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Facility-level, state, and financial factors associated with changes in the provision of smoking cessation services in US substance abuse treatment facilities: Results from the National Survey of Substance Abuse Treatment Services 2006 to 2012

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ABSTRACT

Cigarette smoking is common among patients in substance abuse treatment. Tobacco control programs have advocated for integrated tobacco dependence treatment into behavioral healthcare, including within substance abuse treatment facilities (SATFs) to reduce the public health burden of tobacco use. This study used data from seven waves (2006 to 2012) of the National Survey of Substance Abuse Treatment Services ($n = 94{,}145$) to examine state and annual changes in the provision of smoking cessation services within US SATFs and whether changes over time could be explained by facility-level (private vs public ownership, receipt of earmarks, facility admissions, acceptance of government insurance) and state-level factors (cigarette tax per pack, smoke free policies, and percent of CDC recommended tobacco prevention spending). Results showed that the prevalence of SATFs offering smoking cessation services increased over time, from 13% to 65%. The amount of tax per cigarette pack, accepting government insurance, government (vs private) ownership, facility admissions, and CDC recommended tobacco prevention spending (per state) were the strongest correlates of the provision of smoking cessation programs in SATFs. Facilities that received earmarks were less likely to provide cessation services. Adult smoking prevalence and state-level smoke free policies were not significant correlates of the provision of smoking cessation services over time. Policies aimed at increasing the distribution of tax revenues to cessation services in SATFs may offset tobacco-related burden among those with substance abuse problems.

1. Introduction

While overall smoking prevalence has declined steadily since 1995, rates of smoking cessation have stalled among individuals with certain mental health vulnerabilities, including those with substance use disorders (SUDs). The prevalence of SUDs among tobacco users ranges from 49% to 85% (Guydish et al., 2016; Lasser et al., 2000; Lawrence, Mitrou, & Zubrick, 2009; Solty, Crockford, White, & Currie, 2009; Talati, Keyes, & Hasin, 2016). Smokers with a co-occurring SUD are more dependent on nicotine (Solty et al., 2009), but are just as likely to want to quit smoking compared to non-SUD smokers (Sees & Clark, 1991, 1993), even though they are less likely to make a quit attempt (Weinberger, Desai, & McKee, 2010).

To reduce tobacco-related disease and burden, tobacco control programs have advocated for integrated tobacco dependence treatment in behavioral health care facilities, including within substance abuse treatment abuse treatment facilities (SATFs). Factors associated with the presence of smoking cessation services within SATFs include positive staff attitudes and expertise delivering tobacco cessation treatments (Knudsen & Studts, 2010), provision of residential detox services and inpatient services, a greater number of ancillary services offered within the facility (Fuller et al., 2007; Richter, Choi, McCool, Harris, & Ahluwalia, 2004; Shi & Cummins, 2015), greater facility size (Friedmann, Jiang, & Richter, 2008), location in a hospital (Knudsen & Studts, 2010), type of facility ownership (for-profit, non-profit, public), acceptance of Medicaid or other forms of government insurance (Shi & Cummins, 2015), and location in the US (Substance Abuse and Mental Health Services Administration, 2014). Recent data also suggest that adoption of smoke-free policies, which differ across states in the US, have improved rates of tobacco dependence

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screening and treatment, and are associated with greater prevalence of cessation programs in SATFs (Richter, Choi, & Alford, 2005; Shi & Cummins, 2015).

There are a number of barriers preventing full integration of smoking cessation services within substance abuse treatment (Prochaska, 2010; Richter & Arnsten, 2006; Schroeder & Morris, 2010; Williams & Ziedonis, 2004). These include limited funding for staff training; high counselor caseloads that leave little time to screen for or treat tobacco dependence; environments that condone or encourage tobacco use, including staff smoking behavior (Guydish, Passalacqua, Tajima, & Manser, 2007; McKay et al., 2009; Williams, 2008; Williams et al., 2009; Ziedonis et al., 2008); decreases in tobacco control funding and revenues (Centers for Disease Control and Prevention, 2012, 2014); and challenges navigating health care reimbursement for smoking cessation treatments (Ku, Bruen, Steinmetz, & Bysshe, 2016; Singleterry et al., 2015). For example, Medicaid coverage varies across states with respect to requirements for prior authorization, limits on duration and number of quit attempts allowed per year, and co-payments (Singleterry et al., 2015). McMenamin, Halpin, Ibrahim, & Orleans (2004) found that over 60% of surveyed Medicaid-enrolled smokers and 40% of Medicaid physicians were unaware that their state offered Medicaid coverage for tobacco dependence treatment. Patients' rights groups, as well as facility staff have been hindrances to the adoption of tobacco free policies in mental health and substance abuse facilities, citing fear of the impact of nicotine withdrawal on psychiatric symptoms and substance abuse craving (Williams, Willett, & Miller, 2013).

Tobacco and smoke free policies have been developed to specifically address smoking cessation in psychiatric and substance abuse treatment settings. As of 2013 (the most recent year for which this data were collected and analyzed), 48% of US substance abuse treatment facilities restricted smoking to outdoor areas only, while 37% banned smoking completely (Substance Abuse and Mental Health Services Administration, 2014). State-level variations in the distribution of facility smoking policies exist, with Alabama having the lowest distribution of substance abuse treatment facilities implementing a total ban (12%) and New York having the highest (88%) (Substance Abuse and Mental Health Services Administration, 2012, 2014). Results of the effectiveness of these policies have been mixed. El-Guebaly, Cathcart, Currie, Brown and Gloster (2002) examined the impact of smoking bans in 10 published studies of both inpatient and outpatient mental health and substance abuse treatment settings and concluded that bans had little positive impact on cessation rates in the short-term or long-term. Two other studies have also found no impact of a smoking ban (total or partial) on smoking cessation rates in patients in a psychiatric setting (Etter, Khan, & Etter, 2008; Keizer, Descloux, & Eytan, 2009). However, one study by Etter et al. (2008) did find a significant increase in the number of quit attempts during hospitalization following instatement of a total smoking ban, while Keizer et al. (2009) found a positive effect of a partial ban on cigarettes consumed per day. Adoption of tobacco-free services has been another policy approach to curbing tobacco use among those receiving treatment in substance abuse treatment facilities, with evidence of some effectiveness (Brown, Nonnemaker, Federman, Farrelly, & Kipnis, 2012). Tobacco-free services prohibit the use of tobacco products anywhere on campus of a treatment facility (including within treatment-sponsored vehicles); require staff training on tobacco use and nicotine dependence; and require implementing interventions that integrate tobacco use into substance abuse treatment protocols. Some tobacco-free services also provide nicotine replacement therapy to staff and patients. In an analysis of the influence of tobacco-free services on cessation rates and smoking change outcomes, Brown et al. (2012) found a small but significant decrease in patient and staff tobacco use one-month following implementation of a tobacco-free regulation in New York, although over two-thirds (67%) of patients still reported tobacco use. More recently, Pagano and colleagues found no significant impact of the tobacco-free policy on smoking prevalence in patients at a 5-year follow-up (Pagano et al., 2015).

Increasing cigarette taxes is another broad policy intervention to reduce the prevalence of tobacco use overall and in high-risk groups, (Bauer, Hyland, Li, Steger, & Cummings, 2005; Hyland, Barnoya, & Corral, 2012; Wilson et al., 2012). Studies show that price increases on cigarettes are effective at reducing the overall prevalence of cigarette smoking, and the associated burden of tobacco-related disease (Callison & Kaestner, 2014; Huang & Chaloupka, 2012. Some taxes are allocated to specific state or government health programs, also known as "earmarks." Beginning in 1999, the CDC has provided annual recommended funding levels for tobacco control programs for each state, including how tobacco tax revenue should be allocated, such as through education, intervention, research, and anti-tobacco marketing campaigns (Chaloupka, Yurekli, & Fong, 2012). However, recent data suggest that only 2% of state tobacco revenues are spent on appropriated tobacco control activities, falling well below the minimum 15% recommended by the CDC (Centers for Disease Control and Prevention, 2014). Another recent review paper also suggests that, even when tobacco taxes are increased, monies from these taxes are rarely used to fund cessation programs (Vijayaraghavan, Schroeder, & Kushel, 2016).

Smoke-free restrictions may have a significantly stronger impact on reducing smoking prevalence and cigarette consumption than cigarette taxes (Fichtenberg & Glantz, 2002) and may impact tobacco taxes through these reductions in cigarette sales (Farrelly, Pechacek, & Chaloupka, 2003). For example, Tauras (2006) found that more restrictive indoor air restrictions were correlated with decreases in average number of cigarettes consumed. It is possible that decreases in cigarette consumption may impact net profits from cigarette taxes, which may influence the financial appropriations toward cessation programs. It may also be that states with more restrictive indoor air policies have more comprehensive tobacco control measures overall, and would thus increase cessation programs in a variety of need-based venues, including in SATFs (Frieden et al., 2005).

In sum, given the strong association between cigarette smoking and substance use, and the recent push by SAMHSA to reduce the burden of tobacco use among individuals with mental health and substance use disorders (Santhosh et al., 2014), research is urgently needed to understand the degree to which smoking cessation services have become integrated within SATFs over time, and what factors are associated with integration. This study examined facility and state-level correlates of the provision of smoking cessation services in a national cross-sectional survey of nearly 100,000 US SATFs assessed from 2006 to 2012. The objectives were to (1) examine the prevalence of, and variations in, the provision of smoking cessation services in US SATFs by state and by year to determine trends over time, and (2) evaluate facility factors (ownership, earmarks, facility admissions, acceptance of government insurance such as Medicaid) and state-level factors (CDC-recommended tobacco prevention spending levels, cigarette tax per pack, adult smoking rate, smoke free indoor air policies) associated with the provision of smoking cessation services in SATFs over time and by state. Prior national reports show state-level variations in the distribution of cessation services within SATFs, however the extent to which these variations are influenced by facility and state-level factors remains unknown (Substance Abuse and Mental Health Services Administration, 2014). As such, we hypothesized that state variations in cigarette tax prices and appropriations (earmarks) of such taxes would play an important role in the provision of smoking cessation services within SATFs, such that states with higher cigarette taxes and higher prevalence of earmarks would have a greater number of SATFs offering smoking cessation services. We also hypothesized that prevalence of adult smoking would be related to the provision of cessation in SATFs, such that states with fewer adult smokers might need fewer funds allocated toward tobacco health programs, while states with a greater prevalence of adult smokers would need more funds directed toward these programs. Finally, we hypothesized that states with comprehensive smoke free policies would be more likely to provide cessation services in SATFs compared to states with less comprehensive policies, thus