doogan, N.J., Redner, R., Kurti, A. N., Cepeda-Benito, A., Lopez, A.A., Morehead, A.L., Roberts, M.E., Higgins, S.T., 2017. Disparities in US healthcare provider screening and advice for cessation across chronic medical conditions and tobacco products. *J. Gen. Intern. Med.* 32 (9), 974–980. <https://doi.org/10.1007/s11606-017-4062-6>.
- Kelly, T.M., Daley, D.C., 2013. Integrated treatment of substance use and psychiatric disorders. *Soc. Work Public Health* 28 (3–4), 388–406. <https://doi.org/10.1080/19371918.2013.774673>.
- Knudsen, H.K., 2017. Implementation of smoking cessation treatment in substance use disorder treatment settings: A review. *Am. J. Drug Alcohol Abuse* 43 (2), 215–225. <https://doi.org/10.1080/00952990.2016.1183019>.
- Lasser, K., Boyd, J.W., Woolhandler, S., Himmelstein, D.U., McCormick, D., Bor, D.H., 2000. Smoking and mental illness. *J. Am. Med. Assoc.* 284 (20), 2606. <https://doi.org/10.1001/jama.284.20.2606>.
- Lautner, S.C., Garney, W.R., Harney, I.S., 2018. Addressing the needs of African American male smokers through community outreach and tailored smoking cessation strategies. *Am. J. Mens Health* 12 (6), 2055–2063. <https://doi.org/10.1177/1557988318790895>.
- Le, K., Correa-Fernández, V., Martinez Leal, I., Kyburz, B., Chen, T.A., Barrientos, D., Saenz, E., Williams, T., O'Connor, D.P., Obasi, E.M., Casey, K., Reitzel, L.R., 2020. Tobacco-free workplace program at a substance use treatment center. *Am. J. Health Behav.* 44 (5), 652–665. <https://doi.org/10.5993/AJHB.44.5.9>.
- Leas, E.C., Pierce, J.P., Benmarhnia, T., White, M.M., Noble, M.L., Trinidad, D.R., Strong, D.R., 2018. Effectiveness of pharmaceutical smoking cessation aids in a nationally representative cohort of American smokers. *JNCI J. Natl. Cancer Inst.* 110 (6), 581–587. <https://doi.org/10.1093/jnci/djx240>.
- Lewis, B., Hoffman, L., Garcia, C.C., Nixon, S.J., 2018. Race and socioeconomic status in substance use progression and treatment entry. *J. Ethn. Subst. Abuse* 17 (2), 150–166. <https://doi.org/10.1080/15332640.2017.1336959>.
- Mann, N., Nonnemaker, J., Chapman, L., Shaikh, A., Thompson, J., Juster, H., 2018. Comparing the New York state smokers' quitline reach, services offered, and quit outcomes to 44 other state quitlines, 2010 to 2015. *Am. J. Health Promot.* 32 (5), 1264–1272. <https://doi.org/10.1177/0890117117724898>.
- Martinez Leal, I., Chen, T.A., Correa-Fernández, V., Le, K., O'Connor, D.P., Kyburz, B., Wilson, W.T., Williams, T., Reitzel, L.R., 2020. Adapting and evaluating implementation of a tobacco-free workplace program in behavioral health centers. *Am. J. Health Behav.* 44 (6), 820–839. <https://doi.org/10.5993/AJHB.44.6.7>.
- Marynak, K., VanFrank, B., Tetlow, S., Mahoney, M., Phillips, E., Jamal, MBBS, A., Schecter, A., Tipperman, D., Babb, S., 2018. Tobacco cessation interventions and smoke-free policies in mental health and substance abuse treatment facilities — United States, 2016. *MMWR Morb. Mortal. Wkly Rep.* 67 (18), 519–523. <https://doi.org/10.15585/mmwr.mm6718a3>.
- Matkin, W., Ordóñez-Mena, J.M., Hartmann-Boyce, J., 2019. Telephone counselling for smoking cessation. *Cochrane Database Syst. Rev.* 2019 (5) <https://doi.org/10.1002/14651858.CD002850.pub4>.
- Molyneux, A., 2003. Clinical trial comparing nicotine replacement therapy (NRT) plus brief counselling, brief counselling alone, and minimal intervention on smoking cessation in hospital inpatients. *Thorax* 58 (6), 484–488. <https://doi.org/10.1136/thorax.58.6.484>.
- Morris, C.D., Lukowski, A.V., Vargas-Belcher, R.A., Ylloja, T.E., Nash, C.M., Bailey, L.A., 2021. Quitline programs tailored for mental health: Initial outcomes and feasibility. *Am. J. Prev. Med.* 60 (3), S163–S171. <https://doi.org/10.1016/j.amepre.2020.02.025>.
- Morse, J.M., 2003. Principles of mixed methods and multimethod research design. In: Tashakkori, A., Teddlie, C. (Eds.), *Handbook of Mixed Methods in Social & Behavioral Research*. Sage Publications, Inc., pp. 189–208.
- Morse, J., Field, P., 1995. *Qualitative Research Methods for Health Professionals*, Vol 2. SAGE Publications.
- National Institute on Drug Abuse. Common Comorbidities with Substance Use Disorders Research Report Part 1: The Connection Between Substance Use Disorders and Mental Illness.; 2020. <https://nida.nih.gov/publications/research-reports/common-comorbidities-substance-use-disorders/part-1-connection-between-substance-use-disorders-mental-illness> (accessed 10 July 2022).
- Parker, C., McNeill, A., Ratschen, E., 2012. Tailored tobacco dependence support for mental health patients: A model for inpatient and community services. *Addiction* 107, 18–25. <https://doi.org/10.1111/j.1360-0443.2012.04082.x>.
- Piñeiro, B., Vidrine, D.J., Wetter, D.W., Hoover, D.S., Frank-Pearce, S.G., Nguyen, N., Zbikowski, S.M., Vidrine, J.I., 2020. Implementation of Ask-Advise-Connect in a safety net healthcare system: Quitline treatment engagement and smoking cessation outcomes. *Transl. Behav. Med.* 10 (1), 163–167. <https://doi.org/10.1093/tbm/iby108>.
- Prochaska, J.J., Das, S., Young-Wolff, K.C., 2017. Smoking, mental illness, and public health. *Annu. Rev. Public Health* 38 (1), 165–185. <https://doi.org/10.1146/annurev-publichealth-031816-044618>.
- Ratschen, E., Britton, J., Doody, G.A., McNeill, A., 2009. Smoke-free policy in acute mental health wards: Avoiding the pitfalls. *Gen. Hosp. Psychiatry* 31 (2), 131–136. <https://doi.org/10.1016/j.genhosppsych.2008.10.006>.
- Reiss, F., 2013. Socioeconomic inequalities and mental health problems in children and adolescents: A systematic review. *Soc Sci Med* 90, 24–31. <https://doi.org/10.1016/j.socscimed.2013.04.026>.
- Roddy, E., Antoniaki, M., Britton, J., Molyneux, A., Lewis, S., 2006. Barriers and motivators to gaining access to smoking cessation services amongst deprived smokers – a qualitative study. *BMC Health Serv. Res.* 6 (1), 147. <https://doi.org/10.1186/1472-6963-6-147>.
- Rogers, E.S., Wysota, C.N., 2019. Tobacco screening and treatment of patients with a psychiatric diagnosis, 2012–2015. *Am. J. Prev. Med.* 57 (5), 687–694. <https://doi.org/10.1016/j.amepre.2019.06.009>.
- Rogers, E.S., Gillespie, C., Smelson, D., Sherman, S.E., 2018. A qualitative evaluation of mental health clinic staff perceptions of barriers and facilitators to treating tobacco use. *Nicotine Tob. Res.* 20 (10), 1223–1230. <https://doi.org/10.1093/ntr/ntx204>.
- Ross, S., Peselow, E., 2012. Co-occurring psychotic and addictive disorders. *Clin. Neuropharmacol.* 35 (5), 235–243. <https://doi.org/10.1097/WNF.0b013e318261e193>.
- Royal College of Physicians, Royal College of Psychiatrists, 2013. Smoking and mental health. <https://www.rcplondon.ac.uk/projects/outputs/smoking-and-mental-health> (accessed 30 June 2022).
- Samples, H., Bandara, S., Olsson, M., Saloner, B., 2018. Tobacco screening and counseling in the U.S.: Smokers with mental health and substance use problems. *Am. J. Prev. Med.* 55 (4), 524–532. <https://doi.org/10.1016/j.amepre.2018.05.024>.
- Shi, Y., Cummins, S.E., 2015. Smoking cessation services and smoke-free policies at substance abuse treatment facilities: National survey results. *Psychiatr. Serv.* 66 (6), 610–616. <https://doi.org/10.1176/appi.ps.201400328>.
- Siddiqi, A.D., Britton, M., Chen, T.A., Carter, B.J., Wang, C., Martinez Leal, I., Rogova, A., Kyburz, B., Williams, T., Patel, M., Reitzel, L.R., 2022. Tobacco screening practices and perceived barriers to offering tobacco cessation services among Texas health care centers providing behavioral health treatment. *Int. J. Environ. Res. Public Health* 19 (15), 9647. <https://doi.org/10.3390/ijerph19159647>.
- Siddiqi, A.D., Chen, T.A., Britton, M., Martinez Leal, I., Carter, B.J., Correa-Fernández, V., Rogova, A., Kyburz, B., Williams, T., Casey, K., Reitzel, L.R., 2023. Changes in substance use treatment providers' delivery of the 5A's for non-cigarette tobacco use in the context of a comprehensive tobacco-free workplace program implementation. *Int. J. Environ. Res. Public Health* 20 (3), 2730. <https://doi.org/10.3390/ijerph20032730>.
- Siru, R., Hulse, G.K., Tait, R.J., 2009. Assessing motivation to quit smoking in people with mental illness: A review. *Addiction* 104 (5), 719–733. <https://doi.org/10.1111/j.1360-0443.2009.02545.x>.
- Smith, C.A., McNeill, A., Kock, L., Ahmed, Z., Shahab, L., 2019. Mental health professionals' perceptions, judgements and decision-making practices regarding the use of electronic cigarettes as a tobacco harm reduction intervention in mental healthcare: A qualitative focus group study. *Addict. Behav. Rep.* 10, 100184 <https://doi.org/10.1016/j.abrep.2019.100184>.

- Stead, L.F., Hartmann-Boyce, J., Perera, R., Lancaster, T., 2013. Telephone counselling for smoking cessation. *Cochrane Database Syst. Rev.* 8, CD002850. <https://doi.org/10.1002/14651858.CD002850.pub3>.
- Taing, M., Le, K., Britton, M., Chen, T., Parent, M., Tami-Maury, I., Martinez Leal, I., Rogova, A., Kyburz, B., Williams, T., Patel, M., Reitzel, L., 2022. Smoking intervention practices in Texas healthcare centers with sexual and gender minority patients. *Health Behav. Policy Rev.* 9 (6) <https://doi.org/10.14485/HBPR.9.6.1>.
- Taking Texas Tobacco Free, 2022. Provider guide to the Texas Tobacco Quitline. Published. https://www.takingtexasobaccofree.com/files/ugd/4340b9_645c8c8c05d644d0b329ff7d01d6e88.pdf (accessed on 30 June 2022).
- Texas Department of State Health Services. Texas Quitline Can Help Tobacco Users Quit in the New Year. News Release. Accessed June 30, 2022. <https://www.dshs.texas.gov/news-alerts/texas-quitline-can-help-tobacco-users-quit-the-new-year#:~:text=The%25> (accessed 30 June 2022).
- Texas Department of State Health Services, 2022. Public Health Regions. <https://www.dshs.texas.gov/regions/default.shtm> (accessed 10 July 2022).
- Texas Department of State Health Services. YES QUIT. <https://www.yesquit.org/default.htm> (accessed 30 June 2022).
- UT Tobacco Research and Evaluation Team. eTobacco Protocol Project: Electronic Tobacco Cessation Referral for Texas Healthcare Systems. <https://www.uttobacco.org/sites/default/files/2021-03/eTobacco%20Protocol%20Project%20description.pdf> (accessed 14 August 2022).
- Vidrine, J.I., Shete, S., Cao, Y., Greisinger, A., Harmonson, P., Sharp, B., Miles, L., Zbikowski, S.M., Wetter, D.W., 2013. Ask-Advise-Connect: a new approach to smoking treatment delivery in health care setting. *JAMA Intern. Med.* 173 (6), 458. <https://doi.org/10.1001/jamainternmed.2013.3751>.
- Vidrine, J.I., Shete, S., Li, Y., Cao, Y., Alford, M.H., Michelle Galindo-Talton, R.N., Rabius, V., Sharp, B., Harmonson, P., Zbikowski, S.M., Miles, L., Wetter, D.W., 2013. The Ask-Advise-Connect approach for smokers in a safety net healthcare system. *Am. J. Prev. Med.* 45 (6), 737–741. <https://doi.org/10.1016/j.amepre.2013.07.011>.
- Weinberger, A.H., Zhu, J., Barrington-Trimis, J.L., Wyka, K., Goodwin, R.D., 2020. Cigarette use, e-cigarette use, and dual product use are higher among adults with serious psychological distress in the United States: 2014–2017. *Nicotine Tob. Res.* 22 (10), 1875–1882. <https://doi.org/10.1093/ntr/ntaa061>.