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Behavioral Health Treatment Utilization among Individuals with Co-Occurring Opioid Use Disorder and Mental Illness: Evidence from a National Survey

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Abstract

Background: Past research shows that among individuals with substance use disorders, the presence of a co-occurring mental illness can influence the initiation, course, and success of behavioral health treatment, but little research has examined people with opioid use disorder (OUD) specifically.

Methods: Using the 2008 – 2014 National Survey on Drug Use and Health, this study examines the utilization of substance use disorder and mental health treatment among individuals with OUD and different degrees of mental illness severity. The study also examined types of treatment, perceived unmet need for treatment, and barriers to care.

Results: 47 percent of individuals with OUD and co-occurring mild/moderate mental illness did not receive any behavioral health treatment, and 21 percent of those with co-occurring serious mental illnesses did not receive any behavioral health treatment. Among those with OUD and co-occurring mild/moderate mental illness, 16 percent reported receiving both substance use disorder and mental health treatment; among those with co-occurring serious mental illness the rate was 32 percent. The most common form of treatment was prescription medication for mental health, and this was true regardless of whether or not the individual had any mental illness. More than 50 percent of the study population reported financial difficulties as a barrier to treatment.

Conclusion: A high proportion of individuals with OUD and co-occurring mental illness are not receiving needed care. However, nearly one in five of those with OUD but no diagnosed mental illness is receiving prescription medication for mental illness. These findings suggest that there is a need to better facilitate access to and coordinate behavioral health care across settings for individuals with OUD.

Keywords

Opioids; Mental Health; Substance Use Disorder Treatment; Mental Health Treatment; Barriers to Care.

1. Introduction

The United States is in the midst of an opioid crisis characterized by historically high rates of overdose deaths, hospitalizations, and addiction treatment admissions related to the use of prescription opioid medications and heroin (Kolodny et al., 2015). Recent estimates indicate that an individual is now more likely to die of opioid-related issues than in a motor vehicle crash (Center for Injury Prevention and Control, 2016). Facilitating access to evidence-based treatment for opioid use disorder (OUD) has been identified as essential strategy for preventing overdose deaths and stopping the spread of the current crisis (Alexander et al., 2016). However, most people with OUD receive no substance use treatment (Saloner & Karthikeyan, 2015).

Most research on the ongoing opioid crisis has focused on the role of health care access, prescribing patterns of providers, and supply-side policies (including prescription drug monitoring programs, pill mill laws, abuse-deterrent reformulations of opioids, rescheduling of opioids, and prescribing guidelines) (Guy et al., 2017; Ali, Dowd, Classen, Mutter, & Novak, 2017; Saloner & Karthikeyan, 2015). Less attention has been devoted to co-occurring mental health conditions in this population, yet substance use disorders often co-occur with mental illness (Grant et al., 2004; Sullivan et al., 2006). This is particularly true of people with OUD, among whom between half and three quarters are estimated to have a co-occurring mental health disorder (Darke & Ross, 1997; Callaly et al., 2001; Nam et al., 2016; Nam et al., 2017). A recent study suggested that around half of all opioid prescriptions in the United States are written for people with a history of anxiety or depressive disorders (Davis, Lin, Liu, & Sites, 2017), and in 2015, 1.5 million adults with serious mental illness misused opioids (SAMHSA, 2016).

People with co-occurring substance use disorder and mental illness may have different patterns of treatment and likely have complex treatment needs. For example, Urbanoski and colleagues (2007) found that people with substance use disorders who had co-occurring mental illness were more likely to receive substance use treatment, but also most likely to report dissatisfaction with the quality of their care. Research has also shown that individuals with substance use disorder but no mental illness are more likely to get mental health treatment (Ali et al., 2015). There is also evidence that people in substance use treatment with co-occurring mental illness are less likely to complete treatment (Krawczyk et al., 2017) and experience worse treatment outcomes (Compton et al., 2003) than people with no

mental illness. It is recommended that individuals with co-occurring mental health and substance use disorder receive treatment for both disorders at the same time (Nam et al., 2017). Among people in methadone maintenance treatment for opioids in particular, one study found that people with more severe mental illness in treatment had worse psychosocial outcomes at treatment entry and exit (Cacciola et al., 2001). Further, the special needs of people with comorbid substance use and mental health problems may not be served well within the existing health care system where substance use and mental health treatment are often not integrated or coordinated (Burnam & Watkins, 2006; Torrens et al, 2012).

As the United States seeks to expand access to evidence-based OUD treatment to combat the ongoing crisis of addiction, it is important to understand how the presence of co-occurring mental illness relates to treatment utilization and barriers to healthcare among individuals with an OUD. This study uses public use data from an annual, nationally representative survey on substance use and mental health in the United States to examine patterns of treatment utilization and barriers to treatment among individuals with an OUD and individuals with co-occurring OUD and mental illness.

2. Material and Methods

2.1 Data

This study utilized data from the 2008 – 2014 National Survey on Drug Use and Health (NSDUH), a nationally representative survey of the non-institutionalized population in the United States conducted annually by the Substance Abuse and Mental Health Services Administration. The NSDUH collects detailed information on use of alcohol and illicit drugs, mental and substance use disorders, and behavioral health treatment utilization. Using a stratified, multi-level cluster sampling design, the survey is designed to produce nationally representative estimates of individuals aged 12 years and older living in households in the United States. Comprehensive information on the NSDUH data collection methods and survey design are available from the Substance Abuse Mental Health Services Administration (SAMHSA, 2016).

The NSDUH asks respondents questions to assess symptoms of pain-reliever and heroin use disorders (substance dependence or abuse) during the past year using the criteria specified within the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) (APA, 1994). It includes such symptoms as trouble with the law, tolerance, withdrawal, use in dangerous situations, and interference in major obligations at work, school, or home during the past year. The variable for OUD in this study reflects whether the respondent met the criteria for DSM-IV abuse or dependence of either pain-relievers or heroin. In this analysis, we restrict the sample to individuals aged 18 through 64 with OUD (unadjusted pooled N = 3,398). All estimates are weighted to account for NSDUH's complex survey design (clustering and stratification) and to make the estimates nationally representative (weighted pooled N ≈ 1,816,565). All analysis were conducted in STATA 15 using the 'svy' prefix command.

2.2 Measures

The primary exposure of interest was whether the individual had a co-occurring mental illness. Mental illness was identified using NSDUH's probabilistic algorithm based on a combination of a respondent's Kessler Psychological Distress Scale (K6) (Kessler et al., 2002) and World Health Organization Disability Assessment Scale (WHODAS) (Garin, 2010) scores (SAMHSA, n.d). Based on these scores, participants were classified in the NSDUH as having no mental illness, mild or moderate mental illness, or serious mental illness (SAMHSA, n.d).

The outcome of the analysis is a categorical variable with four mutually exclusive behavioral health treatment categories: substance use disorder treatment only, mental health treatment only, both substance use disorder and mental health treatment, and no substance use disorder or mental health treatment in the past 12 months. Substance use disorder treatment in the study refers to the use of any outpatient or inpatient treatment services for alcohol or drug use during the year. This treatment could be received at a self-help group, mental health center, hospital, rehabilitation facility, private physician's office, or substance abuse related emergency room visit. The treatment could also have been received in a jail or prison, although NSDUH does not survey respondents who are currently incarcerated. Mental health treatment represents the use of one or more of the following types of services during the year – outpatient treatment services (clinical or non-clinical setting), inpatient treatment services (clinical or non-clinical setting), and use of any psychotropic medication.

The NSDUH asks all respondents, regardless of mental health status or treatment received, whether there was a time during the past 12 months when they needed mental health treatment or counseling but did not get it. Perceived unmet mental health need was measured based on this question, with a positive response being coded as 1 and otherwise coded as 0. Among those with perceived unmet mental health need, the NSDUH questionnaire asks respondents to categorize the reasons for not getting treatment from a list of 14 options. For this analysis, these 14 possible answers were grouped into the following six categories following the previous literature (Ali et al., 2017): affordability, treatment access, stigma, treatment not a priority, fear, and other reason. "Affordability" is defined as not getting care because the person's insurance would not pay for the treatment, or his/her insurance was not enough to cover the cost of treatment, or the person could not afford the cost,. "Treatment access" included not being able to get care because the person did not have a way, such as car or bus, to get to the treatment site, the person did not know where to go for treatment, or the treatment location was too far. "Stigma" is defined as not getting care because the person was concerned that other people, such as neighbors, would have a poor opinion, the individual did not want other people to be aware, the individual thought it might have bad ramifications for their job, or the individual had concerns about confidentiality. "Treatment not a priority" was defined as not getting treatment because the person thought s/he could handle the problem without treatment, because s/he did not have time to go for treatment, or s/he did not think treatment would help. "Fear" was categorized as not getting treatment because the person feared s/he would be involuntarily committed for treatment or forced to take medications. Finally, "other reason" is defined as some other reason for not receiving treatment.

NSDUH also asks respondents who did not receive treatment if in the past 12 months they wanted or needed treatment or counseling for their alcohol or drug use. A response of yes was coded as 1, indicating the individual felt a need for treatment, and a response of no was coded as 0, indicating no perceived need for treatment. Among those reporting this perceived need for substance use treatment but not getting it, NSDUH asks people to categorize the reasons for not getting treatment from a list of 13 possible reasons. Similar to the mental health treatment barriers, these 13 possible reasons can be collapsed into five broad categories: affordability, treatment access, stigma, treatment not a priority, and lack of readiness to stop using. "Affordability" is defined as not receiving treatment because a respondent's insurance did not cover the treatment or the individual could not afford the cost. "Access barriers" included not receiving treatment because the individual did not have a way to get to the treatment (e.g. bus route did not go to facility, no family member to give a ride), because no program in their area had the type of treatment they needed, because there were no open slots in the program they needed, or because the respondent did not know which program or office to call to arrange treatment. "Stigma" is defined as not receiving treatment because the individual did not want other people to know, their neighbors might have a poor opinion, or thought it would have a negative effect on his or her employment situation. "Treatment not a priority" included not getting treatment because the individual reported that they did not have time for treatment, or s/he thought s/he could handle the problem without treatment. Finally, "Lack of readiness to stop using" was defined as not getting treatment because the individual did not indicate readiness to stop using the substance.

Multinomial logistic regression was utilized in the study to examine the association of mental health status with utilization of substance use treatment, mental health treatment, and both treatments among individuals with OUD because the dependent variable is a categorical variable of more than two unordered mutually exclusive outcomes. As noted previously, the four categories of behavioral health treatment utilization are: (i) substance use disorder treatment only; (ii) mental health treatment only; (iii) both substance use disorder and mental health treatment; and (iv) no substance use disorder or mental health treatment. The later category, no treatment, was used as the reference group. For each independent variable, the analysis produces three relative risk ratios (RRR), which show how the relative risk of utilizing a particular category of treatment changes relative to not utilizing any treatment. For example, in the case of mental health status, the model estimates the association between mild/moderate mental illness and serious mental illness compared to no mental illness with treatment utilization in modeling three logit models simultaneously – (i) comparing substance use disorder treatment only with no substance use disorder or mental health treatment; (ii) comparing mental health treatment only with no substance use disorder or mental health treatment, and (iii) comparing both substance use disorder and mental health treatment with no substance use disorder or mental health treatment.

In addition, the following variables were also examined in the analysis – gender, age, race/ethnicity, marital status, education level, poverty status, employment status, health insurance status, and whether the respondent resided in a metro area – because they have been identified as predisposing and enabling factors for accessing needed health care services (Andersen, 1995; McKenna, 2017).

3. Results

Among those with OUD, 40% had no mental illness, 36% had mild or moderate mental illness, and 24% had serious mental illness. The demographic characteristics of the study population are provided in Table 1. The table shows that 70% of those with OUD and no mental illness were male, 45% were between the ages of 26 to 49 (26% between ages 26–34 and 19% between ages 35–49), 71% were non-Hispanic White, and 11% had a college degree. Among those with OUD and co-occurring mild/moderate mental illness, 56% were male, 54% were between the ages of 26 to 49, 73% were non-Hispanic White, and 9% had a college degree. Among those with OUD and co-occurring serious mental illness, 50% were male, 62% were between the ages of 26 to 49, 81% were non-Hispanic White, and 12% had a college degree. In addition, a majority of those with co-occurring OUD and mental illness were not employed fulltime. Also, a majority of individuals with OUD and mental illness had incomes below 200% of the federal poverty level (FPL). Finally, one third of the study population did not have any health insurance coverage.

The percentage of individuals with OUD who received various treatment types by mental illness status are reported in Table 2. The percentage of individuals who received substance use disorder treatment only was similar across the mental illness categories with a slightly higher percentage of individuals without mental illness and with mild/moderate mental illness receiving substance use disorder treatment only. The percentage of individuals receiving mental health only treatment increased as the severity of mental illness increased; 14% of individuals with OUD and no mental illness received mental health treatment only; 26% and 38% of individuals with mild/moderate mental illness and serious mental illness, respectively, received mental health treatment only. The percentage of individuals receiving both substance use disorder treatment and mental health treatment also increased with mental illness severity. Well over half of people with OUD and no mental illness (66%) received no treatment. The percentage of people receiving no treatment decreased as mental illness severity increased. Specifically, 47% of those with mild/moderate mental illness received no treatment, whereas only 21% of respondents with serious mental illness received no treatment.

The percentage of the study population receiving substance use treatment in the various settings identified in Table 2 increased as the severity of mental illness increased. The most common substance use treatment setting across all categories of mental illness was self-help group, which was used by 12%, 16%, and 27% of individuals with no, mild/moderate, and serious mental illness, respectively. Outpatient substance use treatment was the second most common substance use treatment. It was received by 12%, 15%, and 23% of respondents with no, mild/moderate, and serious mental illness, respectively.

The most common form of mental health treatment for individuals with OUD across all categories of mental illness was prescription medication, which was used by 17%, 34%, and 63% of respondents with OUD who had no, mild/moderate, and serious mental illness, respectively. Use of inpatient and outpatient mental health services increased with severity of mental illness for people with OUD.

Even though rates of substance use treatment were low, only a minority of individuals with OUD who did not receive treatment perceived a need for it. The percentage of individuals with an unmet need for substance use disorder treatment increased as mental illness severity increased, rising from 8% of those without mental illness, to 16% of those with mild/moderate mental illness, and to 19% of those with serious mental illness.

The percentage of individuals who had an unmet need for mental health treatment was lowest among those with OUD who did not have mental illness (7%). In contrast, 30% and 60% of respondents with OUD who had mild/moderate and serious mental illness, respectively, reported an unmet need for mental health treatment.

Table 3 shows the reasons that individuals with OUD and an unmet need for mental health care, by the reason that they cited for their unmet need. The most commonly reported reason across all categories of mental illness was affordability. It was cited by 46%, 65%, and 56%, of those with no, mild/moderate, and serious mental illness respectively. Stigma was the second most common reason cited by all three categories of mental illness. Treatment not a priority was the third most commonly reported reason among those with OUD and no mental illness. Access was the third most common reason cited by those with OUD and mild/moderate mental illness; for those with OUD and serious mental illness, fear of involuntary treatment was the third most common reason, cited by 24% of respondents.

Among individuals with OUD who have a perceived need for substance use treatment, Table 3 reports the reasons for not receiving treatment. Affordability reasons were identified by a significant portion of individuals with OUD regardless of their mental health status. Specifically, 60% of those with OUD but no mental illness identified affordability as a barrier to substance use treatment; followed by 58% and 54% among those with co-occurring mild/moderate mental illness and serious mental illness, respectively. Stigma was also a relatively common barrier. It was cited by 28%, 29%, and 30% of those with no, mild/moderate, and serious mental illness, respectively. Lack of readiness to stop using was also a commonly cited reason. It was reported by 27%, 22%, and 30% of those with no, mild/moderate, and serious mental illness, respectively.

Logistic regression models were also estimates with perceived need for substance use disorder treatment and unmet need for mental health as the dependent variables. The results reported in Table 4 shows that mild/moderate and serious mental illness are associated with increased odds of perceiving a need for substance use disorder treatment and unmet need for mental health, with the odds of serious mental illness being higher compared to mild/moderate mental illness.

Appendix Table 1 reports the estimates from multinomial logistic regression models where mental illness status was the variable of interest and treatment category was the outcome variable. The results indicate that mild/moderate mental illness was associated with an increased relative risk of utilizing both mental health treatment and substance use treatment by a factor of 3 and mental health treatment only by a factor of 2 (compared to the reference category of not receiving any treatment and the reference group not having a mental illness). We observe that compared to individuals no mental illness, those with mild to moderate

mental illness were had a relative risk ratio (RRR) of 3.07 (CI 1.97 – 4.79) to receive both mental and substance use treatment, a RRR of 2.51 (CI 1.74 – 3.62) of receiving mental health treatment only, and a RRR of 1.06 (0.72 – 1.57) for receiving substance use treatment only. Serious mental illness also increased the relative risk of receiving both substance use and mental health treatment by a factor of approximately 12. The group with serious mental illness had a RRR of 12.19 (CI 7.98 – 18.62) for receiving both treatments, a RRR of 7.43 (CI 5.06 – 10.93) of receiving mental health treatment alone, and a RRR of 1.93 (1.25 – 2.99) of receiving substance use only.

To check the robustness of this estimate, the multinomial logistic regression model was estimates with mild/moderate mental illness as the reference group and the results reported in Appendix Table 2 reveals a very similar pattern. In this analysis we saw that compared to the group with mild/moderate mental illness, the group with no mental illness had a relative risk ratio (RRR) of 0.39 (CI 0.23 – 0.67) for receiving both treatments, RRR of 0.38 (CI 0.24 – 0.62) of receiving mental health only, and RRR of 0.76 (CI 0.43 – 1.35) of receiving substance abuse treatment only.

4. Discussion

Using data from a nationally representative survey, this study explored behavioral health treatment utilization and barriers to treatment among those with co-occurring OUD and no, mild/moderate, and serious mental illness. The study finds that among those with OUD, the utilization rate of behavioral health services is low. Indeed, a significant proportion of individuals with OUD, especially those with co-occurring mental illness, report an unmet need for mental health care. In addition, the study shows that the most common form of treatment was prescription medication for mental health, regardless of the individuals' mental health status and that the most prevalent barrier to treatment was affordability.

Consistent with past research, the study finds that most people with an OUD did not receive any substance use disorder treatment (Saloner & Karthikeyan, 2015). However, similar to Ali et al. (2015), the study finds that if individuals do get treatment, they are more likely to receive mental health treatment only. One third of the individuals with co-occurring OUD and serious mental illness reported receiving both substance use disorder and mental health treatment in the past 12 months, a rate that is much higher compared to those with co-occurring mild/moderate mental illness. This is consistent with a number of studies showing that people with more severe behavioral health problems use more behavioral health treatment services (Mojtabai, 2005; Bender et al., 2001; McAlpine & Mechanic, 2000; Helzer & Prizbeck, 1998). In the case of OUD, it may be that the addition of co-occurring mental illness might have influenced individuals to seek treatment.

While it is encouraging that behavioral health treatment utilization is higher among those with serious mental illness, on the whole, the results suggests that there is room for much improvement in coordination of substance use disorder and mental health treatment. In addition, utilization of psychotropic medication among those with OUD but no mental illness may be especially problematic because some of these medications may be opioid potentiators that heighten the effects of opioid use (Wilens et al., 2015).

Past research has shown that, among individuals with substance use disorders who perceive a need for treatment, financial concerns are the most common barriers to treatment (Ali et al., 2017). This was true in this study population as well. These findings highlight the importance of reducing economic barriers to treatment and providing individuals with needed access to behavioral health services. The relatively high percentage of people who report stigma, treatment not a priority, and fear of involuntary treatment as reasons for having an unmet need for mental health treatment indicate the need for evidence-based information to be provided to the public about mental illness and the effectiveness of treatment.

The findings of this study should be viewed in the context of some limitations. First, the data were cross-sectional and based on self-reported responses, which might have introduced measurement error in estimating treatment utilization. However, these limitations are not unique to this study, and the NSDUH is the only nationally representative dataset that contains information on treatment utilization and barriers to treatment among those with substance use disorder and mental illness. Second, the research design did not allow estimation of causal mechanisms to understand the reasons behind treatment utilization patterns among those with co-occurring OUD and mental illness. While the study findings are an important contribution to the literature, future research might consider utilizing causal models to understand why behavioral health treatment utilization is low among this population. Third, while this study distinguished between mild/moderate and serious mental illness, it did not examine differences in specific mental health conditions (e.g., depression, anxiety) and OUD. Finally, this study focused on individuals with OUD and included those using heroin or pain-relievers together; however, future work may explore whether these sub-groups have different treatment utilization patterns.

Despite these limitations, the data presented here offer new information about behavioral health treatment utilization among those with OUD and co-occurring mental illness. Since more than half of the population with an opioid use disorder had a co-occurring mental illness, there is a need to improve coordination of mental health and substance use care for people with OUD. Many states are making efforts to expand access to and improve the quality of treatment for opioid use disorder, supported by new funding from the 21st Century Cures Act (Mutter et al., 2017); these data make clear that it will be essential to ensure the coordination of these expanded substance use treatment options with mental health services.

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Appendix 1.: Association of Mental Health Status with Utilization of Substance Use Treatment, Mental Health Treatment, and Both Treatments, among Persons with Opioid Use Disorder

	Mental Illness Severity	Relative Risk Ratio		
		Both Treatments	Mental Health Only	Substance Use Only
Adjusted[a]	Mild/Moderate	3.07 (1.97 – 4.79)	2.51 (1.74 – 3.62)	1.06 (0.72 – 1.57)
	Serious	12.19 (7.98 – 18.62)	7.43 (5.06 – 10.93)	1.93 (1.25 – 2.99)
	None (reference)			

[a]Models regression-adjusted for gender, age, race/ethnicity, education, marital status, federal poverty level,employment, insurance, and metro area.

Appendix 2.: Association of Mental Health Status with Utilization of Substance Use Treatment, Mental Health Treatment, and Both Treatments, among Persons with Opioid Use Disorder

	Mental Illness Severity	Relative Risk Ratio		
		Both Treatments	Mental Health Only	Substance Use Only
Adjusted[a]	Serious	4.17 (2.26 – 7.69)	3.22 (1.85 – 5.60)	2.70 (1.35 – 5.38)
	None	0.39 (0.23 – 0.67)	0.38 (0.24 – 0.62)	0.76 (0.43 – 1.35)
	Mild/Moderate (reference)			

[a]Models regression-adjusted for gender, age, race/ethnicity, education, marital status, federal poverty level, employment, insurance, and metro area.

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Highlights

- Using data from a nationally representative survey, this study explores behavioral health treatment utilization and barriers to treatment among those with co-occurring OUD and no, mild/moderate, and serious mental illness.
- The study finds that among those with OUD, the utilization rate of behavioral health services is low.
- A significant proportion of individuals with OUD, especially those with co-occurring mental illness, report an unmet need for mental health care.
- In addition, the study shows that the most common form of treatment was prescription medication for mental health, regardless of the individuals' mental health status and that the most prevalent barrier to treatment was affordability.
- The study finds that most people with an OUD did not receive any substance use disorder treatment.

Table 1.

Demographic Characteristics of Individual with Opioid Use Disorders by Mental Health Status, United States 2008–2014 (Weighted Proportions, Standard Error)

	No Mental Illness	Mild/Moderate Mental Illness	Serious Mental Illness
Gender			
Male	0.7 (0.02)	0.56 (0.03)	0.5 (0.03)
Female	0.3 (0.02)	0.44 (0.03)	0.5 (0.03)
Age Group			
18–25	0.39 (0.02)	0.31 (0.02)	0.25 (0.02)
26–34	0.26 (0.02)	0.31 (0.02)	0.32 (0.03)
35–49	0.19 (0.02)	0.23 (0.02)	0.30 (0.03)
50–64	0.12 (0.02)	0.13 (0.02)	0.13 (0.03)
65+	0.05 (0.01)	0.02 (0.01)	0.00 (0.00)
Race/Ethnicity			
White	0.71 (0.02)	0.73 (0.03)	0.81 (0.02)
Black	0.10 (0.02)	0.11 (0.02)	0.06 (0.01)
Hispanic	0.14 (0.02)	0.12 (0.02)	0.10 (0.02)
Other	0.05 (0.01)	0.04 (0.01)	0.03 (0.01)
Marital Status			
Married	0.23 (0.02)	0.26 (0.03)	0.23 (0.03)
Widowed	0.02 (0.01)	0.03 (0.01)	0.03 (0.01)
Separated	0.13 (0.02)	0.15 (0.02)	0.21 (0.03)
Never Married	0.62 (0.02)	0.56 (0.02)	0.54 (0.03)
Education Status			
Less than High	0.27 (0.02)	0.25 (0.02)	0.20 (0.02)
High School	0.35 (0.02)	0.34 (0.03)	0.39 (0.03)
Some College	0.27 (0.02)	0.32 (0.03)	0.30 (0.02)
College	0.11 (0.01)	0.09 (0.01)	0.12 (0.02)
Federal Poverty Status			
Under 100% FPL	0.23 (0.02)	0.26 (0.02)	0.30 (0.03)
100% to 200% FPL	0.23 (0.02)	0.28 (0.03)	0.27 (0.03)
Over 200% FPL	0.53 (0.02)	0.45 (0.03)	0.43 (0.03)
Employment Status			
Full Time	0.48 (0.02)	0.42 (0.03)	0.33 (0.03)
Part Time	0.15 (0.01)	0.18 (0.02)	0.14 (0.02)
Unemployed	0.15 (0.01)	0.14 (0.01)	0.16 (0.02)
Other (including not in workforce)	0.22 (0.02)	0.27 (0.02)	0.37 (0.02)
Insurance Status			
Private	0.42 (0.02)	0.36 (0.03)	0.31 (0.02)
Public	0.24 (0.02)	0.29 (0.03)	0.32 (0.03)

	No Mental Illness	Mild/Moderate Mental Illness	Serious Mental Illness
Other	0.04 (0.01)	0.03 (0.01)	0.04 (0.01)
None	0.30 (0.02)	0.32 (0.02)	0.33 (0.03)
Metro Area			
Large Metro	0.54 (0.02)	0.55 (0.03)	0.48 (0.03)
Small Metro	0.31 (0.02)	0.32 (0.03)	0.36 (0.03)
Non-Metro	0.15 (0.01)	0.13 (0.01)	0.17 (0.02)
N	1,454	1,207	737
Weighted N	727,819	656,870	431,876

Table 2.

Behavioral Health Treatment Utilization among Individual with Opioid Use Disorders by Mental Health Status, United States 2008–2014 (Weighted Proportions, Standard Error)

	No Mental Illness	Mild/Moderate Mental Illness	Serious Mental Illness
Behavioral Health Treatment			
Substance Use Disorder Treatment Only	0.14 (0.01)	0.11 (0.02)	0.10 (0.02)
Mental Health Only	0.14 (0.02)	0.26 (0.02)	0.38 (0.03)
Both	0.07 (0.01)	0.16 (0.02)	0.32 (0.03)
None	0.66 (0.02)	0.47 (0.02)	0.21 (0.02)
Substance Use Treatment by Type			
Hospital	0.07 (0.01)	0.12 (0.02)	0.20 (0.02)
Inpatient	0.09 (0.01)	0.13 (0.02)	0.21 (0.02)
Outpatient	0.12 (0.01)	0.15 (0.02)	0.23 (0.02)
Mental Health Center	0.06 (0.01)	0.09 (0.01)	0.2 (0.02)
Emergency Department	0.04 (0.01)	0.08 (0.02)	0.15 (0.02)
Physicians Office	0.06 (0.01)	0.09 (0.02)	0.13 (0.02)
Jail/Prison	0.02 (0.00)	0.03 (0.01)	0.05 (0.01)
Self Help Group	0.12 (0.01)	0.16 (0.02)	0.27 (0.03)
Mental Health Treatment by Type			
Inpatient	0.03 (0.01)	0.07 (0.01)	0.16 (0.02)
Outpatient	0.08 (0.01)	0.19 (0.02)	0.38 (0.03)
Prescription Medication	0.17 (0.02)	0.34 (0.02)	0.63 (0.03)
Perceived Need for Substance Use Disorder Treatment	0.08 (0.01)	0.16 (0.02)	0.19 (0.02)
Unmet Need for Mental Health	0.07 (0.01)	0.30 (0.02)	0.60 (0.03)

Table 3.

Barriers to Mental Health Treatment and Substance Use Disorder Treatment by Mental Health Status among Individuals with Opioid Use Disorder (Weighted Proportions, Standard Errors)

	No Mental Illness	Mild/Moderate Mental Illness	Serious Mental Illness
Mental Health[a]			
Affordability	0.46 (0.08)	0.64 (0.04)	0.56 (0.04)
Access	0.10 (0.04)	0.19 (0.05)	0.22 (0.03)
Stigma	0.32 (0.08)	0.24 (0.03)	0.30 (0.03)
Treatment Not a Priority	0.21 (0.06)	0.18 (0.03)	0.19 (0.02)
Fear of Involuntary Treatment	0.05 (0.03)	0.09 (0.02)	0.24 (0.03)
Other	0.04 (0.02)	0.04 (0.01)	0.06 (0.01)
Substance Use[b]			
Affordability	0.60 (0.06)	0.58 (0.06)	0.54 (0.06)
Access	0.22 (0.07)	0.32 (0.06)	0.25 (0.05)
Stigma	0.28 (0.08)	0.29 (0.06)	0.30 (0.05)
Lack of Readiness to Stop Using	0.27 (0.06)	0.22 (0.04)	0.30 (0.06)
Treatment Not a Priority	0.15 (0.06)	0.08 (0.02)	0.09 (0.03)

[a]Sample for substance use disorder treatment barriers includes only individuals with perceived need for substance use treatment.

[b]Sample for mental health treatment barriers includes only individuals with perceived unmet need for mental health treatment.

Table 4.

Association of Mental Health Status with Perceived Need for Substance Use Disorder Treatment and Unmet Need for Mental Health, among Persons with Opioid Use Disorder

	Mental Illness Severity	Odds Ratio	
		Perceived Need for Substance Use Disorder Treatment	Unmet Need for Mental Health
Adjusted[a]	Mild/Moderate	2.50 (1.43 – 4.25)	4.80 (2.92 – 7.88)
	Serious	3.84 (2.17 – 6.82)	17.43 (9.92 – 30.21)
	None (reference)		

[a]Models regression-adjusted for gender, age, race/ethnicity, education, marital status, federal poverty level, employment, insurance, and metro area.