Service use and barriers to mental health care in major depression and comorbid substance use disorders

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Abstract

Background—The mental health service use patterns and barriers to care among individuals with comorbid mental and substance use disorders remain relatively unexplored.

Methods—Using data from adult participants in the National Survey on Drug Use and Health 2005-2010(N=227,123), differences were investigated in mental health service use and perceived barriers to such care among participants with past-year major depressive episodes without substance dependence comorbidity, and those with alcohol dependence, non-alcohol drug dependence, and both alcohol and drug dependence comorbidity.

Results—Compared to participants with major depressive episodes without substance dependence comorbidity, those with alcohol dependence and those with both alcohol and non-alcohol drug dependence comorbidity used more of all types of mental health services; while those with alcohol dependence comorbidity used more medication treatments. Participants with comorbid substance dependence were almost twice as likely as those with major depressive episodes only to report an unmet need for mental health care. However, barriers to mental health care were remarkably similar across groups, with financial barriers being the most common in all groups.

Conclusion—Participants with major depression comorbid with substance dependence use more mental health services, but they also perceive more unmet need for such care than individuals without such comorbidity. Individuals with major depression with comorbid substance dependence face similar barriers to mental health care as those without such comorbidity. Policies aimed at expanding insurance coverage and mental health parity would likely benefit individuals

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with major depression with substance dependence comorbidity even more than those without such comorbidity.

Keywords

Substance disorder comorbidity is common in individuals with mental disorders (1-6), and has significant social and clinical implications (7-13). Yet, past research on mental health treatment seeking among individuals with comorbid disorders has produced mixed results (10, 11, 13-17). Whereas some studies found significantly higher rates of treatment seeking from professional providers among individuals with comorbid disorders (13, 14, 17), other studies have found less consistent associations (10, 15). However, in most previous studies that examined the impact of substance disorder comorbidity on mental health service use, substance dependence was not distinguished from substance abuse (14, 17). Substance abuse and dependence have different courses and outcomes and clinical correlates (12, 18-20). Past studies also often combined comorbid alcohol and non-alcohol disorders (10, 21), which have different socio-demographics (3, 18, 20, 22), mental health comorbidity (18, 20, 23, 24) and service use profiles (15, 16, 25). Finally, past research often combined different services and care settings (13, 14, 16, 17).

Some prior research has found that individuals with comorbid mental and substance use disorders are more likely than those with non-comorbid mental disorders to report an unmet need for mental health care (23, 26, 27). A number of studies also examined barriers to mental health care, but many failed to distinguish between perceived need for mental health treatment with perceived need for substance disorder treatment (10, 21, 26) and little is known regarding differences in barriers specific to mental health services among individuals with versus without substance disorders.

To addresses these limitations, we analyzed data from the National Survey on Drug Use and Health (NSDUH), a representative survey of the U.S. population, to address the following questions: First, do individuals with comorbid major depressive episodes and alcohol or non-alcohol dependence comorbidity use different volumes or types of mental health services compared to individuals with major depression without such comorbidity? Second, do individuals with comorbid substance dependence disorders have a different pattern of services use? Third, do individuals with comorbid substance dependence experience a greater level of perceived unmet need and different types of barriers to mental health treatments?

The analyses focused on major depression, the only mental health condition fully assessed in NSDUH and a prevalent disorder frequently comorbid with substance use. We limited our analyses to substance dependence, as this is a more severe form of substance disorder with more grave implications for health outcomes and service use (22, 28). The study builds upon a previous study which examined access to care and barriers among individuals with major depressive episodes, irrespective of substance use disorder comorbidity, using 2005-2006 NSDUH data (29).

METHOD

Sample

The NSDUH is sponsored by the Substance Abuse and Mental Health Administration and is designed to provide estimates of the prevalence of nonmedical use of legal and illegal substances in the household population of the U.S. 12 years of age and older (30-35). Detailed information about the sampling and survey methodology in the NSDUH are found elsewhere (30-35).

We analyzed combined data from the 2005 to 2010 NSDUH public use data files (n=336,003). We restricted our sample to adult participants aged 18 years or above (n= 227,123) who met the criteria for 12-month major depressive episodes (n= 18,972). We excluded those under age 18 years because NSDUH assessed service use in adults and adolescents differently and did not assess barriers to care among adolescents.

Assessment

Major depressive episode was ascertained using a structured interview based on *DSMIV-IV* criteria (36). The diagnostic assessment was modeled after the Composite International Diagnostic Interview (CIDI) as implemented in the National Co-morbidity Survey-Replication (NCS-R) (37, 38).

Functional impairment associated with depressive symptoms was assessed using the Sheehan Disability Scale (SDS) (39). Participants were asked to think about the time in the past 12 months when problems with mood were the worst and to rate the degree of impairment in "chores at home," "ability to do well at school or work," "ability to get along with family," and "social life" on a scale from 0 (no impairment) to 10 (very severe impairment). An overall role impairment score is defined as the highest rating of impairment in any of the four domains.

Substance dependence in the past 12 months was also assessed using structured interviews based on DSM-IV criteria (36). We further divided substance dependence into alcohol dependence and non-alcohol drug dependence (marijuana, crack/cocaine, heroin, hallucinogens, inhalants, pain relievers, tranquilizers, stimulants and sedatives).

Perceived unmet need for mental health treatment was assessed as a positive response to the question: "During the past 12 months, was there any time when you needed mental health treatment or counseling for yourself but didn't get it?"

Mental health service use was assessed by asking participants whether they received any mental health treatment in the past 12 months (outpatient, inpatient or medication treatment for mental health reasons). Outpatient care settings included outpatient mental health clinic/center, the office of a private therapist, psychologist, psychiatrist, social worker, counselor, a doctor's office, a medical clinic, and a partial day hospital or day treatment program.

Barriers to mental health treatment were assessed by asking participants who reported an unmet need for mental health treatment about the reasons for not receiving the needed care

in the past 12 months. We categorized these reasons into four groups: of financial reasons, perceived stigma, attitudinal reasons, and structural reasons (individual reasons are presented in Online Appendix Table A).

Socio-demographic characteristics included gender, age (18-25, 26-34, 35-50, 50 or more years), race/ethnicity (white, black, Hispanic, other), marital status (married, divorced/separated/widowed, never married), employment status (partial or full employment, unemployed, not in labor force), education (less than high school, high school, college and above), annual household income (＜$19,999, $20,000-$34,999, $ 35,000-$69,999, $70,000), insurance status (no insurance, private health insurance, Medicare, Medicaid/State, Champus/Military, others), and population density in the participant's area of residence (metropolitan, suburban, rural).

Data Analysis

Analyses focused on comparing four groups of participants, all of whom met criteria for major depressive episodes. The included participants without substance dependence comorbidity, and those with comorbid alcohol dependence, non-alcohol drug dependence or with both comorbidities. We compared these groups with regard to mental health service use patterns, perceived unmet need for mental health treatments, and perceived reasons for not seeking needed mental health service using a series of multivariate logistic regression models. The group with major depressive episodes without substance dependence comorbidity was the reference group in these analyses. In addition, comparisons among comorbid groups were conducted. The multivariate models adjusted for age, gender, race/ethnicity, education, marital status, employment status, household income, type of health insurance, functional impairment and population density.

As insurance and employment status—variables strongly associated with service use in past research (40, 41)—varied across groups, we conducted further analyses to assess whether differential effects of these factors within groups could potentially bias the study results. We assessed this by testing the interaction with comorbidity group in analyses of service use.

Data were weighted to reflect the complex design of the NSDUH using Stata 11.0 software (StataCorp, 2010). We used Taylor series linearization (STATA 'svy' commands) to take into account stratification and clustering of data. All percentages reported are weighted.

RESULTS

Characteristics of groups (Table 1)

A total of 15,089 (84.5%) of the 18,972 NSDUH participants with 12-month major depressive episode did not meet the criteria for any substance dependence comorbidity, 1,932 (8.5%) met the criteria for alcohol dependence comorbidity, 1,266 (4.8%) for non-alcohol drug dependence comorbidity, and 685 (2.2%) for both alcohol and non-alcohol drug dependence comorbidity. Compared to participants with major depressive episodes only, those with substance dependence comorbidity were more likely to be male, of younger age, single or divorced/separated/widowed, unemployed or not in the labor force, uninsured, to have a family income less than $20,000 and to have greater functional impairment.

Participants with non-alcohol drug dependence and those with both alcohol and non-alcohol drug dependence comorbidity were more likely to be African-American, and to have less education compared to participants without such comorbidity.

Mental health service utilization and perceived unmet needs (Table 2; Online Appendix Table B)

Slightly more than half of participants with major depressive episodes, irrespective of comorbidity status, reported having received mental health care in the past year (Table 2). After adjusting for socio-demographic characteristics, the likelihood of mental health service use was clearly elevated among those with major depressive episodes comorbid with substance dependence, compared to those without such comorbidity. Participants with major depressive disorder comorbid with non-alcohol drug dependence and with both comorbid alcohol and non-alcohol drug dependence were more likely to report using inpatient care. In addition, participants with both alcohol and non-alcohol drug dependence were more likely than those without substance disorder comorbidity to report outpatient care. In comparisons among comorbid groups, participants with both alcohol and non-alcohol drug dependence comorbidity were more likely than those with either comorbidity alone to report using inpatient care (aRR= 2.31, 95% CI=1.34-3.99, p<.01 and aRR=1.55, 95% CI=1.00-2.39, p<.05, respectively; Online Appendix Table B), and more likely than those with alcohol dependence comorbidity alone to report outpatient care (aRR= 1.53, 95% CI=1.15-2.05, p<.01). None of the other comorbid group comparisons were statistically significant. However, all comparisons of service use among participants with both types of comorbidity compared to those with alcohol or non-alcohol drug dependence comorbidity alone produced risk ratios >1, indicating greater likelihood of using services (Online Appendix Table B).

The groups also differed with regard to service settings where they received care. Participants with non-alcohol drug dependence comorbidity and those with both alcohol and non-alcohol drug dependence comorbidity were more likely to seek outpatient treatment in a mental health clinic or center (Table 2). None of the interaction terms for insurance*comorbidity group and employment*comorbidity group were statistically significant, indicating that these variables did not differentially impact service use and had more or less uniform effects across the groups (data not shown).

Participants with comorbid substance dependence were more likely than those with major depressive disorder without comorbidity to report a perceived unmet need for mental health care. Whereas only 28.6% of those without substance dependence comorbidity perceived an unmet need for mental health care, 43.0% of those with alcohol dependence comorbidity, 53.6% of those with drug dependence comorbidity, and 54.8% of participants with both alcohol and non-alcohol drug dependence comorbidity experienced an unmet need for care. In comparisons among comorbid groups, participants with both alcohol and non-alcohol drug dependence comorbidity were more likely than those with alcohol dependence comorbidity only to perceive an unmet need (aRR=1.48, 95% CI=1.09-2.07 p<.05; Online Appendix Table).

Treatment barriers for mental health service (Table 3)

Reasons for not seeking mental health treatment were remarkably similar among groups. The most common treatment barrier across the four groups was financial. Not being able to afford the treatment costs was reported by approximately half of all participants who reported an unmet need for mental health treatment. The second leading group of treatment barriers was attitudinal barriers, specifically the belief that the problem could be handled without help. Compared to participants without substance dependence comorbidity, those with alcohol dependence comorbidity were less likely to report lack of insurance as a barrier and participants with non-alcohol drug dependence and both alcohol and non-alcohol drug dependence were less likely to report a desire to handle the problem on their own as a barrier. Participants with non-alcohol drug dependence comorbidity and those with both alcohol and non-alcohol drug dependence comorbidity were less likely than those without substance dependence comorbidity to report structural barriers. More specifically, participants with substance dependence comorbidity were less likely than the group without substance dependence comorbidity to report lack of time as a barrier.

DISCUSSION

There were three main findings in this study. First, individuals with comorbid past-year major depressive episodes and past-year substance dependence (either alcohol, non-alcohol drug, or both alcohol and non-alcohol drug dependence) had higher rates of mental health service use compared to individuals with major depressive episodes without such comorbidity. Similar findings were shown in several national surveys from the late 1990s to early 2000s (13, 14, 25), although not all studies showed such a relationship (10, 15). These mixed results could be due to the aggregation of all substance disorders without distinguishing between substance abuse and dependence or not distinguishing between alcohol and non-alcohol drug disorders in some past studies. Furthermore, past research found significant variations between comorbidity with mood and anxiety disorders (12, 42, 43). In the present study, we chose to focus on major depression and substance dependence comorbidity. We further chose to examine alcohol and non-alcohol substance comorbidities separately.

While comorbidity with substance dependence was associated with increased likelihood of any mental health service use across the board, we also observed some variations in the type of treatment and setting according to the type of substance dependence comorbidity. Individuals with non-alcohol drug dependence as well as those with both alcohol and non-alcohol drug dependence were more likely to have used both inpatient services and psychiatric medications, and to have received outpatient care in mental health clinics or centers, partial hospitals, or day treatment programs. Individuals with alcohol dependence comorbidity only had increased use of medication treatments. The greater use of inpatient and day treatment services likely reflects the greater severity of mental health problems in individuals with non-alcohol drug dependence. Although the analyses did adjust for functional impairment, other aspects of severity such as presence of other comorbid mental health problems was not captured in the NSDUH data. We also found a greater likelihood of inpatient service use among participants with both alcohol and non-alcohol dependence

comorbidity compared to those with either type of comorbidity alone, which may simply reflect the impact of the number of substances (23, 25), or the synergistic effects of alcohol and non-alcohol dependence comorbidity

Second, despite the higher rates of mental health service utilization among those with comorbid substance dependence, these individuals also perceived a greater degree of unmet need for mental health care. Several studies from the United States and other countries have shown that individuals with mental health and substance disorder comorbidities have a greater level of perceived unmet mental health care need compared with participants with either disorder alone (23, 26, 27), although some of these studies did not distinguish between perceived need for mental health treatment and perceived need for substance disorder treatment (10, 21, 26). Our analyses adjusted for the level of functional impairment and enabling factors such as insurance, income and geographical access. Thus, the finding that this need remains unmet suggests that these individuals either experience a greater number of barriers to care or different types of barriers.

A third finding of the study was the similarity in the profiles of barriers to mental health treatment across groups. Substance dependence comorbidity was not associated with specific types of barriers to mental health treatment. This finding is somewhat surprising in that substance dependence comorbidity was associated with predictors of difficulty in access to care such as lack of health care insurance and lower income. Furthermore, comorbidity was associated with greater functional impairment and past research has found an association between severity of mental health problems and types of barriers to mental health care (44). However, the analyses adjusted for these variables and were conditioned on perceived unmet need as the questions regarding barriers were only asked from participants who reported such need.

In the present study, approximately 50- 60% of participants across the four groups reported not seeking professional help due to financial difficulties. This finding is consistent with previous cross-national studies showing that financial barriers may be more pronounced in the U.S. compared with other countries (27, 45). A number of recent initiatives in the U.S. have sought to address the financial barriers to mental health care including Mental Health Parity Act and the Affordable Care Act of 2010. Given the uniformly high prevalence of financial barriers across all groups and the higher level of perceived unmet need among individuals with comorbid mental health and substance dependence, these initiatives would be expected to have a major impact on access to mental health care in these individuals.

Our analyses have several limitations. First, recall bias might have impacted our results because of the retrospective assessment. Self-reports of service use generally underestimate the actual use (46-48). Second, it is difficult to establish temporality with the cross-sectional design. Whether substance use problems preceded or followed major depression may have had implications for engagement and attitudes toward mental health treatment seeking. Third, the list of reasons for not seeking treatment was limited. It is possible that other reasons stopped individuals with comorbidity from seeking treatment (e.g., lack of available integrated treatment programs). Fourth, information on whether the mental health treatment program was affiliated with or part of a substance use treatment program was not available

in NSDUH. However, some of the more common mental health care settings assessed in NSDUH were most likely not affiliated with substance use treatment programs (e.g., private office of a mental health professional). Fifth, we combined all non-alcohol drug dependence disorders into one category. It is possible that dependence on different drugs or comorbidity among them have significant implications for service use and barriers (44, 49).

Notwithstanding these limitations, this study provides a broad overview of service use patterns and perceived barriers to mental health care among individuals with comorbid major depression and substance dependence. Despite a high prevalence of perceived unmet need among individuals with comorbid major depressive episodes and substance dependence, the profiles of barriers to mental health care were remarkably similar between individuals with and without substance comorbidity, with financial reasons being the most common type of barriers reported by all groups. In the context of unfolding health policy initiatives in the U.S. aimed at improving financial access to mental health care, it would be important to continue monitoring access to care and service use patterns among the sizeable group of individuals with comorbid disorders.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

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Table 1

Socio-demographic characteristics of 18,972 NSDUH 2005-2010 adult participants with past-year major depressive episodes with and without comorbid alcohol dependence disorder, drug dependence disorder or both alcohol and drug dependence disorders.

Socio-demographic characteristics	Major depressive episodes without substance dependence comorbidity (N=15,089)		Major depressive episodes with alcohol dependence comorbidity (N=1,932)				Major depressive episodes with non-alcohol drug dependence comorbidity (N=1,266)				Major depressive episodes with both alcohol and non-alcohol drug dependence comorbidity (N=685)			
	N	%	N	%	OR	95% CI	N	%	OR	95% CI	N	%	OR	95% CI
Gender														
Male	4,376	32.2	827	50.4	1.00	Ref.	463	41.9	1.00	Ref.	318	57.5	1.00	Ref.
Female	10,713	67.9	1105	49.7	.47	.41-.53‡	803	58.1	.66	.55-.78‡	367	42.6	.35	.27-.45‡
Age														
18-25	7477	16.3	1161	25.8	1.00	Ref.	866	33.5	1.00	Ref.	506	42.4	1.00	Ref.
26-34	2406	17.6	307	22.8	.82	.69-.98*	169	21.4	.59	.45-.78‡	85	22.7	.50	.36-.68‡
34-50	3513	33.0	365	32.9	.63	.53-.74‡	194	31.2	.46	.38-.57‡	80	25.7	.30	.22-.42‡
50 or more	1693	33.1	99	18.5	.35	.26-.48‡	37	13.9	.20	.13-.32‡	14	9.3	.11	.06-.20‡
Race/Ethnicity														
White	10,467	74.6	1301	71.9	1.00	Ref.	880	74.2	1.00	Ref.	461	68.6	1.00	Ref.
Black	1,545	9.4	178	11.3	1.24	.92-1.66	154	13.5	1.44	1.04-2.00*	84	17.2	1.98	1.35-2.91†
Hispanic	1,864	11.0	288	12.4	1.17	.88-1.57	129	9.2	.84	.55-1.29	90	11.4	1.13	.76-1.68
Others	1,213	5.0	165	4.4	.90	.63-1.29	103	3.1	.62	.41-.92*	50	2.8	.60	.33-1.08
Marital status														
Married	4,648	43.4	308	25.6	1.00	Ref.	180	20.9	1.00	Ref.	58	13.8	1.00	Ref.
Divorced/Separated/Widowed	2,596	27.1	325	28.5	1.78	1.39-2.27‡	161	2.6	1.97	1.39-2.79‡	89	23.2	2.69	1.59-4.56‡
Never married	7,845	29.5	1299	45.9	2.64	2.14-3.25‡	925	53.4	3.76	2.85-4.96‡	538	63.1	6.74	4.59-9.90‡
Educational status														
< high school	2513	15.1	323	16.4	1.00	Ref.	286	20.2	1.00	Ref.	186	24.8	1.00	Ref.
High school	4773	30.1	629	31.9	.98	.75-1.28	446	36.1	.90	.68-1.17	259	39.6	0.80	.58-1.10
College	7803	54.8	980	51.8	.87	.69-1.10	534	43.7	.60	.45-.79‡	240	35.6	0.39	.29-.54‡

Socio-demographic characteristics	Major depressive episodes without substance dependence comorbidity (N=15,089)		Major depressive episodes with alcohol dependence comorbidity (N=1,932)				Major depressive episodes with non-alcohol drug dependence comorbidity (N=1,266)				Major depressive episodes with both alcohol and non-alcohol drug dependence comorbidity (N= 685)			
	N	%	N	%	OR	95% CI	N	%	OR	95% CI	N	%	OR	95% CI
Household income														
$19,999	4632	24.6	695	32.2	1.00	Ref.	508	37.1	1.00	Ref.	253	37.3	1.00	Ref.
$20,000-$34,999	5429	35.3	651	31.5	0.68	.54-.85†	425	36.9	.69	.55-.87†	239	35.9	.67	.50-.90*
$35,000-$69,999	2274	17.4	240	13.7	0.60	.45-.79†	161	12.4	.47	.34-.65‡	78	10.2	.39	.25-.59‡
$70,000	2754	22.7	346	22.6	0.76	.59-.97*	172	13.7	.40	.28-.57‡	115	16.7	.48	.34-.68‡
Insurance status														
No insurance	3332	17.8	538	25.5	1.00	Ref.	368	29.3	1.00	Ref.	255	37.2	1.00	Ref.
Private Health	7620	51.4	929	47.2	.64	.53-.77‡	491	34.3	.41	.31-.53‡	254	33.1	.31	.23-.41‡
Medicare	602	9.5	28	3.4	.25	.15-.42‡	20	3.2	.20	.12-.34‡	8	2.0	.10	.04-.26‡
Medicaid /State	2540	14.4	274	14.0	.68	.53-.87†	303	24.6	1.04	.76-1.42	117	18.8	.63	.44-.89†
Champus/Military	576	5.1	83	6.8	.93	.60-1.40	32	4.8	.57	.29-1.12*	24	6.6	.62	.32-1.22
Others	391	1.9	74	3.1	1.17	.78-1.75	47	3.9	1.27	.76-2.13	25	2.2	.57	.28-1.16
Employment														
Partial/Full	9579	60.3	1316	66.2	1.00	Ref.	729	50.8	1.00	Ref.	411	56.4	1.00	Ref.
Unemployed	1318	6.7	211	9.9	1.36	1.02-1.81*	173	12.8	2.27	1.65-14‡	118	15.2	2.43	1.78-3.32‡
Not labor force	4192	33.0	405	23.9	.66	.54-.81‡	364	36.4	1.31	1.07-.60*	156	28.5	0.92	.70-1.22
Sheehan's disability scale rating														
None	92	.7	6	.4	1.00	Ref.	2	.1	1.00	Ref.	1	.1	1.00	Ref.
Mild	1048	7.5	88	4.5	.99	.24-4.13	49	4.2	5.41	1.08-6.97	15	2.2	1.73	.20-15.27
Moderate	4492	30.5	533	28.4	1.52	.39-5.96	258	16.2	5.16	1.11-23.89	137	20.6	4.05	.52-31.54
Severe	6682	42.3	950	48.2	1.87	.47-7.41‡	625	50.6	11.60	2.45-54.82	365	58.4	8.29	1.09-62.84*
Very severe	2701	19.1	336	18.5	1.59	.39-6.53‡	325	29.0	14.77	3.09-70.59	163	18.8	5.93	.76-46.49
Population density														
Metropolitan	5964	49.1	774	53.4	1.00	Ref.	552	49.7	1.00	Ref.	300	53.9	1.00	Ref.

Socio-demographic characteristics	Major depressive episodes without substance dependence comorbidity (N=15,089)		Major depressive episodes with alcohol dependence comorbidity (N=1,932)				Major depressive episodes with non-alcohol drug dependence comorbidity (N=1,266)				Major depressive episodes with both alcohol and non-alcohol drug dependence comorbidity (N=685)			
	N	%	N	%	OR	95% CI	N	%	OR	95% CI	N	%	OR	95% CI
Suburban	7798	43.9	1001	40.1	.84	.70-1.00	623	44.2	.99	.81-1.22	340	42.4	.88	.65-1.19
Rural	1327	7.0	157	6.5	.85	.60-1.21	91	6.2	.87	.56-1.35	45	3.8	.49	.27-.89 *

Note: OR stands for risk ratio, CI for confidence interval.

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P<.05

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P<.01

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P<.001.

Table 2

Mental health service use patterns of 18,972 NSDUH 2005-2010 adult participants with past-year major depressive episodes with and without comorbid alcohol dependence disorder, drug dependence disorder, or both alcohol and drug dependence disorders.

	Major depressive episodes without substance dependence comorbidity (N=15,089)		Major depressive episodes with alcohol dependence comorbidity (N=1,932)				Major depressive episodes with non-alcohol drug dependence comorbidity (N=1,266)				Major depressive episodes with both alcohol and non-alcohol drug dependence comorbidity (N=685)			
	N	%	N	%	aRR	95% CI	N	%	aRR	95% CI	N	%	aRR	95% CI
Any mental health treatment	7,151	53.4	888	53.6	1.32	1.08-1.62†	675	60.5	1.54	1.22-1.93‡	370	55.4	1.77	1.29-2.43‡
Inpatient care	575	4.1	105	5.8	1.28	.88-1.85	125	10.7	1.91	1.40-2.60‡	96	13.9	2.96	1.86-4.71‡
Outpatient care	4,681	34.4	576	30.8	.95	.79-1.14	420	38.8	1.20	.93-1.54	239	36.1	1.46	1.10-1.93†
Medication treatment	6,136	47.7	732	46.8	1.31	1.06-1.61*	598	56.1	1.70	1.38-2.08‡	309	45.6	1.55	1.14-2.10†
Outpatient Care Setting														
Outpatient mental health clinic or center	1,311	9.0	200	9.6	1.07	.78-1.45	174	16.9	1.53	1.14-2.05†	112	19.3	2.37	1.67-3.36‡
Private office of a mental health professional	2,613	19.0	319	17.2	1.00	.78-1.29	224	19.0	1.11	.82-1.50	104	13.5	.93	.69-1.27
Doctor's office	983	8.7	107	6.0	.82	.60-1.13	62	6.1	.79	.45-1.38	31	5.8	1.06	.54-2.07
Outpatient medical clinic	404	3.1	58	3.9	1.24	.81-1.90	32	4.1	1.17	.73-1.91	23	2.5	.79	.42-1.47
Partial day hospital or day treatment program	117	.7	19	1.3	1.48	.74-2.95	19	2.4	2.39	1.18-4.85*	14	3.0	3.30	1.20-9.04*
Perceived a need but did not receive any mental health care	4,850	28.6	847	43.0	1.83	1.51-2.22‡	661	53.6	2.31	1.88-2.85‡	398	54.8	2.71	2.04-3.60‡

Note: aRR stands for adjusted risk ratio, CI for confidence interval. Adjusted risk ratios are from multivariate logistic models which controlled for age, sex, race, marital status, education, income, insurance, employment, functional impairment and population density of the participants' residence.

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P<.05

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P<.01

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P<.001.

Table 3

Mental health service use patterns of 18,972 NSDUH 2005-2010 adult participants with past-year major depressive episodes with and without comorbid alcohol dependence disorder, drug dependence disorder, or both alcohol and drug dependence disorders.

	Major depressive episodes without substance dependence comorbidity (N=4,850)		Major depressive episodes with alcohol dependence comorbidity (N=847)				Major depressive episodes with non-alcohol drug dependence comorbidity (N=661)				Major depressive episodes with both alcohol and non-alcohol drug dependence comorbidity (N=398)			
	N	%	N	%	aRR	95% CI	N	%	aRR	95% CI	N	%	aRR	95% CI
Financial Reasons	2576	54.8	426	51.0	.85	.64-1.13	357	59.6	1.15	.85-1.56	206	56.9	1.05	.73-1.51
Could not afford cost	2338	48.8	393	46.0	.85	.65-1.10	328	52.5	1.03	.77-1.38	185	51.8	1.00	.68-1.46
No insurance coverage	326	7.5	48	4.1	.51	.31-.82†	54	7.9	1.11	.64-1.91	24	6.6	.97	.52-1.76
Insurance would not pay enough	567	15.0	78	12.4	.97	.59-1.60	89	10.0	1.08	.69-1.69	24	6.3	.67	.35-1.26
Stigma Reasons	1299	23.6	275	29.0	1.24	.95-1.62	193	23.0	1.00	.71-1.43	112	28.8	1.23	.75-2.01
Fear of neighbors' opinion	524	8.6	108	12.1	1.32	.84-2.07	84	9.3	1.09	.68-1.75	51	9.4	.97	.58-1.61
Fear of negative effect on job	371	8.5	86	12.9	1.45	.94-2.25	48	6.0	1.09	.46-1.36	34	10.9	1.23	.69-2.18
Confidentiality concerns	514	9.9	99	10.5	.99	.66-1.48	92	11.7	1.21	.75-1.93	52	15.5	1.59	.87-2.89
Did not want others to find out	467	7.1	94	7.3	.91	.65-1.29	58	5.7	.76	.47-1.22	27	4.9	.64	.28-1.44
Attitudinal Reasons	2157	39.8	380	40.6	.94	.67-1.30	273	34.8	.79	.57-1.08	158	36.1	.77	.55-1.09
Fear of being committed or forced medications	746	12.7	162	15.9	1.10	.79-1.53	136	16.8	1.11	.75-1.63	74	15.8	.96	.59-1.57
Did not think treatment needed	418	6.7	83	6.8	.92	.58-1.47	46	6.6	.94	.48-1.85	35	9.1	1.22	.62-2.39
Did not think treatment would help	640	10.5	104	10.5	.93	.54-1.62	62	6.3	.57	.35-.92*	38	10.1	.85	.46-1.57
Thought could handle the problem without treatment	1350	25.9	218	23.6	.87	.58-1.30	134	16.1	.61	.42-.89*	70	15.2	.53	.37-.78†
Structural Reasons	1630	31.1	260	28.2	.86	.65-1.14	188	23.2	.68	.51-.91*	86	20.4	.59	.41-.87†
Did not know where to go	908	16.9	162	17.1	.96	.69-1.32	121	14.5	.75	.52-1.07	57	14.2	.73	.45-1.21
Did not have time	785	14.8	111	10.0	.67	.46-.96*	66	8.5	.63	.40-.98*	32	4.8	.35	.21-.58‡
No transportation or inconvenient	242	4.4	27	3.4	.78	.34-1.82	37	5.1	1.05	.61-1.81	23	6.4	1.54	.75-3.16
Some other reason	438	9.3	62	6.5	.69	.44-1.09	62	10.4	1.17	.74-1.84	29	7.5	.85	.48-1.48

Note: RR stands for risk ratio, aRR for adjusted risk ratio and CI for confidence interval. Adjusted risk ratios are from multivariate logistic models which controlled for age, sex, race, marital status, education, income, insurance, employment, functional impairment and population density.

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P<.05

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P<.01

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P<.001.