



Published in final edited form as:

Psychiatr Serv. 2015 March 1; 66(3): 285–294. doi:10.1176/appi.ps.201300318.

Comorbid Depression and Substance Abuse in Safety-net Clients in Los Angeles: A Community Participatory Assessment

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Abstract

Introduction—Depression and substance abuse are common among low-income, minority adults in safety-net settings. Little is known about comorbidities across service sectors supporting these clients.

Objective—This study describes characteristics and service utilization for depressed low-income minorities with and without substance abuse history in under-resourced communities.

Methods—The study uses cross-sectional baseline client data (n=957) from Community Partners in Care (CPIC), an initiative to improve depression services in Los Angeles County. Chi-squared and bivariate analyses were conducted to compare clients with probable depression (PHQ-8 10) from substance abuse programs with clients from primary care, mental health, and social-

Prior presentations:

Oral abstract summarizing these findings were presented at the California-Hawaii Regional Society of General Internal Medicine Meeting on February 2, 2013 in Los Angeles, CA, and at the Academy Health Behavioral Health Interest Group Meeting on June 22, 2013 in Baltimore, MD.

Disclosures of Conflicts of Interest

The authors have no interests to disclose.

community programs with or without substance abuse history (i.e., dependence or services use) in socio-demographics, health status and services utilization.

Results—Of the 957 depressed clients, 217 (23%) were from substance abuse programs, 269 (28%) were from other sectors and had substance abuse history, and the remainder did not have substance abuse history. The majority of depressed clients in substance abuse programs or with substance abuse history were unemployed, impoverished, lacked health insurance, and had high rates of arrests and homelessness. They were also more likely to have depressive or anxiety disorder, psychosis and mania and to use emergency rooms compared to clients without a substance abuse history.

Conclusions—Clients with depressive symptoms and comorbid substance abuse history had significant psychosocial stressors and high utilization rates. The prevalence of depression and comorbid substance abuse history across diverse community sectors suggests that community-wide approaches may be needed that address both depression and substance abuse in this safety-net population.

INTRODUCTION

Comorbid depression and substance abuse are common among low-income adults in minority communities (1–5). These individuals' healthcare is often uncoordinated, of variable quality, and high cost (6). Prior work has shown substantial unmet need among clients with comorbid depression and substance abuse in safety-net primary care, mental health, substance abuse, and social services sectors (1, 6–17). Depending on the sector, this population may receive screening, treatment or referral for either depression or substance abuse, but rarely both (18–21). Although few reports describe individuals with comorbidities across sectors (primary care, mental health, substance abuse, social services), such data may inform Medicaid behavioral health home (22–24) and integrated care model (24–32) implementation.

This cross-sectional, exploratory study describes demographic, clinical characteristics and services utilization for depressed adult clients with and without substance abuse-related histories within diverse services sectors to support agencies in under-resourced communities with program planning. With agency partner input, we defined comorbid substance abuse history as depressed clients either in substance abuse agencies or in other healthcare or community sectors reporting recent substance abuse/dependence or substance abuse services use – a broad definition relevant for services planning. The study questions are: How common are substance abuse histories among depressed clients of diverse community-based sectors? How similar are depressed clients in substance abuse programs with depressed clients with recent substance abuse histories in other community sectors? Within non-substance abuse sectors, how do depressed clients with and without recent substance abuse histories differ in health status and services utilization? How satisfied are depressed clients with and without substance abuse histories with community mental health services?

METHODS

The study uses baseline client data from Community Partners in Care (CPIC) (33, 34), a group-level, randomized demonstration to improve depression services in Los Angeles. CPIC was implemented using Community Partnered Participatory Research (CPPR) (35, 36), emphasizing power-sharing and joint-planning among academic and community partners in all research phases. Lead community partners for these analyses are Behavioral Health Services and Los Angeles Christian Health Center. RAND's and participating agencies' institutional review boards approved all study procedures. Study design is described elsewhere (33, 34, 37, 38). Online Appendix Figure 1 illustrates agency, program, and participant study enrollment.

Communities

South Los Angeles (SLA) (1.5 million people) and Hollywood-Metro (HM) (500,000 people) were selected by convenience based on established partnerships (39, 40). SLA and HM are geographically-defined, Los Angeles County service planning areas (41, 42). Community stakeholders nominated services sectors important for depressed clients (33) and prioritized populations for oversampling. SLA nominated substance abuse clients and African Americans; HM nominated homeless and seniors.

Participating agencies

County directories were combined with community nominations to identify agencies within five sectors: outpatient primary care and public health; outpatient mental health; substance abuse (residential and outpatient); social and housing services; and other social and community-based services (e.g. family preservation, prisoner re-entry, senior centers, hair salons, exercise clubs, parks, and churches). Eligible agencies provided services for adults or parents of child clients and expected to continue operations over the study period. Of 149 agencies approached for participation, 50 agreed, 47 refused, 33 were ineligible; 19 were unreachable and lost to follow-up. Participating and nonparticipating agencies were comparable in average household characteristics (age, sex, race, population density, income) by zip code (37).

Programs

Fifty agencies had 122 programs, of which 16 were ineligible, 11 declined and 95 enrolled. Eligible programs served 15 clients/week, had 1 staff, were financially stable, and not exclusively focused on psychotic disorders or home services. At two programs, no clients were screened, leaving 93 programs.

Clients

Within programs, consecutive clients were screened in waiting rooms or events from March—November 2010. RAND survey staff approached 4,649 adults (age 18; English or Spanish speaking) over 2–3 days per program; 4,440 were screened. Of screened, 3118 were ineligible: 153 did not provide contact information and 2965 were not depressed by standard or community-modified (without word “depression”) 8-Item Patient Health Questionnaire (PHQ-8) 10 (43), which has similar scoring and operational characteristics as the PHQ-9.

Pearson's correlation coefficient between standard and community-modified PHQ-8 was .99. Of 1,322 eligible, 1,246 consented. Between April 2010 and January 2011, 981 enrolled depressed participants completed baseline telephone surveys with RAND staff; two were deceased; 36 refused; and 227 were unreachable. The response rate of 74.2% (981/1322) is acceptable for depression quality improvement (QI) studies (44, 45, 46, 47). The analysis included 957 clients with standard PHQ-8 ≥ 10 , indicating moderate-to-severe depression; we excluded 24 clients with community-modified PHQ-8 ≥ 10 but standard PHQ-8 < 10 .

Measures

All are client self-report, from screeners and telephone-administered baseline surveys.

Sociodemographic variables

We assessed age, gender, marital status, family income, education, housing, employment status, and race/ethnicity (any Latino, African American not Latino, non-Hispanic white, and other) from screeners.

Dependent variables

PHQ-8 scores were from screeners. All other dependent variables were from telephone-administered client surveys. Medical/psychosocial need measures were: life difficulties (i.e., evicted, arrested, or on probation); physical (PCS-12) and mental component summary (MCS-12) scores from Short Form 12-item health survey (SF-12) (48); probable 12-month major depressive or dysthymic disorder, current manic episode, anxiety disorder (one-month panic or post-traumatic stress disorder or 6-month generalized anxiety disorder), past 12-month alcohol abuse or illicit substance use using the Mini International Neuropsychiatric Interview (MINI) (49); and AUDIT-C (50).

Services utilization measures were: length of stay for alcohol, drug, or mental health problems and in substance abuse rehabilitation; emergency room visits for alcohol, drug, or mental/emotional problems; outpatient visits to mental health providers, social service agencies, faith-based agencies, and parks/recreation centers 6 months prior to the baseline survey. We coded outpatient encounters as depression-related if the client reported any provider suggested visiting a specialist or program for depression, taking medications or staying in treatment for depression, or offered ≥ 5 minutes of counseling about depression, stress or emotions, or suggested coping strategies.

Binary indicators were constructed of being satisfied/very satisfied versus neutral to very dissatisfied with health services and social services available for emotional health concerns.

Independent variable

Substance abuse history status was categorized as: screened in a substance abuse agency; screened in another sector with a recent substance abuse history, or without a recent substance abuse history. Recent substance abuse history was defined as any of the following: 12-month substance abuse or substance dependence based on MINI; stayed overnight in an alcohol or substance use residential treatment program or attended any outpatient substance abuse agency or self-help meeting for substance or alcohol use in the

past 6 months. For sensitivity analyses, we created an indicator excluding outpatient/self-help services.

Covariates

Age and gender were assessed through client screeners.

Analyses

The distribution of sample characteristics was described using means and standard deviations for continuous variables and percentages for categorical variables. Each dependent variable was cross-tabulated with substance abuse history status. To examine differences in dependent variables by substance abuse history status, we fit linear regression for continuous variables, logistic regression for dichotomous variables, and log-linear models for counts of visits with substance abuse status as the primary predictor adjusted for age and gender. We conducted two pairwise comparisons between clients screened from substance abuse agencies versus screened from other community sectors with and without a recent substance abuse history. We present results using standardized predictions with 95% confidence intervals from fitted regression models (51).

We accounted for intra-class correlation within programs using SUDAAN 11 (52). To control for potential response bias, attrition weights were constructed by fitting logistic regression models stratified by intervention condition to predict enrollment status and baseline completion from screener predictors (53, 54). For item-level missing data, we used extended hot-deck multiple imputation based on the predictive mean matching method (55). We imputed 5 data sets, averaged results and adjusted standard errors for imputation uncertainty (56). All variables had missingness rates of <5% except income and MINI variables (10–15%).

For sensitivity analyses, we conducted parallel analysis using a version of substance abuse history status excluding outpatient substance abuse and self-help services, with similar conclusions (Online Appendix A). We also conducted stratified analysis for two sector sub-groupings: healthcare (primary care/public health and mental health clinics) (Online Appendix B), and social-community (social services, faith-based agencies, parks/community centers) (Online Appendix C). Results had consistent direction but some changes in significance relative to main analyses.

RESULTS

Of 957 depressed participants with baseline data, 217 (23%) were screened from substance abuse agencies. Of these individuals, 136 (63%) stayed overnight in a residential treatment center in the past six months, 170 (78%) had any outpatient or self-help service for substance abuse in six months, 136 (63%) had substance dependence, 11 (5%) had substance abuse, 49 (23%) had alcohol dependence, and 13 (6%) had alcohol abuse.

Of participants screened from sectors other than substance abuse agencies ($n=740$), 269 (28%) had a recent substance abuse history. Of these, 76 (29%) had an overnight residential treatment stay in 6 months, 148 (56%) had any outpatient or self-help visit for substance

abuse in 6 months, 116 (44%) had substance dependence, 15 (5%) had substance abuse, 74 (27%) had alcohol dependence, and 12 (6%) had alcohol abuse.

Sociodemographics

Table 1 describes the depressed sample; mean age was 45.8; 57% were female and ethnicity was 41% Latino, 46% African American and 13% white or other; 44% had less than a high school education; 74% had incomes under the federal poverty level. When stratified by substance abuse history status, clients varied across categories on all sociodemographics other than age and income.

Social and clinical needs

Table 2 shows that participants screened from substance abuse agencies had lower rates of homelessness, higher rates of arrests or probation, and greater physical health-related quality of life (PCS-12) than clients from other sectors with a recent substance abuse history; but there were no significant differences between these groups in a wide range of socioeconomic, social, or health indicators. Overall physical, mental, and social needs were high for both groups.

Within non-substance abuse screening sites, clients with a substance abuse history compared to those without reported lower rates of health insurance and employment; higher rates of homelessness, arrests or probation, and witnessing violence; higher tobacco use; higher rates of depression, anxiety, lifetime psychosis or mania; and lower self-rated general health. But these groups did not differ in mean depressive symptoms (PHQ-8), number of chronic conditions, physical health (PCS-12) or mental health quality of life (MCS-12). As expected by definition, those with substance abuse histories were more likely to have substance misuse, higher AUDIT-C scores, and hazardous drinking (i.e., positive AUDIT-C).

Utilization of health care and depression services

Table 3 shows that clients screened from substance abuse agencies compared to those with substance use histories screened from other sectors had similar rates of any and number of emergency room visits and behavioral health hospital nights. However, those screened from substance abuse agencies were less likely than those from other sectors with substance abuse histories to visit mental health, primary care, and social services agencies, with fewer depression-related visits in each sector.

Within sectors other than substance abuse, clients with recent substance abuse histories were more likely than those without this history to visit emergency rooms and have behavioral health hospitalizations in the past 6 months. Clients with comorbid substance abuse history were more likely to visit mental health and social services and less likely to visit religious places, with more depression-related visits in all sectors.

Satisfaction

A majority of depressed clients were satisfied with health services (609/957, 64%) and community services (573/957, 60%) available for emotional or mental health problems, with no significant differences based on substance abuse history and or screening sector.

DISCUSSION

Community Partners in Care (CPIC) provided a unique opportunity to compare social and health needs, patterns of services use, and satisfaction among clients with depressive symptoms and recent substance abuse histories in under-resourced communities of color across diverse services sectors. To our knowledge, CPIC is the only study that frames depression in the context of services sectors (i.e. primary care, mental health, substance abuse, homeless, and social / community services) deemed by our community partners as supporting depressed clients. Most studies focus on one or two settings.

About half of depressed clients had substance abuse histories across participating programs – about 45% from substance abuse programs and 55% from other services sectors. Because of the high prevalence of substance abuse histories among depressed clients, descriptive data were important to CPIC partners for services planning.

Individuals with depression and substance abuse histories in these communities had high clinical and psychosocial needs, regardless of location screened. Most were unemployed, over half lacked health insurance, and about one-fifth witnessed violence in the past 6 months, with moderate to high rates of psychiatric and medical comorbidities, including tobacco use, depression, anxiety, psychosis and mania. Of clients screened in substance abuse agencies, almost half had been arrested or on probation in the past 6 months. Our findings may reflect the impact of policy initiatives in California during the study to divert individuals convicted of non-violent drug possession into substance abuse treatment instead of prisons (California Penal Code 1210 and 3063.1) and post-incarceration programs offering housing and job training / placement to reduce recidivism (57). In contrast, over one-quarter of clients screened from other sectors considered themselves homeless; most frequented social services agencies seeking housing.

As expected, depressed clients from substance abuse agencies and other sectors with substance abuse histories utilized emergency rooms (58–61) and were hospitalized (62–64) at higher rates than depressed clients without substance abuse histories. However, individuals screened from substance abuse agencies had higher utilization of substance abuse agencies' services and lower services utilization from other sectors. This may be because our study screened consecutive clients in each location, resulting in oversampling frequent users of that location. Consistent with prior studies (65–67), clients with substance abuse histories screened in other sectors were more likely than those without such a history to visit outpatient mental health clinics for depression, but we are not aware of prior studies that have reported increased social services and other depression services for clients with compared to without substance abuse histories. Differences in utilization patterns within and across sectors could be due to profiles of use associated with being identified in a given sector, patterns of available referral networks, or differences in clients' needs (6). However, it is noteworthy that the pattern of overall services differed for those with substance abuse histories depending on whether the client was identified in a substance abuse agency (i.e. increased substance use services) or non-substance use sectors (i.e. increased depression-related services across sectors), suggesting each sector's networks may be complementary.

These findings may be important as safety-net healthcare systems work to provide care for the complex psychosocial (e.g. legal, employment, housing), behavioral health, and medical needs (6, 29) of new Medicaid enrollees under healthcare reform, who have similar demographic profiles as clients described here. Initiatives like accountable care organizations and Medicaid behavioral health homes (22, 24) provide incentives to support collaborations across historically siloed sectors to improve outcomes (23) through evidence-based integration strategies, such as collaborative care for depression, while addressing social determinants of health, such as housing and employment. Although published depression and/or substance abuse care models focusing on primary care-mental health integration (11, 29, 31, 68, 69) have demonstrated improved patient health outcomes, they may be more difficult to implement in Health Resources and Services Administration-defined medically underserved areas with healthcare service shortages (70). Medically underserved communities may consider models that extend clinical care through collaborations between healthcare, substance abuse, and other social-community sectors to deliver evidence-based depression care while concurrently addressing clients' social, medical, and substance abuse needs. It is not yet known, however, if linked services are better accomplished through centralized models (co-located services) or through distributive models (referrals), and for whom (11). In order to implement depression and/or substance abuse care models across healthcare and non-healthcare settings, future research should explore whether services use and outcomes for those with depression and comorbid substance abuse differ by a client's "home" sector and the quality of program linkages and services within networks, and how best to integrate them around client needs.

Linking medical sectors to substance use and social-community sectors to increase detection and treatment of depression and substance use may be useful, particularly for case management initiatives in medically underserved communities. Clients with depression and substance use histories have high rates of acute care utilization (71), accounting for disproportionately high percentage of visits and costs (72). Case management innovations for this population are currently an area of intense investigation (73, 74). For example, case management services linking homeless to stable housing has been shown to reduce emergency room visits, hospitalizations, and costs (75). Community engagement may be one strategy to link sectors together and facilitate an innovative approach and evaluation of such efforts (33).

This study has several limitations. Generalizability for other program types or communities may be limited. We included financially stable programs in two under-resourced, communities of color in Los Angeles. Study program recruitment was limited to programs listed in county resource guidebooks and partners' recommendations. While participating and nonparticipating programs served similar populations, we did not include all programs in each community. Response rates were moderate for agencies. We oversampled high users by sector, and results may not generalize to less frequent users. Data are limited to client self-report rather than claims data. The study has the strength of a diverse sample of community services sectors and offers a unique participatory approach involving agency co-leadership, which may be useful as a model for community-wide health assessment and quality improvement initiatives.

CONCLUSIONS

Overall, this exploratory study shows that comorbid depression and substance abuse is common across diverse sectors serving safety-net populations. These individuals have complex psychosocial, medical, mental health, and substance abuse needs with services fragmented across sectors. Future work may consider building on these findings to explore how approaches like Medicaid behavioral health homes, incentivizing healthcare and community agency collaborations, can be used to improve access to and quality and value of services across a network to address the complex needs of clients with comorbid depression and substance use.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

Funding/Support: Funding support provided by VA Office of Academic Affiliations, Health Services Research and Development through the Health Services Fellowship Training Program (TMP 65-020). Community Partners in Care was registered at clinicaltrials.gov (NCT01699789). The study was funded by Award Numbers R01MH078853, P30MH082760, and P30MH068639 from the National Institute of Mental Health; by Award Number 64244 from the Robert Wood Johnson Foundation; Award Number UL1TR000124 from the UCLA Clinical and Translational Science Institute, National Center for Advancing Translational Science; and Award Number CMCH-12-97088 from the California Community Foundation. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Department of Veterans Affairs, National Institute of Mental Health, the National Institutes of Health, UCLA Clinical and Translational Science Institute, National Center for Advancing Translational Science, and California Community Foundation or other affiliated institutions.

We thank the 50 participating agencies of the Council and their representatives, in addition to the participating Los Angeles programs, their providers and staff, and the clients who participated. Further details about our community partners may be found online at <http://www.communitypartnersincare.org/about/partners/>. We thank the RAND Survey Research Group and trained community members who conducted client data collection. We thank Wayne Aoki, PhD, for reviewing an earlier draft of this manuscript.

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Table 1
Demographic characteristics of clients screened with depressive symptoms, by substance abuse status

Characteristic	Overall (N=957)			Clients from substance abuse agencies (N=217)			Clients from other sectors with substance abuse history (N=269)			Clients from other sectors without substance abuse history (N=471)			p [†]
	N	%	N	N	%	N	N	%	N	%	N	%	
Age (M±SD)	45.8 ± 12.8		42.5 ± 12.0			45.9 ± 11.3	47.2 ± 13.6						ns
Female	560	57	101		46	123	336	44		70			<.001
Married or living with a partner	216	23	49		23	33	134	12		28			<.001
Less than high school	423	44	88		40	100	235	37		50			.005
Born US	680	70	189		87	229	262	85		54			<.001
Race/Ethnicity													<.001
Hispanic	386	41	67		32	78	241	29		52			
Black or African American	456	46	126		57	151	179	54		36			
Non-Hispanic white	83	9	16		8	31	36	13		8			
Other (API/Native/other)	32	4	8		4	9	15	4		3			
Income under poverty level	706	74	162		75	207	337	77		72			ns

Note. Recent substance abuse history: substance abuse or substance dependence by MINI or had substance abuse services in the prior 6 months from an outpatient substance abuse agency or self-help group or residential treatment program. Data were multiply imputed at item level and percentage and means were weighted for eligible sample for enrollment and survey response. Percentages may not add up to 100% due to weighting.

[†]The statistics were based on Wald Chi-square test for comparing differences across three categories account for clustering (clients within programs). There was 2 degree of freedom for all of the characteristics listed with the exception of race/ethnicity, which had 6 degrees of freedom.

Table 2
Social and clinical needs of clients with depressive symptoms, by substance abuse status adjusted for age and sex

Variables	Adjusted Estimates						Test	
	(a) Clients from substance abuse agencies		(b) Clients from other sectors with substance abuse history		(c) Clients from other sectors without substance abuse history		(b) vs. (a)	(c) vs. (b)
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	P	P
<i>Social needs</i>								
Has health insurance, %	34.5	21.9–47.1	42.5	33.8–51.1	52.6	45.3–59.9	ns	.011
Homeless, %	9.0	3.8–14.3	28.1	16.6–39.5	16.0	8.8–23.1	.002	.006
Currently employed, %	10.1	5.8–14.4	15.1	9.4–20.8	27.2	22.1–32.4	ns	<.001
Arrested or on probation at any time past 6 mo., %	42.5	33.6–51.3	21.2	14.1–28.2	6.9	3.5–10.3	<.001	<.001
Evicted or had your house foreclosed past 6 mo., %	21.2	13.9–28.6	14.3	9.0–19.7	12.6	8.7–16.4	ns	ns
Witnessed someone being beaten, abused, or killed past 6 mo., %	19.4	13.2–25.6	21.0	16.1–25.9	10.8	7.2–14.3	ns	.001
Lost custody of any children in the past 6 mo., %	9.1	4.6–13.6	4.2	.8–7.6	1.7	.6–2.8	ns	ns
<i>Clinical characteristics</i>								
PHQ-8 score, mean	15.2	14.6–15.9	15.4	14.8–16.0	14.9	14.4–15.4	ns	ns
Number of chronic conditions (from list of 18), mean	3.1	2.6–3.6	3.4	3.1–3.8	3.5	3.1–3.9	ns	ns
# cigarettes smoked per day last 7 days, mean	6.9	5.3–8.5	6.6	5.4–7.8	3.4	2.4–4.4	ns	<.001
<i>Quality of life and Function scores</i>								
General health, mean	3.4	3.2–3.6	3.5	3.4–3.6	3.8	3.6–3.9	ns	.001
PCS-12, mean	40.4	39.4–41.4	38.7	37.9–39.6	39.1	38.3–39.9	.008	ns
MCS-12, mean	39.0	38.1–39.9	38.8	38.0–39.5	39.6	38.8–40.4	ns	ns
<i>Probable mental health diagnosis</i>								
Current major depressive episode or dysthymia [†] , %	53.7	45.4–61.9	62.7	56.6–68.7	45.5	39.6–51.4	ns	<.001
12-month depressive disorder [†] , %	64.6	57.5–71.7	73.6	67.3–79.8	54.8	48.7–60.8	ns	<.001
Lifetime psychosis or mania [#] , %	54.7	46.8–62.6	53.4	45.7–61.2	27.7	20.3–35.1	ns	<.001
Any current or recent anxiety disorder ^{†‡} , %	55.6	50.1–61.1	56.8	48.0–65.7	38.9	33.2–44.7	ns	<.001
<i>Probable substance abuse diagnosis</i>								
Misused any drugs in past 12 mo. [‡] , %	66.8	59.3–74.2	53.7	47.3–60.0	9.7	6.3–13.0	.012	<.001

Variables	Adjusted Estimates						Test	
	(a) Clients from substance abuse agencies		(b) Clients from other sectors with substance abuse history		(c) Clients from other sectors without substance abuse history		(b) vs. (a)	(c) vs. (b)
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	P	P
AUDIT-C score (alcohol screen for hazardous drinkers), mean	2.4	1.9–2.9	2.2	1.8–2.6	1.2	.9–1.4	ns	<.001
Hazardous drinker or alcohol use disorder [§] , %	29.3	24.3–34.4	32.9	25.7–40.0	15.4	11.3–19.5	ns	<.001

Note: adjusted analyses used multiply imputed data and weighted for eligible sample for enrollment and survey response; logistic regression models for binary variables or linear regression models for continuous variables adjusted for age and sex and accounted for clustering (clients within programs).

[†] Panic attacks, Post-Traumatic Stress Disorder, Seasonal Affective Disorder.
[‡] Based on Mini International Neuropsychiatric Interview.
[§] Based on a positive AUDIT-C score, male AUDIT-C=4, female=3.
[#] derived from MINI and from baseline client interview.

Table 3

Past six-month utilization of health services (emergency room, hospitalization, mental health, primary care, substance abuse, social services, faith-based, parks and community centers) among clients with depressive symptoms, by substance abuse status adjusted for age and sex

Variables	Adjusted Estimates						Test	
	(a) Clients from substance abuse agencies		(b) Clients from other sectors with substance abuse history		(c) Clients from other sectors without substance abuse history		(b) vs. (a) (c) vs. (b)	
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	P	P
<i>Emergency room visits</i>								
Any emergency room visits for any health problems in the past 6 mo., %	59.2	50.5–67.8	54.5	48.0–61.1	45.7	39.8–51.6	ns	ns
# of emergency room visits for any health problems in the past 6 mo., among visited (N=488), mean	3.7	2.8–4.6	3.4	2.7–4.0	3.2	2.7–3.7	ns	ns
Any emergency room visits for alcohol, drug, or mental/emotional problem in the past 6 mo., %	35.9	29.0–42.7	35.4	29.4–41.5	18.4	13.8–22.9	ns	<.001
# of emergency room visits for alcohol, drug, or mental/emotional problems, among visited (N=259), mean	3.1	2.4–3.7	2.9	2.4–3.4	2.8	2.1–3.5	ns	ns
<i>Hospitalizations and length of stay for alcohol, drug, or mental/emotional problem</i>								
Any overnight stay in hospital for alcohol, drug, or mental/emotional problem in the past 6 mo., %	20.9	13.8–28.0	21.4	16.4–26.4	7.0	4.5–9.4	ns	<.001
# of nights stay for alcohol, drug, or mental/emotional problem past 6 mo, among visited (N=134), mean	10.6	2.9–18.3	9.7	7.2–12.3	9.8	5.1–14.5	ns	ns
<i>Mental Health Specialty Visit</i>								
Any mental health specialty in the past 6 mo., %	56.6	49.5–63.7	73.2	64.8–81.5	48.7	39.4–58.0	.005	<.001
# of mental health outpatient visits, among visited (N=554), mean	16.5	11.3–21.7	14.0	11.1–16.8	11.0	9.4–12.7	ns	.04
Any medication or counseling for emotional or mental health problem in the past 6 mo., %	55.6	48.6–62.5	69.5	60.9–78.1	44.7	35.7–53.7	.017	<.001
<i>Primary care visit</i>								
Any primary care visit for any problem in the past 6 mo., %	58.7	48.3–69.1	72.2	64.7–79.6	72.7	68.2–77.1	.034	ns
# of visits to primary care provider in the past 6 mo., among visited (N=659), mean	7.2	3.6–10.8	6.8	5.7–7.9	5.0	4.4–5.6	ns	.006
Any primary care visits that included a service for depression, among visited (N=659), %	59.5	49.7–69.3	69.0	62.5–75.6	55.9	47.9–63.9	ns	.009
<i>Social services agency visit</i>								

Variables	Adjusted Estimates						Test	
	(a) Clients from substance abuse agencies			(b) Clients from other sectors with substance abuse history			(c) Clients from other sectors without substance abuse history	
	Estimate	95% CI		Estimate	95% CI		(b) vs. (a)	(c) vs. (b)
Any social services visit in the past 6 mo., %	53.1	47.2–59.0		66.2	58.4–74.0		.012	<.001
Any visits to social services agency that included a service for depression, among visited (N=522), %	47.4	36.4–58.3		62.8	56.1–69.4		.02	.001
<i>Faith-based visit (e.g., church, temple)</i>								
Any faith-based visit in the past 6 mo., %	54.8	43.6–66.0		54.9	48.9–60.8		ns	.014
Any visits to religious places that included a service for depression in the past 6 mo., among visited (N=568), %	46.3	35.0–57.6		43.0	34.1–51.8		ns	ns
<i>Parks and community center (including senior centers) visits</i>								
Any parks or community center visit in the past 6 mo., %	48.5	43.8–53.1		50.0	42.8–57.2		ns	ns
Any visits to parks or community centers that included a service for depression, among visited (N=462), %	11.7	7.3–16.1		22.7	14.6–30.8		.011	.047

Note: adjusted analyses used multiply imputed data and weighted for eligible sample for enrollment and survey response; logistic regression models for binary variables or log-linear regression models for count variables adjusted for age and sex and accounted for clustering (clients within programs).