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Gaps and barriers in drug and alcohol treatment following implementation of the affordable care act

Catherine Tomko[a,*], **Mark Olfson**[b,c], **Ramin Mojtabai**[a,d]

[a]Department of Mental Health, Bloomberg School of Public Health, Johns Hopkins University, 624 N. Broadway, Hampton House 161, Baltimore, MD 21205, USA

[b]Department of Psychiatry, Vagelos College of Physicians and Surgeons, Columbia University, 630 West 168th Street, New York NY 10032, USA

[c]Mailman School of Public Health, Columbia University, 722 W 168th St., New York, NY 10032, USA

[d]Department of Psychiatry and Behavioral Sciences, Johns Hopkins University, 600 N. Wolfe St., Baltimore, MD 21205, USA

Abstract

Background: This study examines changes in the substance use disorder (SUD) treatment gap and barriers to treatment for low-income adults following Affordable Care Act (ACA) implementation.

Methods: National Survey on Drug Use and Health (NSDUH) data were pooled to assess pre-ACA (2009–2013) and post-ACA (2015–2019) implementation. The sample (n = 44,622) included respondents 18–64 years old, income <200% federal poverty level, and meeting SUD criteria for abuse or dependence of heroin, powdered cocaine, crack cocaine, marijuana, or alcohol. The primary outcome was NSDUH-defined past-year illicit drug or alcohol treatment gap (needing but not receiving SUD specialty treatment). A secondary analysis assessed barriers to SUD treatment including insurance-related barriers, stigma, barriers to access, priority of treatment, and no interest in stopping substance use.

Results: Ninety-three percent of respondents reported a drug or alcohol treatment gap before and after ACA implementation. No interest in stopping use was the greatest barrier (40%), followed by insurance-related barriers (39%) and stigma (20%). After adjusting for covariates, results did not show a significant change in SUD treatment gap post-ACA compared to pre-ACA (adjusted odds ratio [aOR]=1.11, 95% confidence interval [CI]=0.97, 1.28, p = 0.13). Compared to

*Corresponding author. ctomko1@jhu.edu (C. Tomko).

Contributors

CT conceptualized the research question, analyzed the data, and wrote the initial draft. MO and RM provided substantive feedback on the analysis and the written manuscript. All authors have approved the final article.

Declaration of Competing Interest

No conflict declared.

Supplementary materials

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pre-ACA, odds of reporting stigma-related barriers (aOR=1.66, 95% CI=1.17, 2.37, $p = 0.01$) and access-related barriers (aOR=1.79, 95% CI=1.34, 2.38, $p < 0.001$) increased post-ACA.

Conclusions: There was no significant change in the prevalence of SUD treatment gap after ACA implementation. Increasing access to SUD treatment for low-income individuals will require intervening at multiple socioecological levels beyond reforming treatment financing.

Keywords

Affordable care act; Substance use disorder; Substance abuse treatment; Barriers; Low-income

1. Introduction

The prevalence of substance use disorders (SUD) in the United States has been increasing over the past decade. In 2019, an estimated 20.4 million individuals aged 12 years and older in the U.S. met diagnostic criteria for a SUD, with 40.7% of these people meeting criteria for an illicit drug use disorder and 71.1% for alcohol use disorder (Piper et al., 2018; Substance Abuse and Mental Health Services Administration, 2020). Yet most of these individuals do not seek any formal treatment because they do not perceive a need for treatment (Pinedo et al., 2018; Verissimo and Grella, 2017). Among those who do perceive a need, structural barriers including lack of insurance or inadequate coverage of services under existing insurance plans have been major barriers to accessing SUD treatments (Cummings et al., 2014).

The Patient Protection and Affordable Care Act (ACA) seeks to reduce the number of uninsured people and lower the high cost of healthcare in the United States. In particular, the ACA expanded Medicaid eligibility to 138% of the federal poverty level, allowed young adults to be covered on their parents' health insurance until age 26, banned non-coverage for pre-existing conditions, and supported health insurance exchanges that provided subsidies to low income individuals (Abraham et al., 2017). Through the ACA, all insurance plans are required to cover SUD treatment under Medicaid expansion provisions. The ACA also expanded the 2008 Mental Health Parity and Addiction Equity Act requiring parity in coverage between SUD treatment and other medical services (Abraham et al., 2017). Although signed in 2010, most major ACA-mandated changes took effect in 2014 including Medicaid expansion at the state level. Although the Supreme Court ruled that states could choose whether or not to implement Medicaid expansion, by 2021, a majority of states had opted to expand Medicaid coverage. Because individuals with SUD tend to have lower incomes, they are disproportionately affected by the Medicaid expansion provision of the ACA (Busch et al., 2013).

Evaluations of the ACA and its association with increased access to SUD treatment modalities have yielded mixed findings. In Medicaid expansion states, there was an increase in Medicaid payment for SUD treatment following expansion, particularly for coverage of medication-assisted treatment for opioid use disorders (Maclean and Saloner, 2019; Meinhofer and Witman, 2018; Wen et al., 2017). State-level data similarly showed increases in Medicaid as a source of payment for OUD treatment facility admissions in states that expanded Medicaid (Meinhofer and Witman, 2018; Mojtabai et al., 2019; Saloner and

Maclean, 2020; Wen et al., 2017). However, questions remain about whether the ACA has affected the number of individuals seeking treatment for SUD (Andrews et al., 2019; Olfson et al., 2018). One study found that, despite a 13.7% decrease in the percentage of SUD patients who were uninsured, there was no evidence that Medicaid expansion of SUD treatment coverage was associated with an increase in individuals seeking treatment (Andrews et al., 2019). Similar findings have been specifically demonstrated among young people, less than 26 years of age (Olfson et al., 2018).

Despite some evidence of improvement in insurance coverage, barriers to SUD treatment remain and may partially account for problems with accessing treatment following ACA. One common barrier for low-income individuals, such as those eligible for Medicaid, is out-of-pocket costs associated with substance use treatment, including lost wages during periods of treatment (Tucker et al., 2004). Transportation is also an oft-cited barrier to treatment, whether due to long travel times, costs of public transportation, or limited transportation options (Adler et al., 2015; Jackson and Shannon, 2012). Enacted and anticipated stigma from family or peers can also create psychological barriers for individuals contemplating SUD treatment who may fear judgment or rejection (Allen et al., 2019; Tsai et al., 2019; Wakeman and Rich, 2018). Finally, some individuals may not see a need for professional treatment for their SUD, instead believing they “should be strong enough” to stop using drugs or alcohol on their own (Owens et al., 2018; Schuler et al., 2015).

Broadly, the SUD treatment gap refers to the gap between the population of individuals who need SUD treatment but do not seek such treatment. Prior research from the NSDUH surveys shows that a small proportion of adults with SUD seek treatment, highlighting the gap between treatment need and use (Saini et al., 2022). Further, there are is evidence to show that understanding, and subsequently reducing, barriers to treatment for SUD (and other behavioral health conditions) can contribute to closing the treatment gap (Connery et al., 2020; Kohn et al., 2004). Understanding changes to the treatment gap for SUD treatment after the ACA is critically important to both evaluate the effects of the ACA retrospectively and to inform future interventions targeting the most salient barriers to treatment that remain after financial reforms to healthcare.

To better understand how ACA provisions might have mitigated barriers to SUD treatment at the individual level, 10 years (2009–2013, 2015–2019) of data from the National Survey on Drug Use and Health (NSDUH) were analyzed. This analysis focuses on illicit drug and alcohol-related SUD among low-income individuals who are most likely to benefit from expanded Medicaid coverage through the ACA. The first goal was to examine changes in the SUD treatment gap in the years before and after full ACA implementation. The second goal was to examine changes in financial, social, and personal self-reported barriers to SUD treatment among individuals reporting SUD treatment need, but inability to access treatment.

2. Material and methods

2.1. Data source

The NSDUH, which is described in detail elsewhere (Substance Abuse and Mental Health Services Administration, 2019), is a national survey of the civilian non-institutionalized

population conducted annually by the Substance Abuse and Mental Health Services Administration (SAMHSA) through face-to-face interviews with sampled adults and adolescents. A stratified, multistage, area probability sampling design was used with states as the primary stratum and state sampling regions as the secondary stratum. Persons without a household address, such as homeless individuals not in shelters, active-duty military, and institutional residents, were not eligible for the survey. Although NSDUH oversampled young adults, the weighted NSDUH sample is representative of the US general population. During the 2009–2013 and 2015–2019 periods, the weighted response rates ranged from 64.9 to 75.6%. This research is exempt from human subjects review given the publicly available nature of the NSDUH dataset.

2.2. Study population

The sample was limited to respondents 18–64 years old, with income no greater than twice the federal poverty line (hereafter low income) who met criteria for an alcohol or illicit drug use disorder according to DSM-IV criteria (Jordan et al., 2008). Due to a NSDUH redesign between 2014 and 2015 that affected questions about several types of illicit drugs including sedatives, methamphetamines, and prescription pills, the sample was further limited to only those who met SUD for substances unaffected by the redesign: alcohol, heroin, powdered cocaine, crack cocaine, and marijuana.

2.3. Outcomes

The primary outcome is past-year illicit drug or alcohol treatment gap (yes/no). This variable was defined by NSDUH based on the pattern of survey responses. NSDUH defines a treatment gap as (1) needing treatment for illicit drug or alcohol treatment at a specialty facility in the past year but (2) not receiving such treatment. Respondents were defined as needing drug or alcohol treatment in the past year if they met criteria for a DSM substance use disorder (alcohol, heroin, powdered cocaine or crack cocaine, and marijuana) in the last year (Jordan et al., 2008). Respondents also self-reported past-year use of specialty facilities (i.e., mental health centers, hospitals [inpatient treatment], or rehabilitation facilities [inpatient or outpatient]). If respondents met criteria for needing illicit drug or alcohol treatment and self-reported not receiving treatment at a specialty facility, they were defined as experiencing a treatment gap.

The secondary outcome was self-reported barriers to using a specialty facility for illicit drug or alcohol treatment in the past year among participants who perceived a need for treatment. The NSDUH only asked about barriers to treatment if a participant 1) self-reported needing treatment for illicit drugs or alcohol and 2) self-reported not seeking substance use treatment at a specialty facility in the past year. Respondents could select up to 13 barriers. Barriers were classified into the following categories as previously defined by Novak et al. (2019): (1) insurance-related (no health coverage, type of program not covered by insurance); (2) stigma (concerned about negative opinions, worried about job finding out, does not want others finding out); (3) access-related (type of treatment not offered by program, no openings, no transportation to program, lack of knowledge of available options); (4) treatment not a priority (no time for treatment, can handle use on own, doesn’t think treatment will help); (5) not ready to stop use right now.

2.4. Exposure of interest

The pre-ACA period was defined as pooled NSDUH study years 2009–2013. The post-ACA period was defined as pooled NSDUH years 2015–2019, the last year for which data were available. This analysis excludes 2014 data to lag the start of the post-ACA period until one year after full implementation took effect.

2.5. Covariates

Demographic and personal characteristics included respondents' age, race and ethnicity, sex, education, employment status, health insurance coverage, and population density of residence. Past-year illicit drug use variables included use of powdered cocaine, crack cocaine, heroin, marijuana and a binary variable representing use of any of these substances. History of ever injecting any drug was included, as was binge drinking in the past 30 days (i.e., having four or five drinks on one occasion, depending on respondent's sex). To capture mental health and distress, we used the NSDUH-defined variable of experiencing a major depressive episode in the past year. Substance use treatment history includes drug or alcohol treatment at a specialty facility within the past year.

2.6. Statistical analysis

First, bivariate differences in proportions pre- and post-ACA were calculated for demographic and personal characteristics, substance use, and substance use treatment history using chi-square tests. Second, logistic regression models were fit including unadjusted models and an adjusted model of experiencing a drug or alcohol treatment gap (controlling for race/ethnicity, age, sex, education, population density, education, employment status, insurance coverage, past-year mental health, and past-year illicit drug use). Third, for the analysis of barriers to treatment, bivariate differences in the proportion of respondents endorsing each barrier category pre- and post-ACA were estimated. Fourth, separate unadjusted and adjusted logistic regression models with each treatment barrier category as the outcome were conducted. Adjusted models controlled for race/ethnicity, age, sex, population density, education, employment status, insurance coverage, past-year mental health, and past-year illicit drug use. Finally, for both primary and secondary outcomes, we conducted multivariable models stratified by a binary measure of insurance coverage (i.e., having any insurance coverage) and type of insurance (i.e., private insurance only or public insurance only) to determine if outcomes differed by insurance coverage. All analyzes accounted for the complex survey design and sampling weights of the NSDUH and used complete-case analysis. Only weighted results are reported. Stata/SE version 15.1 was used for all analyzes.

3. Results

The total unweighted study sample was $n = 44,622$ ($n = 24,537$ pre-ACA, $n = 20,085$ post-ACA). As compared to the pre-ACA implementation sample, the post-ACA implementation sample included a greater proportion of individuals who were aged 50–64 years, female, employed full-time, had higher levels of education, lived in a large metro area, covered by health insurance, and experienced a major depressive episode in the past year. There was

a significantly smaller proportion of non-Hispanic Whites post-ACA compared to pre-ACA (Table 1).

Among low-income adults with past year SUDs, past year illicit drug use was significantly more common in the post-ACA compared to pre-ACA period, including powdered cocaine (13.3% vs. 16.4%, $p < 0.001$), heroin (2.7% vs. 3.8%, $p < 0.001$), marijuana (48.9% vs. 55.3%, $p < 0.001$), and any illicit drug use (51.7% vs. 58.4%, respectively, $p < 0.001$). The proportion reporting any past-year substance use treatment remained similar pre- and post-ACA implementation (Table 1).

3.1. Drug or alcohol treatment gap

The weighted proportion of respondents reporting that they experienced a past-year treatment gap was 93.1% (95% confidence interval [CI] = 92.7, 93.5), 93.1% (95% CI= 92.4, 93.7) pre-ACA and 93.2% (95% CI = 92.6, 93.7) post-ACA. In an unadjusted logistic regression, there were no differences in odds of a drug or alcohol treatment gap in the post-ACA period compared to pre-ACA period (odds ratio [OR] = 1.01, 95% CI=0.88, 1.14, $p = 0.93$) (Table 2). In a multivariable logistic regression adjusting for relevant covariates, we similarly did not find a significant difference in odds of a drug or alcohol treatment gap in the post-ACA compared to pre-ACA periods (adjusted odds ratio [aOR] = 1.11, 95% CI=0.97, 1.28, $p = 0.13$). There were no significant differences in odds of a drug or alcohol treatment gap in the post-ACA period compared to pre-ACA when stratifying by insurance coverage or type of insurance (Table 2).

3.2. Barriers to not receiving treatment

In the sub-sample of respondents who self-reported a need for treatment but did not receive treatment within the past year ($n = 1970$), not needing treatment at a specialty facility was the most frequently reported treatment barrier both pre- and post- ACA periods (38.5% vs. 41.9%, respectively, $p = 0.32$) (Fig. 1). Pre-ACA, 41.9% of the sample reported insurance-related barriers, while 35.9% of the sample reported these barriers post-ACA, though this did not meet the threshold for statistical significance ($p = 0.08$). Stigma (16.8% vs. 24.1%, $p = 0.001$) and access-related barriers (21.6% vs. 33.4%, $p < 0.001$) significantly increased post-ACA.

Significant associations persisted after adjusting for covariates in logistic regression models: compared to pre-ACA, odds of reporting stigma-related barriers increased post-ACA (aOR=1.66, 95% CI=1.17, 2.37, $p = 0.01$), as did access-related barriers (aOR=1.79, 95% CI=1.34, 2.38, $p < 0.001$) post-ACA (Table 3). Despite ACA implementation, insurance-related barriers did not significantly decrease.

Despite significantly greater odds of reporting stigma-related barriers post-ACA among the entire sample, there were no significant differences in reporting stigma-related barriers when models were stratified by insurance coverage and insurance type (Supplementary Table 1). Stratified models also showed that odds of access-related barriers uniformly increased post-ACA among those with any insurance coverage (aOR= 1.71, 95% CI=1.20, 2.44, $p = 0.003$), private insurance (aOR=1.61, 95% CI=1.03, 2.51, $p = 0.04$), and public insurance (aOR=2.00, 95% CI=1.05, 3.78, $p = 0.03$).

4. Discussion

In an analysis of the national civilian low-income adult population with substance use disorders, there were no significant changes in the prevalence of drug or alcohol treatment gaps after implementation of the ACA. Social, organizational, and individual barriers to drug or alcohol treatment significantly increased post-ACA implementation, including a lack of knowledge of available services, difficulties in accessing available and appropriate options for treatment, and anticipated treatment-related stigma from others; there was no significant reduction in insurance-related barriers to treatment, however. Taken together, our findings show that intervening on multiple ecological levels may be necessary to create meaningful change to drug or alcohol treatment access, beyond financial reforms.

There are at least two possible reasons why we did not find a reduction in the drug and alcohol treatment gap post-ACA implementation. First, while some prior studies that have found improvements in drug treatment post-ACA focused on opioid-specific treatment, the present analysis considers alcohol treatment and illicit drugs in addition to opioids. The NSDUH queried substance use “treatment and counseling” without specifically mentioning medications. As a result, our NSDUH results may have undercounted buprenorphine or other medications for opioid use disorder and therefore may not have detected ACA associated changes in opioid use disorder treatment reported elsewhere. Second, the present study used individual-level data on access to treatment of substance use, rather than administrative data concerning changes in Medicaid spending (Meinhofer and Witman, 2018; Saloner and Maclean, 2020; Wen et al., 2017). For example, increases in Medicaid spending for SUD treatment post-ACA demonstrates the importance of Medicaid expansion as a new source of payment for SUD treatment, but does not necessarily show that the number of individuals seeking treatment has increased, nor do these data account for individual-level factors influencing treatment-seeking. As stated earlier, it is unclear from prior literature whether the ACA increased the proportion of individuals receiving drug or alcohol treatment over time; the present findings suggest that this may not be the case.

While there was no evidence to show that odds of insurance-related barriers decreased post-ACA, results did show that odds of reporting stigma as a barrier to SUD treatment increased after ACA implementation. Similar trends have also been found with respect to changes in mental health treatment following ACA implementation, where structural and attitudinal barriers increased post-ACA (Mojtabai, 2021). Fear of poor treatment or discrimination from peers after learning of SUD treatment is common and may reflect past experiences with “intervention stigma,” or enacted stigma that manifests after engaging with medical treatments or other intervention for a stigmatized condition such as SUD (Madden, 2019). For conditions such as SUD that may not be visible to others, engaging with treatment can make the condition visible and subject to social stigma. This fear is not only anticipated from others but is also partly driven by internalized stigma related to one’s own SUD. Internalized stigma can be particularly pronounced for those who experience intersectional stigmas, such as racial and sexual or gender minorities (Benz et al., 2019). Language used by policymakers and broader media is changing and can have downstream effects on the way that the general public views people with SUD, but other manifestations of stigma are

still pervasive and can have enduring effects unless addressed with targeted interventions (Atayde et al., 2021).

Access-related treatment barriers also significantly increased post-ACA such as an absence of openings at local treatment facilities, a lack of knowledge of available options, and transportation difficulties in accessing treatment facilities. Further, stratifying by insurance coverage and type of insurance found that odds of reporting an access-related barrier to treatment increased uniformly, whether respondents were covered by public or private insurance. These results, in part, support prior evidence showing strained SUD treatment capacity and inadequate supply of treatment providers to meet demand. The increase in insurance coverage to those previously uninsured and strengthening parity between behavioral health and other medical services under ACA may have opened new treatment options without adequately addressing treatment capacity (Andrews et al., 2019; Maclean and Saloner, 2019; Olfson et al., 2018). These access-related barriers reflect persistent difficulties at the organizational and individual socioecological levels suggesting that efforts to increase SUD treatment access in low-income populations should aim to reduce barriers at multiple socioecological levels.

Looking to examples of how healthcare and other direct patient providers pivoted service delivery in the wake of the COVID-19 pandemic may provide insights into promising ways to lessen access-related barriers to SUD treatment. The recent increase in mobile clinics during COVID-19 to better meet health needs while fixed-site clinics closed may be one potential strategy to improve rising program-related barriers to treatment. Mobile clinics have grown in popularity and capacity as fixed-site services were forced to close or significantly scale back care and are often able to reach the most socioeconomically marginalized individuals to engage them in care more successfully than the typical standard-of-care (Attipoe-Dorcoo et al., 2020; Hill et al., 2014).

Spurred by COVID-related concerns and physical distancing requirements, restrictions on medications for opioid use disorder (MOUD) were temporarily lifted to allow for buprenorphine induction via telemedicine and longer-term methadone dosing (now allowing up to a one-month supply to be prescribed) (Priest, 2020). Permanently increasing flexibility in MOUD prescribing may improve access-related barriers to care by reducing the need for more frequent patient visits. Further, unsupervised MOUD dosing may increase a patient's sense of autonomy and help address clinic capacity to meet demand (Alexander et al., 2020; Columb et al., 2020). Relatedly, offering SUD treatment in non-medicalized settings has been associated with greater patient comfort and may mitigate stigma as a barrier to engaging in treatment. Large medical facilities such as hospitals have historically been associated with discomfort, judgement, and generally poor treatment for people who use drugs and has contributed to delayed or forgone healthcare (Biancarelli et al., 2019; McNeil et al., 2014). In contrast, community-based organizations are often preferred sources of care for people who use drugs, including SUD treatment, because of the non-stigmatizing environment (Biancarelli et al., 2019; McNeil et al., 2014). Though this may not be possible for patients with SUD requiring more intensive treatment, broadening treatment options in settings where people who use drugs feel more comfortable may mitigate some of the patient's anticipated stigma related to SUD treatment.

Several limitations to these results should be considered. First, SUD treatment was assessed by self-report and therefore is vulnerable to recall and social desirability biases. Second, people experiencing homelessness were not within the NSDUH sampling frame. A capture-recapture analysis, which overcame this limitation, found that the total population with opioid use disorder was substantially larger than that reported by NSDUH findings (Barocas et al., 2018). Third, people who are incarcerated were also outside of the NSDUH sampling frame. Fourth, because the public use NSDUH files do not include place of residence, controlling for state-level factors such as Medicaid expansion status that may be associated with ACA-related insurance coverage and SUD treatment was not possible in this analysis. Finally, other sources of residual confounding, such as temporal changes in motivation to seek treatment, might account for observed differences in barriers to SUD treatment among those not receiving treatment in the past year.

The ACA is groundbreaking legislation that has improved healthcare delivery and subsequent population health outcomes in the US general population, though its impact on SUD treatment access is unclear (Gaffney and McCormick, 2017). Using 10 years of NSDUH data, the present study did not find evidence that the ACA closed the drug and alcohol treatment gap for low-income individuals. Self-reported social, organizational, and individual-level barriers to treatment access appeared to increase significantly after ACA implementation. Though health service financing policies, such as the ACA, are critical components of increasing access to drug and alcohol treatment for low-income individuals, they are unlikely to be sufficient on their own. Sustainable interventions should engage multiple socioecological levels (e.g., community, organization) in conjunction with health service financing reform.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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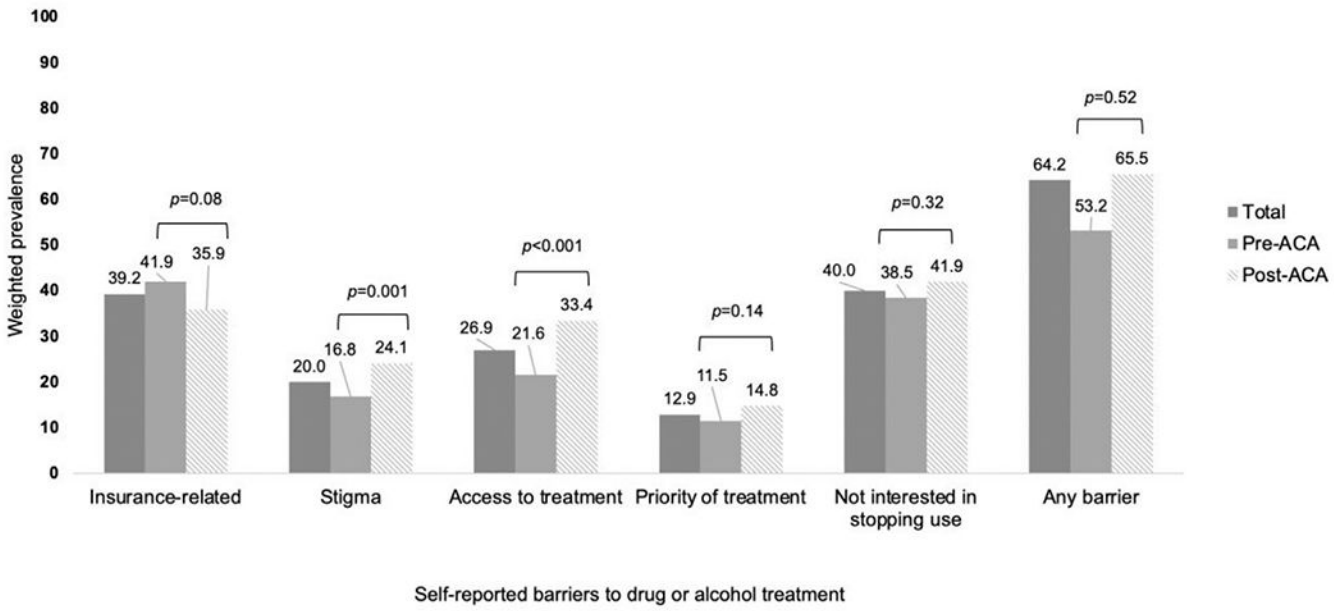

Fig. 1.

Weighted prevalence of self-reported barriers to drug or alcohol treatment in the NSDUH, stratified by pre- (2009–2013) and post-implementation of the Affordable Care Act (2015–2019) among respondents not receiving treatment and perceiving a need for treatment within the past year (n = 1970). Note: Estimates are weighted to account for NSDUH survey design.

Table 1

Bivariate comparisons of demographics, personal characteristics, substance use, and past-year substance use treatment variables in the NSDUH, stratified by pre- (2009–2013) and post-implementation of the Affordable Care Act (2015–2019) (n = 44,622).

	Pre-ACA (n = 24,537)		Post-ACA (n = 20,085)		p
	%	*95% CI*	*%*	*95% CI*	
Age					*<0.001*
18–25	33.7	32.7, 34.7	29.0	28.1, 29.9	
26–34	25.2	24.1, 26.3	25.6	24.6, 26.5	
35–49	25.9	24.9, 26.9	25.9	25.0, 26.9	
50–64	15.3	14.1, 16.5	19.5	18.5, 20.7	
Race/ethnicity					*<0.001*
Non-Hispanic white	67.2	65.9, 68.4	64.9	63.8, 66.1	
Non-Hispanic black	11.7	11.0, 12.4	12.1	11.3, 12.9	
Non-Hispanic Asian, American/Alaskan Native, Native Hawaiian/Pacific Islander	3.4	3.0, 3.8	4.5	4.1, 4.9	
Non-Hispanic, more than one race	1.7	1.4, 2.0	2.3	2.0, 2.7	
Hispanic	16.1	15.2, 17.0	16.3	15.4, 17.1	
Sex					*0.01*
Male	65.9	64.8, 67.1	63.8	62.7, 65.0	
Female	34.1	32.9, 35.2	36.2	35.0, 37.3	
Education					*<0.001*
Less than high school	16.5	15.6, 17.4	12.0	11.3, 12.8	
High school grad/GED	29.2	28.2, 30.2	24.9	24.0, 25.8	
Some college	30.1	28.9, 31.2	34.9	34.0, 35.9	
College or greater	24.3	23.3, 25.3	28.2	27.1, 29.2	
Employment status					*<0.001*
Employed full-time	54.5	53.6, 55.5	58.4	57.1, 59.6	
Employed part-time	16.8	16.0, 17.7	14.9	14.3, 15.6	
Unemployed	11.0	10.4, 11.8	8.7	8.0, 9.3	
Other[*]	17.6	16.7, 18.6	18.1	17.3, 18.8	
Health insurance coverage					*<0.001*
No insurance	25.9	24.6, 27.1	15.3	14.6, 16.1	

	Pre-ACA (*n* = 24,537)		Post-ACA (*n* = 20,085)		p
	%	*95% CI*	*%*	*95% CI*	
*Private insurance (*e.g., *employer-sponsored)*	62.5	61.4, 63.6	65.5	64.2, 66.7	
*Public insurance (*e.g., *Medicare, Medicaid)*	11.7	10.9, 12.4	19.2	18.1, 20.4	
Population density					
Large metro area	54.0	52.7, 55.3	57.2	56.1, 58.3	*<0.001*
Small metro area	41.4	40.1, 42.7	38.7	37.7, 39.7	
Non-metro area	4.6	4.2, 5.1	4.1	3.8, 4.4	
Experienced major depressive episode, past year	16.7	15.9, 17.5	19.1	18.4, 19.9	*<0.001*
Illicit drug use, past year					
Powdered cocaine	13.3	12.6, 14.1	16.4	15.7, 17.1	*<0.001*
Crack cocaine	3.3	2.9, 3.8	3.4	3.0, 3.9	*0.83*
Heroin	2.7	2.4, 3.1	3.8	3.5, 4.2	*<0.001*
Marijuana	48.9	47.5, 49.9	55.3	54.4, 56.2	*<0.001*
Any drug use (cocaine, crack, heroin, or marijuana)	51.7	50.4, 52.9	58.4	57.4, 59.4	*<0.001*
Injected drugs, ever	6.6	6.1, 7.1	7.3	6.7, 7.9	*0.08*
Binge alcohol use, past 30 days	74.4	73.4, 75.4	73.2	72.4, 74.0	*0.08*
Past-year substance use treatment					
Any specialty facility treatment	6.8	6.2, 7.5	6.8	6.3, 7.3	*0.93*
Hospital	3.0	2.6, 3.5	2.8	2.5, 3.1	*0.48*
Inpatient rehabilitation center	3.4	3.0, 3.9	3.3	2.9, 3.7	*0.71*
Outpatient rehabilitation center	4.4	3.9, 4.9	4.5	4.1, 4.9	*0.77*
Mental health facility	3.2	2.8, 3.7	3.5	3.1, 3.9	*0.29*
Substance abuse treatment gap	93.1	92.4, 93.7	93.2	92.6, 93.7	*0.93*

*other types of employment include individuals out of the workforce or not looking for work.

Note: NSDUH = National Survey on Drug Use and Health. Estimates are weighted to account for NSDUH survey design.

Table 2

Univariate and multivariable logistic regression modeling impact of the Affordable Care Act on adjusted odds of drug or alcohol treatment gap in the NSDUH (2009–2013, 2015–2019) (n = 44,622).

					Stratified by Insurance Status†					
	Unadjusted		Adjusted*		Any insurance		Private insurance		Public insurance	
	OR (95% CI)	*p*	aOR (95% CI)	*p*	aOR (95% CI)	*p*	aOR (95% CI)	*p*	aOR (95% CI)	*p*
Pre-ACA	*Reference*		*Reference*		*Reference*		*Reference*		*Reference*	
Post-ACA	1.01 (0.88, 1.14)	0.93	1.11 (0.97, 1.28)	0.13	1.02 (0.88, 1.18)	0.80	1.13 (0.94, 1.36)	0.21	1.12 (0.89, 1.40)	0.33

Note: NSDUH = National Survey on Drug Use and Health; estimates are weighted to account for NSDUH survey design.

*Controls for race, age, sex, population density, employment status, insurance coverage, experiencing a major depressive episode, and past-year illicit drug use.

†Each model controls for race, age, sex, population density, education, employment status, experiencing a major depressive episode, and past-year illicit drug use.

Table 3

Univariate and multivariable logistic regressions modeling impact of the Affordable Care Act on odds of barriers to drug or alcohol treatment in the NSDUH (2009–2013, 2015–2019) (n = 1970).

	Unadjusted			Adjusted*		
Outcomes	**Odds Ratio**	**95% CI**	***p***	**Odds Ratio**	**95% CI**	***p***
Insurance-related barriers						
Pre-ACA	*Reference*			*Reference*		
Post-ACA	0.76	0.59, 1.03	0.08	0.84	0.62, 1.14	0.25
Stigma-related barriers						
Pre-ACA	*Reference*			*Reference*		
Post-ACA	1.57	1.14, 2.18	0.01	1.66	1.17, 2.37	0.01
Access-related barriers						
Pre-ACA	*Reference*			*Reference*		
Post-ACA	1.82	1.37, 2.42	<0.001	1.79	1.34, 2.38	<0.001
Priority of treatment						
Pre-ACA	*Reference*			*Reference*		
Post-ACA	1.34	0.91, 1.99	0.14	1.36	0.89, 2.07	0.15
Not interested in stopping use						
Pre-ACA	*Reference*			*Reference*		
Post-ACA	1.15	0.87, 1.52	0.32	1.06	0.80, 1.40	0.71
Any barrier to treatment						
Pre-ACA	*Reference*			*Reference*		
Post-ACA	1.10	0.82, 1.49	0.52	1.21	0.87, 1.67	0.25

Note: NSDUH = National Survey on Drug Use and Health; estimates are weighted to account for NSDUH survey design.

*Controls for race, age, sex, population density, education, employment status, insurance coverage, experiencing a major depressive episode, and past-year illicit drug use.