Drug and Alcohol Dependence 179 (2017) 355–361

Contents lists available at ScienceDirect

Drug and Alcohol Dependence

journal homepage: www.elsevier.com/locate/drugalcdep

Full length article

Smoking-related outcomes and associations with tobacco-free policy in addiction treatment, 2015–2016

Joseph Guydish[a,*], Deborah Yip[a], Thao Le[a], Noah R. Gubner[a], Kevin Delucchi[b], Paul Roman[c]

[a] Philip R. Lee Institute for Health Policy Studies, University of California San Francisco, 3333 California St., Ste. 265, San Francisco, CA 94118, United States
[b] Department of Psychiatry, University of California San Francisco, 401 Parnassus Ave., San Francisco, CA 94143, United States
[c] Center for Research on Behavioral Health and Human Service Delivery, Owens Institute for Behavioral Research, University of Georgia, Athens, GA 30602, United States

ARTICLE INFO

Keywords:
Tobacco
Nicotine
Drug treatment
Policy

ABSTRACT

Objective: This study assessed changes in smoking-related outcomes in two cross-sectional samples of clients enrolled in addiction treatment and whether tobacco-free grounds policies were associated with smoking-related outcomes.

Method: Clients in 25 programs were surveyed in 2015 (N = 1176) and 2016 (N = 1055). The samples were compared on smoking prevalence, cigarettes per day (CPD), thinking of quitting, past year quit attempts, staff and clients smoking together, attitudes towards quitting, and tobacco-related services. Second, programs with (n = 6) and without (n = 17) tobacco-free grounds at both time points were compared on smoking-related outcomes. Last, we examined changes in these measures for two programs that adopted tobacco-free grounds between 2015 and 2016.

Results: There was one difference across years, such that the mean score for the tobacco Program Service scale increased from 2.37 to 2.48 ($p = 0.043$, effect size = 0.02). In programs with tobacco-free grounds policies, compared to those without, both CPD and the rate of staff and clients smoking together were significantly lower. In the two programs where tobacco-free grounds were implemented during study years, client smoking prevalence decreased (92.5% v. 67.6%, $p = 0.005$), the rate of staff and clients smoking together decreased (35.6% v. 4.2%, $p = 0.031$), mean CPD decreased (10.62 v. 8.24, $p < 0.001$) and mean tobacco services received by clients increased (2.08 v. 3.05, $p < 0.001$).

Conclusion: Addiction treatment programs, and agencies responsible for licensing, regulating and funding these programs, should implement tobacco-free grounds policies.

1. Introduction

The Centers for Disease Control and Prevention (CDC) recently reported that cigarette smoking among adults in the United States (U.S.) had decreased from 20.9% in 2005–15.1% in 2015 (Jamal et al., 2016). During this time, smoking prevalence decreased in every age group, in every racial/ethnic group, in nearly all educational attainment groups, and in all Census Regions. Although some have commented that decrease in U.S. smoking prevalence has slowed or stopped (King et al., 2011; Mendez and Warner, 2004), Jamal et al. (2016) report a statistically significant decrease from 16.8% in 2014–15.1% in 2015.

As smoking prevalence declines overall, smoking in subgroups becomes increasingly important in terms of tobacco control, health disparities (Okuyemi et al., 2015) and social justice (Healton and Nelson, 2004). Compared to 15.1% in the general population, smoking prevalence was 40.6% among persons with serious psychological distress (Jamal et al., 2016), a category that combines a number of risk groups. Smoking prevalence is 25% for persons with anxiety disorders, 30% for those with depressive disorders (Grant et al., 2004), and 50–80% for those with schizophrenia (Prochaska et al., 2008; Schroeder, 2009). Lasser et al. (2000) estimated that 44% of all cigarettes smoked in the U.S. were consumed by persons with mental health diagnoses, and Higgins et al. (2016) estimated that 14% of all U.S. smokers are persons with drug and/or alcohol abuse problems.

A review of smoking prevalence in U.S. addiction treatment programs, from 1987 to 2009, found a median annual smoking prevalence of 76.3% (Guydish et al., 2011a). Among all admissions to addiction treatment in New York State, annual smoking rates ranged from 69.5% in 2007–71.2% in 2012 (Guydish et al., 2015). A 2015 survey of persons enrolled in 24 addiction treatment programs reported a smoking rate of 77.9% (Guydish et al., 2016b). These studies show no observable decrease in smoking prevalence among persons enrolled in addiction

* Corresponding author at: Philip R. Lee Institute for Health Policy Studies, University of California San Francisco, 3333 California St., Ste. 265, San Francisco, CA, 94118, United States.
E-mail address: joseph.guydish@ucsf.edu (J. Guydish).

http://dx.doi.org/10.1016/j.drugalcdep.2017.06.041
Received 15 April 2017; Received in revised form 29 June 2017; Accepted 30 June 2017
Available online 01 August 2017
0376-8716/

treatment, from 1987 to 2015, and highlight the need for innovative approaches to smoking in this population.

There are, however, reasons to expect that smoking could decrease among those enrolled in addiction treatment. First is the continuing decline in population smoking prevalence (Jamal et al., 2016). Second, access to tobacco cessation services should be expanding, based on U.S. mental health parity legislation (Garcia, 2010), because the 2010 Affordable Care Act (ACA) was expected to in increase the numbers of persons who receive addiction treatment (Buck, 2011), and because the ACA required coverage of smoking cessation intervention. Third, the 2009 Family Smoking Prevention and Tobacco Control Act placed regulatory authority over tobacco products into the hands of the Food and Drug Administration (FDA), with the mandate to protect public health (National Institutes of Health, 2012).

The addiction treatment field has also noted the high rates of smoking among clients (Guydish et al., 2011a), the excess tobacco-related mortality in this population (Bandiera et al., 2015; Hser et al., 1994; Hurt et al., 1996), and the impact of smoking cessation on other treatment outcomes (McKelvey et al., 2017; Prochaska et al., 2004; Thurgood et al., 2016). Some have called for tobacco policies in state-level treatment systems (Krauth and Apollonio, 2015), and some states have implemented such policies, including tobacco-free grounds. (Brown et al., 2012; Drach et al., 2012; Williams et al., 2005).

Tobacco-free grounds policies include complete smoking bans on all program grounds (CDC, 2015), and may offer a policy approach to epidemic smoking in addiction treatment. Workplace smoking bans increase smoking cessation and reduce cigarette consumption (Bauer et al., 2005; Fichtenberg and Glantz, 2002), and complete bans reduce smoking more than partial bans (Tabuchi et al., 2016). Around one third of U.S. addiction treatment facilities had smoking bans on program property (Muilenburg et al., 2016; Shi and Cummins, 2015; Substance Abuse and Mental Health Services Administration, 2017) and 7 states required comprehensive indoor and outdoor smoking bans in treatment programs (National Association of State Alcohol and Drug Abuse Directors, 2010). One review of mental health and addiction treatment centers found that smoking restrictions had little effect on clients quitting smoking (el-Guebaly et al., 2002). However, pre-post assessments of the New York State tobacco-free grounds policy found that client smoking prevalence decreased significantly from 69.4% to 62.8% (Guydish et al., 2012), and that screening for smoking and use of cessation services increased post policy (Brown et al., 2012). Eby and Laschober (2013) found greater clinician support for smoking cessation in New York programs, compared to programs in other states that had not implemented tobacco-free grounds policies. Staff smoking prevalence and client cigarette consumption declined, and client attitudes toward quitting were more positive five years after policy implementation (Pagano et al., 2016a). Apart from New York State studies, Knudsen et al. (2010) found that programs with tobacco-free grounds policies reported lower smoking prevalence among counselors than those with indoor-only policies, and Richey et al. (2017) found that tobacco-free grounds implementation was not accompanied by a decrease in client census.

The current paper asks, first, whether any changes in smoking behavior were observed among clients enrolled in addiction treatment programs from 2015 to 2016 and, second, whether tobacco-free grounds policies were associated with differences in smoking-related measures.

2. Methods

2.1. Sampling design

We recruited a random sample of addiction treatment programs through the National Institute on Drug Abuse (NIDA) Clinical Trials Network (CTN) in 2013. We first identified CTN-affiliated programs meeting these inclusion criteria: publicly-funded, had at least 60 active clients, and the program director would designate a staff liaison to coordinate with the research team. From 48 programs meeting these criteria, 33 were randomly selected and contacted. Six programs were no longer eligible, two declined, and one was not needed to meet recruitment goals. The remaining 24 programs were located in 14 states (CA, CT, FL, HI, NC, NY, OH, OR, PA, SC, SD, TX, WV, VA). Sampling design, program selection, and program recruitment, procedures were previously reported (Guydish et al., 2016b). One program was added to the sample in 2015, because it was transitioning to a tobacco free grounds policy and offered an opportunity to observe any changes associated with policy implementation. The current paper uses data from all 25 programs, including 7 outpatient, 11 residential, and 7 methadone programs.

2.2. Participants and procedures

Each program was site visited in 2014, 2015, and 2016. Cross-sectional and anonymous surveys were expected to represent independent samples, but some respondents in 2015 said they remembered taking the survey before. In 2016 all participants were ask whether they had taken the survey previously, enabling removal of any likely repeating cases. Data presented here are from site visits made to each program in 2015 and 2016, with repeating cases removed to support independence of the samples. The mean time between site visits to the same program, from 2015 to 2016, was 321.3 days (SD = 6.7).

Two research team members visited each clinic at each visit, and logistics of each visit were coordinated with the program liaison designated by the program director. In residential programs, participants were recruited into multiple time slots throughout the day, while in methadone programs, clients were recruited during morning dosing hours. Clients in outpatient programs were recruited either before or after group counseling sessions. Both smokers and non-smokers were eligible to participate if they had been in treatment for at least 10 days and if they were physically present in the program on the day of the site visit. The 10 day time in treatment criterion ensured that clients had time to become aware of program tobacco policies. These procedures yielded a systematic sample in outpatient and methadone programs, where clients visit daily or weekly, and yielded a census sample in residential programs where clients reside on a daily basis.

The research team explained the study to all clients who expressed interest to participate, and completed informed consent procedures. No information was recorded for those uninterested in the survey, and all those who completed the consent process also completed the survey. Participants completed surveys using iPads. The number of participants surveyed in each site ranged from 31 to 55, with a median of 50. Client respondents received a $20 gift card, and each program received a $2000 incentive after each site visit. Following the site visit, the director of each program was interviewed by phone concerning tobacco-related policies and services. Additional details concerning client surveys and director interviews are reported elsewhere (Guydish et al., 2016b; Pagano et al., 2016b). Study procedures were approved by the University of California, San Francisco, Institutional Review Board.

2.3. Measures

2.3.1. Client demographic characteristics and use of tobacco products

Clients reported age, gender, highest education level achieved, race/ethnicity, and type of program where they were recruited (outpatient, residential, methadone). The study was funded by the FDA Center for Tobacco Products, in part, to better understand use of tobacco products, so questions included the use of cigarettes, electronic cigarettes (e-cigarettes), smokeless tobacco, and cigars, and use of more than one tobacco product.

2.3.2. Smoking-related outcome measures

Participants were asked whether they were current smokers, defined