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Tobacco use and Tobacco Services in California Substance Use Treatment Programs

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Abstract

Background—California has one of the lowest smoking rates in the U.S. However, the California substance use disorder (SUD) treatment system collects no information on tobacco use. We explored smoking prevalence among persons enrolled in 20 residential SUD treatment programs, and whether persons who wanted help with quitting smoking received such help.

Methods—Treatment program clients (N = 562) were surveyed about their smoking behavior and about tobacco-related services they received. Self-report smoking status was verified via expired carbon monoxide (CO) measurement. Multivariate analyses assessed whether clients who wanted help with quitting smoking received tobacco-related services (ask, advise, referral, counseling, pharmacotherapy)

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Contributors

Joseph Gudysh had scientific oversight for all research procedures, and prepared the initial draft paper. Kwinoja Kapiteni led data collection efforts, and contributed to the initial draft. Thao Le conducted statistical analyses and supported interpretation of findings. Barbara Campbell developed the initial conceptual design of the paper. Erika Pinsker was involved in development and item selection for the survey used in this report. Kevin Delucchi provided methodological and statistical consultation. All authors reviewed and approved the final manuscript prior to submission.

Conflict of Interest:

At the time the paper was written, Erika Pinsker was an evaluation specialist at CTCP, with oversight responsibility for implementation of the contract funding a portion of the data used in this report. Other authors report no actual or potential conflicts of interest.

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Results—Using client self-report and expired CO, smoking prevalence in this sample was estimated at 68.9%. Among smokers, mean cigarettes per day (CPD) was 9.7 (SD = 7.6), 58.8% had made a quit attempt in the past year, 32.7% were considering quitting smoking in the next 30 days, and 37.9% wanted help with quitting. Clients who wanted help with quitting, compared to those not wanting help, were more likely to receive advice on how to quit, and tobacco-related counseling, referral, and pharmacotherapy.

Conclusion—In this study, wanting help with quitting was associated with receiving tobacco related services. Nonetheless, fewer than half of the smokers in SUD treatment wanted help with quitting, and many who wanted help did not receive it. Given the high prevalence of smoking, and associated consequences for both general health and SUD recovery, SUD treatment systems should ensure tobacco-related assessment and intervention for all smokers.

Keywords

tobacco control; smoking cessation; substance use treatment; policy

1. INTRODUCTION

One early study of smoking in substance use disorder (SUD) treatment, a survey of persons in treatment for alcohol dependence, reported a smoking rate of 92.2% (Dreher & Fraser, 1967). Those data were collected in 1965, one year after the Surgeon General's Report on Smoking and Health (U.S. Department of Health Education and Welfare, 1964). In the ensuing decades a robust literature emerged including reviews of smoking prevalence in SUD samples (Guydish, Passalacqua, et al., 2016), reviews of barriers to providing cessation services (Gentry, Craig, Holland, & Notley, 2017), and reviews of tobacco intervention in SUD treatment (Prochaska, Delucchi, & Hall, 2004; Thurgood, McNeill, Clark-Carter, & Brose, 2016). In the U.S., about 70% of persons entering publicly-funded SUD treatment are smokers (Guydish et al., 2019), persons who receive SUD treatment die of tobacco-related causes at twice the rate of the general population (Bandiera, Anteneh, Le, Delucchi, & Guydish, 2015), and receiving tobacco cessation services while in SUD treatment is associated, in most studies, with improved SUD outcomes (McKelvey, Thrul, & Ramo, 2017). The tobacco product most often used in SUD treatment samples is combustible cigarettes. However, 24% of SUD clients report using multiple tobacco products (cigarettes, e-cigarettes, smokeless tobacco, cigars and little filtered cigars) on a weekly basis (Guydish, Tajima, et al., 2016). In this paper we use "tobacco" as a general term and when referring to broader policies, and we use "smoking" when referring to specific survey items or variables that focused on combustible cigarettes.

Practice guidelines and policy statements have called on SUD programs to address tobacco use (America Society of Addiction Medicine, 2008; Fiore, Jaen, & Baker, 2008) and several studies have investigated tobacco-related services. Among US outpatient methadone clinics, 73% provided brief advice to quit and 18% offered cessation counseling. While 12% of clinics prescribed nicotine replacement therapy (NRT, a prescription medication at that time), only three patients per month per clinic actually received NRT (Richter, Choi, McCool, Harris, & Ahluwalia, 2004). This illuminates the difference between tobacco services that are available and tobacco services that are provided. Among US outpatient

SUD programs, 38% offered tobacco-cessation counseling and 17% offered cessation medication (Friedmann, Jiang, & Richter, 2008). A recent review reported that 30–40% of SUD programs offered cessation counseling, and 26% offered cessation medications (Knudsen, 2017). The Knudsen (2017) review reflected available cessation services as reported by programs directors or staff. It did not assess receipt of tobacco-related services as reported by clients.

Some authors have called for policies to ensure that SUD programs address tobacco use (Hunt, Gajewski, Jiang, Cupertino, & Richter, 2013; Krauth & Apollonio, 2015; Richter et al., 2004). State governments license and fund most SUD treatment and, therefore, hold the regulatory tools needed to change practice. Some states have acted to address smoking among persons in SUD treatment. At least 16 states have held leadership summit meetings to discuss smoking in behavioral health settings (Schroeder, Clark, Cheng, & Saucedo, 2018). Since 2001, New Jersey (Williams et al., 2005), New York (Brown, Nonnemaker, Federman, Farrelly, & Kipnis, 2012), Oregon (Drach, Morris, Cushing, Romoli, & Harris, 2012) and Utah (Marshall, Kuiper, & Lavinghouze, 2015) implemented tobacco-free grounds policies in SUD programs. Recently, a Texas initiative expanded provider training and access to NRT in 18 local mental health authorities (Correa-Fernandez et al., 2019).

California offers a paradox. There is a robust California Tobacco Control Program (CTCP) (Roeseler & Burns, 2010), and California has achieved the lowest smoking prevalence among states (11%), excepting Utah (Hu et al., 2019). California recently identified persons with SUDs as a priority population for tobacco control (Tobacco Education and Research Oversight Committee, 2018), and launched an initiative to help residential SUD programs implement tobacco-free policies (CTCP, 2018). California also has a large publicly-funded SUD treatment system including over 1,900 programs licensed by the Department of Healthcare Services (DHCS) (DHCS, 2018), serving 195,000 unique individuals (DHCS, 2017), and an estimated 150,000 smokers annually (Guydish, Wahleithner, Williams, & Yip, 2020). However, as the licensing authority for SUD treatment, DHCS offers no guidance concerning tobacco service. The California SUD treatment admission reporting form, the backbone for decisions related to services and funding, does not ask about smoking status. As a result, California does not know the prevalence of smoking in its SUD treatment population, does not know whether smokers in treatment are interested to quit smoking, and does not know what tobacco-related services these clients receive. The absence of data leaves the California SUD treatment system ill-prepared to intervene on tobacco use.

This paper reports cross-sectional survey data for clients ($N = 562$) enrolled in a convenience sample of 20 California residential SUD programs. We focus on residential programs because they encounter more barriers to implementing tobacco policies than do outpatient programs (Pagano, Tajima, & Guydish, 2016), and because they are the focus of the current California SUD tobacco-free grounds initiative (CTCP, 2018). Our first study aim was to describe smoking prevalence, tobacco-related behaviors, and receipt of tobacco-related services among clients in this California SUD treatment sample. Our second aim was to assess whether, in a state with strong tobacco control efforts, clients who wanted help with quitting smoking received tobacco cessation services.

2. METHODS

2.1. Program Recruitment

Data were collected in 2019, from 20 California residential SUD programs recruited for three studies. The first study was designed to support treatment programs in implementing tobacco-free grounds and other wellness policies (CTCP, 2018). Eligible were California residential behavioral health programs, with a minimum 20-bed capacity, that applied to participate in a policy development intervention provided by the UCSF Smoking Cessation Leadership Center (Schroeder et al., 2018). Seven programs participated. The second study was designed to improve tobacco intervention in four residential SUD programs in San Francisco, CA. The third study was a research project concerning tobacco-free policies (Guydish et al., 2020). In that study, all California-licensed residential SUD programs (N = 362) were identified using a list maintained by state government. Each program was contacted by phone for a brief survey about tobacco policies in their program. If the person answering the phone felt able to answer questions about program tobacco policies, then the survey was administered. Otherwise, the caller obtained contact information for a program administrator, and later contacted that administrator to conduct the survey. Respondents included program directors, program managers, counselors, and administrative, compliance, and human resources staff members. Most eligible programs (71.5%) completed the survey (Guydish et al., 2020). Of those, 33 programs did not have tobacco-free policies, but expressed interest in such policies during the phone call. Those programs were contacted by email about a tobacco-free policy intervention, 10 responded, and 5 agreed to participate. Two of those agencies asked whether another program in the same agency could be added, giving 7 programs. This study also included, by design, 2 comparison programs that had already implemented tobacco-free grounds, bringing the total to 9 programs. In summary, there were 7 programs in the first study, 4 in the second, and 9 in the third. The 20 programs were located in 11 of California's 58 counties, from Lake County in the north to San Diego County in the south, a distance of over 500 miles. Seven programs were clustered in San Francisco Bay Area counties, while four programs were located in Los Angeles County. All were residential SUD programs, although some programs treated clients with both SUD and mental health problems. Clients in all programs were surveyed using the same core set of questions.

2.2. Participants

Participants included both program clients and program directors. Client data collection was conducted during visits to the programs, and all clients enrolled on the day of the site visit were eligible. The number of clients enrolled was reported by program staff. Each program director completed an online tobacco policy survey. As three directors led more than one program, 16 directors represented the 20 programs.

2.3. Procedures

The research team visited each site between January and December 2019. One staff member in each program acted as a site liaison, coordinating client contact by using sign-up sheets or by ensuring that clients were available at the time of the site visit. Most site visits were completed on a single day, although one site was visited on two days and one site was

visited on four days. Client data collection occurred in groups of up to 10 at a time. Research staff explained the study, reviewed a study information sheet, and then gave each client an iPad survey with a prepopulated unique research ID number. The survey began with the study information sheet, and a button was used to consent or decline participation. The survey took about 30 minutes, during which time research staff were present to answer questions. The number of clients enrolled in treatment at the time of the site-visit, including all 20 programs, was 682. Of those, 562 (82.4%) completed the survey. Participation was anonymous, and no data were collected for clients who declined. After the survey, each client blew into a Bedfont piCO™ monitor (Bedfont Scientific Ltd, 2018) to assess expired carbon monoxide (CO) and then received a \$20 gift card. Program directors were asked by email to complete an online tobacco policy survey. Research procedures were approved by the Institutional Review Board of the University of California San Francisco.

2.4. Measures

2.4.1. Demographic characteristics and use of tobacco products—

Demographic characteristics included age, gender, race/ethnicity, and education. Participants in two studies were asked whether they sought treatment mainly for a substance use problem, for both substance use and mental health problems, or for some other problem. One study included this same item but with an added response code for mental health problems. For analyses, those responding mental health only were collapsed into the substance use and mental health category. The California Medicaid program, called “Medi-Cal,” pays for residential SUD treatment (DHCS, 2020) and includes both smoking cessation counseling and medication as covered benefits (DHCS, 2016). We asked participants to indicate the type of health insurance they have, if any, and for analyses collapsed responses to Medi-Cal v. not Medi-Cal. With photos of products shown in the survey, respondents reported both lifetime use and past 30-day use of e-cigarettes, smokeless tobacco, little filtered cigars, and standard cigars. Current smoking status was defined as having smoked 100 cigarettes in lifetime and also reporting being a current smoker (CDC, 2017). Self-reported smoking status was biochemically verified with expired CO using the Bedfont monitor (Bedfont Scientific Ltd, 2018). The Society for Research on Nicotine and Tobacco (SRNT) recommends using a CO cut point in the range of 4 – 10 ppm, depending on the measurement purpose and other factors known to influence CO readings (Benowitz et al., 2019). Because smoking is highly prevalent in SUD treatment (Guydish, Tajima, et al., 2016) and persons are likely to be exposed to secondhand smoke, we used 9 ppm to verify non-smoking status.

Current cigarette smokers reported number of cigarettes smoked per day (CPD), whether they preferred menthol or non-menthol cigarettes, and time to first cigarette (for analyses, collapsed to within 30 minutes or after 30 minutes of waking). Participants reported whether they had made a serious (at least 24 hour) quit attempt in the past year, and whether they were thinking of quitting smoking within the next 30 days as a measure of readiness to quit (DiClemente et al., 1991). They reported whether, for the purpose of quitting smoking, they had ever used NRT, prescription medication (bupropion, varenicline), or electronic cigarettes (e-cigarettes). Current smokers were asked “In your current treatment program, did you want help with quitting smoking?”

2.4.2. Tobacco-related services variables—Five outcome variables reflected services received by clients in their current treatment program. Clients were asked whether they were ever screened for smoking status (“Did any staff member ask whether you smoke?”), and whether they had been advised to quit (“Did you receive advice on how to quit smoking?”). Smokers reported whether they had attended a support group for people who are trying to quit (yes, no), how often their counselor encouraged them to quit smoking (Never, Occasionally, Often, Very Often, Always), and how often their counselor arranged a follow up appointment to discuss quitting (Never, Occasionally, Often, Very Often, Always). The last two items were dichotomized as Never vs. Occasionally/Often/Very Often/Always. Receiving one or more of these services was defined as having received any counseling. Smokers were asked whether they received a referral to either a smoking cessation specialist or a telephone quitline, and a “yes” to either question was coded as receiving any referral. Last, smokers reported whether, in their current program, they received NRT (gum, patch, lozenge), or other cessation medication (bupropion or varenicline). Receipt of any of these was defined as any NRT/Pharmacotherapy.

2.4.3. Program Policy Variables—Strength of tobacco policy was measured using a program director survey developed for this study. The survey included items drawn from research on tobacco free grounds, (Muilenburg, Laschober, Eby, & Moore, 2016) from research on staff smoking prevalence (Cookson et al., 2014; Skelton et al., 2017) and staff and clients smoking together (Guydish et al., 2017). The survey also asked whether a number of tobacco cessation services were available in the program, including whether staff screen for smoking status, advise clients to quit, or refer to cessation services, and whether the program provides tobacco education groups or materials, or offers groups for clients who are trying to quit smoking. The survey can be accessed at <https://doi.org/10.6084/m9.figshare.11844975.v1>. The policy measure contained 20 items, with each assigned a score of 1 if it aligned with strategies that discourage smoking. The score could range from 0 to 20. In this sample, the range was from 3 to 19 (median = 11).

3. DATA ANALYSIS

We describe client demographics, the main reason they reported for being in treatment, healthcare coverage, and CO-verified smoking status. Some clients (n = 47) self-reported non-smoking status but registered above the expired CO cutoff. Most of those cases (n = 29) occurred in one program where tobacco-free grounds had been implemented two weeks before the survey. We suspect those clients were current smokers but believed they should report as non-smokers due to the program policy. These cases are reflected as “probable smokers.” As most probable smokers were from one program, we estimate smoking prevalence with and without the probable smokers, and also with and without participants from that program.

For participants who self-reported current smoking (n = 340) we report CPD, menthol preference, time to first cigarette, the proportion who made a past year quit attempt and the proportion who were thinking of quitting in the next 30 days. We report on methods used for quitting smoking in their lifetime, and the proportion who said they wanted help with

quitting in their current treatment program. We report, for those who did and did not want help with quitting, the proportion receiving each of the five service outcomes.

In multivariate analyses we assessed the relationship between whether a client wanted help with quitting smoking (yes/no) and whether they received each tobacco-related service by testing five regression models, one for each outcome (ask, advise, any referral, any counseling, any NRT/pharmacotherapy). Each model included demographic variables (age, gender, ethnicity), smoking behavior (CPD, past year quit attempt, menthol preference, readiness to quit smoking), and program policy strength as covariates, and accounted for nesting of clients within programs. We first ran multivariate analyses including cases from all 20 programs. We ran sensitivity analyses first excluding the program with discordant current smoking cases, then excluding the two tobacco free grounds programs and, last, excluding all three programs.

4. RESULTS

4.1. Program and Client Characteristics

The median census at the time of the site visit was 22 clients per program (range 7 – 182), the median number of clients completing the survey was 19.5 (range 6 – 130), and the median proportion of enrolled clients who completed the survey was 90% (range 67% to 100%).

Clients surveyed ($N = 562$) had a mean age of 38.9 ($SD = 11.62$), were most often male (74.3%), and were 39.2% Hispanic/Latino, 31.1% White, 19.6% African American, and 10.1% other or multiple ethnicities (Table 1). The majority (70.8%) were insured by Medi-Cal, the California Medicaid program. Most (65.5%) had used at least one tobacco product in the past month, and 33.1% had used multiple tobacco products in that period. Most participants (60.5%) self-reported current smoking status, and an additional 8.4% self-reported non-smoking status but registered expired CO above the cutoff (labeled as “probable smokers”). Smoking prevalence estimated by self-report was 60.5%, and smoking prevalence estimated by self-report and CO measurement was 68.9%. If we remove data from the program where most probable smokers were identified, the self-report prevalence for clients in the remaining 19 programs was 68.8% and the smoking prevalence estimated by self-report and CO measurement was 72.9% (Table 1).

4.2. Smoking-related behavior

For self-reported current smokers ($n = 340$), mean CPD was 9.7 ($SD = 7.6$, Median = 8), and 64% reported smoking within 30 minutes of waking. Over half (58.8%) had made a quit attempt in the past year, and 32.7% were considering quitting smoking in the next 30 days. Just under half had tried NRT (44.3%) and/or e-cigarettes (45.2%) as a method of quitting smoking. Last, 37.9% wanted help with quitting smoking in their current treatment program (Table 2).

4.3. Receipt of tobacco-related services

Most smokers (65.2%) had been asked about their smoking status. Fewer (44.1%) had received advice on how to quit smoking, one-third (33.6%) received a tobacco-related referral, 55.3% received any tobacco-related counseling, and 24.8% received any smoking cessation pharmacotherapy. In unadjusted comparisons, clients who wanted help with quitting were more likely to receive all five services as compared to those not wanting help (Table 3).

4.4. Associations between wanting help with quitting and receiving tobacco-related services

Clients who wanted help with quitting were more likely to receive services, while controlling for all other variables (Table 4). However, those clients who wanted help with quitting smoking, as compared to those not wanting help, were not more likely to be asked about their smoking status ($p = .072$). The pattern of findings was the same in sensitivity analyses. However, when excluding the program where most probable smokers were identified the differences for receiving advice ($p = .06$) and receiving any referral ($p = .12$) were no longer statistically significant. When excluding cases for all three programs, only the finding for any referral was no longer significant ($p = .078$).

5. DISCUSSION

Combining self-reported smokers (60.5%) with probable smokers (8.4%), the smoking prevalence was 68.9%. This is similar to 72.1% reported among clients in San Francisco CA residential programs (Gubner et al., 2019), and lower than 77.9% reported among programs located in 13 states (Guydish, Tajima, et al., 2016). Our estimate is based on residential SUD programs only, where smoking prevalence tends to be higher than that in outpatient programs (Guydish, Tajima, et al., 2016).

Smokers in the current sample were interested in quitting. In addition to 37.9% who wanted help with quitting, 58.8% had tried to quit in the past year, and 32.7% were thinking of quitting in the next 30 days. In adjusted analyses, and compared to those who did not want help with quitting, those who wanted help were more likely to receive advice on how to quit, and more likely to receive tobacco-related referral, counseling, and pharmacotherapy. These findings appeared robust in sensitivity analyses, although the association of wanting help quitting smoking and receiving a tobacco-related referral differed depending on which programs were included.

Other findings were less positive. One third of smokers were not asked about smoking status, and 60% did not want help with quitting. Among those who wanted help, about half received no tobacco-related advice or referral, and two-thirds received no cessation medication. There are advantages to offering smoking cessation in the context of SUD treatment. From a tobacco control perspective, SUD treatment offers access to a high prevalence smoking population. From a clinical perspective, this population is already seeking help for other (non-tobacco) addictions, and quitting smoking can be supported by the clinical tools used to treat addiction to other SUDs. To support quitting among smokers

pharmacotherapy, counseling plus pharmacotherapy (Apollonio, Philipps, & Bero, 2016), and multi-component interventions (Martín Cantera et al., 2015) have been shown effective, and contingency management may enhance quit rates (Rohsenow et al., 2015).

All clients should be asked about their smoking status. Readiness to quit should be assessed in order to provide cessation services to those who, like the one-third of smokers in the current sample, are thinking of quitting in the next 30 days. Another strategy is to increase the proportion of clients who are interested in quitting, using interventions like motivational interviewing (Brown et al., 2003; Catley et al., 2016) or groups designed to increase readiness to quit (Guydish, Gruber, et al., 2016). Programs could also work to reduce staff smoking, as smoking rates among staff are sometimes also high (Cookson et al., 2014). For staff who continue to smoke, programs can require no smoking during working hours, or require that staff show no evidence of smoking (e.g., cigarettes, lighters, tobacco smell) in the workplace. Programs can prohibit staff from smoking together with clients, a practice in which treatment staff model an addictive behavior and a health risk behavior. Some states have implemented comprehensive tobacco free grounds policies, (Brown et al., 2012; Drach et al., 2012; Williams et al., 2005), and such policies are associated with lower client smoking prevalence (Guydish et al., 2012).

While these strategies can de-normalize smoking and support quitting, clients also need tobacco-related services. SUD clients with health insurance, compared to those without, are more likely to be screened for tobacco use and more likely to report a past year quit attempt (Yip et al., 2019). SUD programs with greater Medicaid revenue more often provide smoking cessation counseling and medication (Knudsen & Roman, 2015). Many states expanded Medicaid coverage under the Affordable Care Act (ACA) (Kaiser Family Foundation, 2018) and SUD clients in Medicaid expansion states were 3 times more likely to quit smoking during SUD treatment (Yip et al., 2019).

California expanded Medicaid under the ACA, and this may account for access to tobacco-related services observed in the current study. However Medi-Cal, the California Medicaid system, also restricts provision of tobacco cessation services. Currently, Medi-Cal covers residential SUD treatment, (DHCS, 2020) and also covers cessation counseling and medications, (DHCS, 2016) but does not reimburse SUD providers for tobacco cessation services in the context of residential treatment. The California SUD treatment licensing authority does not consider smoking within its remit. Consequently, California SUD programs have no financial or regulatory incentives to treat smoking, despite the prevalence of smoking, the associated health effects, and the downstream costs to Medi-Cal which insures, in this sample, 70.8% of clients.

This sample of 20 programs is a convenience sample. Findings may not generalize to other programs and, as these programs were interested in addressing smoking, may underestimate smoking rates or overestimate tobacco-related services. Our estimate of smoking prevalence includes persons who reported non-smoking status but blew expired CO levels above the recommended cutoff. If CO levels were high in these cases for any reason other than cigarette smoke exposure, then we may have over-estimated smoking prevalence by 8%. Our measure of tobacco policy strength was created for this research, and has not been validated.

Smokers who were interested in quitting smoking reported being asked about their smoking status (71.9%) more so than those uninterested in quitting (61.2%). This may reflect recall bias, if persons who wanted help with quitting were also more likely to remember being asked about smoking. Last, tobacco-related counseling services may range from brief advice to intensive, multi-session, manualized interventions. The measure of counseling used in this study reflected only whether the respondent's counselor ever encouraged them to quit smoking, or whether the respondent ever participated in a group for people trying to quit. Although used in prior research (Yip et al., 2019), this measure does not discriminate type of counseling (e.g., motivational interviewing), or frequency or intensity of counseling received. In further research, and if tobacco-related counseling was provided regularly in SUD programs, it would be important to explore details of tobacco-related counseling practices.

5.1 Conclusion

Limitations notwithstanding, there are no California State multi-site studies of client tobacco use in publicly-funded SUD, with more than a few programs (Das, Hickman, & Prochaska, 2017; Guydish, Tajima, et al., 2016). That clients who want help quitting smoking are more likely to receive such help is encouraging. Still, fewer than half of smokers in this part of the healthcare system wanted help with quitting, and many who wanted help did not receive it. This occurs in a context where smoking is ubiquitous, where the state supports a robust tobacco control program, and where Medicaid expansion covers both residential SUD treatment and tobacco cessation services. The California SUD licensing authority, and the California Medi-Cal authority, should create regulatory and financial incentives for programs to assess and treat tobacco use throughout the statewide SUD treatment system.

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Highlights

- California has a low statewide smoking rate, but substance use disorder treatment system lacks this data for its clients
- Among substance use disorder patients, those wanting help quitting were more likely to receive it
- However, many patients did not want help quitting, and many wanting help did not receive it
- Licensing agencies should create incentives to help programs address tobacco use & require them to offer cessation services.

Table 1.

Demographic Characteristics for Clients in California Residential Substance Use Treatment Programs (N=562).

	Mean (SD) or n (%)
Age, mean (SD)	38.9 (11.62)
Gender, %	
Male	416 (74.3%)
Female	134 (23.9%)
Other	10 (1.8%)
Race/ethnicity, %	
Hispanic/Latino	220 (39.2%)
Black or African American	110 (19.6%)
White or Caucasian	175 (31.1%)
Other/Multiple *	57 (10.1%)
Education, %	
Less than high school/GED	144 (25.6%)
High school diploma or GED equivalent	196 (34.9%)
Some college or technical/trade school	222 (39.5%)
In treatment for[†], %	
Substance use disorder	319 (57.3%)
Both substance use and mental health disorders	150 (26.9%)
Other	88 (15.8%)
Healthcare coverage, %	
Medi-Cal	398 (70.8%)
Medicare	28 (5.0%)
Employer or family plan	10 (1.8%)
Other/unknown **	24 (4.3%)
No healthcare coverage	63 (11.2%)
Don't know/not sure if having health care coverage	39 (6.9%)
Past month use of tobacco products	
Cigarettes	340 (60.5%)
E-Cigarette	125 (22.6%)
Smokeless tobacco	73 (13.1%)
Little filtered cigar	96 (17.4%)
Cigar	67 (12.2%)
At least one product	368 (65.5%)
Past month use of multiple tobacco products	
No product	194 (34.5%)
One product only	182 (32.4%)
Multiple products	186 (33.1%)
Smoking Status, %	

	Mean (SD) or n (%)
Current Smokers	340 (60.5%)
Probable Smokers ^{††}	47 (8.4%)
Former Smokers	117 (20.8%)
Never Smokers	58 (10.3%)

* Includes American Indian or Alaska Native (2.7%), Asian/Pacific Islander (2.0%), and those reporting multiple (3.4%) and “other” (2.1%) race/ethnicity.

[†] In one of the projects, response codes for this item included “mental health only” (with 6.9%) responses. To represent the entire sample, these cases are collapsed into “Both substance use and mental health disorders.”

** Includes cases reporting another source of health insurance (3.2%) and those reporting that source of health insurance was unknown (1.1%)

^{††} Self-reported as non-smokers but registered > 9 ppm on expired CO measure.

Table 2.

Smoking-related behavior among current smokers in SUD treatment programs, CA 2019 (N = 340)

	Summary Statistics Mean (SD) or n (%)
Cigarettes per day, mean (SD)	9.7 (7.6)
Usual cigarette	
Menthol	109 (32.2%)
Non-menthol	230 (67.9%)
Time to first cigarette	
Within 5 minutes	81 (23.9%)
6–30 minutes	136 (40.1%)
31–60 minutes	54 (15.9%)
After 60 minutes	68 (20.1%)
Quit attempts in the past year	200 (58.8%)
Thinking of quitting in the next 30 days	111 (32.7%)
Methods Used for Quitting	
Lifetime NRT use	150 (44.3%)
Lifetime non-NRT medication	27 (8.3%)
Lifetime e-cigarette/vape pens use	150 (45.2%)
Wanted help with quitting	128 (37.9%)

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Table 3.

Receipt of tobacco-related services for smokers (N = 340) who did and did not want help with quitting smoking

SERVICE OUTCOMES	All Smokers	Wanted help with quitting		p-value
		Yes (n = 128)	No (n = 210)	
Asked whether you smoke	221 (65.2%)	92 (71.9%)	128 (61.2%)	0.047
Received advice on how to quit	149 (44.1%)	65 (51.2%)	83 (39.5%)	0.037
Any referral	114 (33.6%)	58 (45.3%)	55 (26.2%)	<0.001
Any counseling	187 (55.3%)	84 (66.1%)	102 (48.6%)	0.002
Any NRT/pharmacotherapy	84 (24.8%)	48 (37.5%)	35 (16.7%)	<0.0001

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Table 4.

Odds ratios, 95% confidence intervals and p-values from multivariate regression models of program services between smokers who did and did not want help with quitting smoking ¹

Want help with quitting smoking (Smokers who did vs. did not)		
	OR (95% CI)	p
Asked whether you smoke	1.61 (0.96, 2.71)	0.072
Received advice on how to quit	1.59 (1.01, 2.52)	0.047
Any counseling	2.17 (1.34, 3.50)	0.002
Any referral	2.01 (1.04, 3.86)	0.037
Any NRT/pharmacotherapy	2.68 (1.47, 4.90)	0.001

¹ Adjusted for demographics (Age, gender, race/ethnicity, education), healthcare coverage, smoking behaviors (CPD, menthol preferred, past year quit attempt, thinking of quitting in next 30 days), program level measures (policy strength, program size); and also controlled for nesting of participants within clinics.

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