ETHNIC DISPARITIES IN ACCESSING TREATMENT FOR DEPRESSION AND SUBSTANCE USE DISORDERS IN AN INTEGRATED HEALTH PLAN*

DEREK D. SATRE, PH.D.,
University of California, San Francisco, Dept. of Psychiatry and Kaiser Permanente Northern California Region, Division of Research

CYNTHIA I. CAMPBELL, PH.D.,
Kaiser Permanente Northern California Region

NANCY P. GORDON, SC.D, and
Kaiser Permanente Northern California Region

CONSTANCE WEISNER, DR.P.H
University of California, San Francisco, Dept. of Psychiatry and Kaiser Permanente Northern California Region, Division of Research

Abstract

Objective—This study examined ethnic differences in accessing treatment for depression and substance use disorders (SUDs) among men and women in a large integrated health plan, and explored factors potentially contributing to health care disparities.

Methods—Participants were 22,543 members ages 20 to 65 who responded to health surveys in 2002 and 2005. Survey questions were linked to provider-assigned diagnoses, electronic medication, psychiatry, and chemical dependency program records.

Results—Among women diagnosed with depression, Latinas ($p < .01$) and Asian-Americans ($p < .001$) were less likely than Whites to fill an antidepressant prescription. Among men diagnosed with depression, African Americans ($p < .01$) were less likely than Whites to do so. Among women diagnosed with an SUD, African Americans ($p < .05$) were less likely than Whites to have one or more chemical dependency program visits.

Conclusions—Results demonstrated ethnic differences in accessing depression and SUD treatment among patients diagnosed with these disorders, which persisted after controlling for education, income, having a regular health care provider and length of health plan enrollment. Findings highlight potential gender differences in ethnic disparities, lower antidepressant utilization among Asian Americans, and the effects of co-occurring disorders in accessing behavioral health care.

Keywords

depression; substance use disorder (SUD); health care disparities; managed care

---

INTRODUCTION

Depression and substance use disorders (SUDs) are among the most common and debilitating psychiatric problems, but their impact is unevenly distributed . Mental health care disparities may be defined as "a difference in treatment provided to members of different racial or ethnic groups that is not justified by the underlying health conditions or treatment preferences of patients" [1]. For example, members of ethnic minority groups in the United States (African American, Latinos) are more likely than Whites to have depressive disorders under-identified or under-treated [2,3]. Compared to Whites with depression, African Americans and Latinos are less likely to fill an antidepressant prescription (indicating that treatment preferences as well as actual disparities in care may play a role in the utilization differences observed) [4–6]. Asian Americans may also receive inadequate depression care relative to Whites, but have been studied much less than African Americans and Latinos [7,8]. Such ethnic (and socio-economic) disparities in care are of significant concern to providers and policy-makers around the world.

Compared with depression, less is known about the extent to which race-ethnic disparities exist in SUD treatment. Higher lifetime prevalence of drug use disorders has been found for Whites than for African Americans, Latinos, or Asian Americans [9]. Yet African Americans and Latinos have disproportionate alcohol-related morbidity and mortality [10]. Two general population studies found that African Americans [11] and Latinos [12] were more likely to enter SUD treatment than Whites, but a Medicaid managed care study had mixed findings on treatment access based on type of service examined, with Whites more likely to access inpatient treatment [13]. African Americans and Latinos have been over-represented in treatment relative to their proportions in the population [14]. However, a survey of public programs found that African Americans had lower completion rates than Whites after controlling for other factors [15]. This variability in the literature, and lack of attention to Asian Americans, indicates that further work is needed to determine the extent of SUD service disparities such as accessing treatment.

Both patient and system factors potentially contribute to disparities in health care, including socioeconomic status, stigma, distrust of providers, poor identification, and lack of culturally competent services [16]. In the United States, inequities in having insurance contribute, but disparities have also been found in private systems and in nations with universal coverage systems. In a private managed care health plan, African Americans and Latinos were less likely to use outpatient mental health services [17]. In a U.S. study of Medicare managed care plans, African Americans were less likely than Whites to receive follow-up after psychiatric hospitalization [18]. It is therefore important to continue to investigate disparities within systems where lack of insurance is not a barrier to care.

Few prior studies have examined behavioral health disparities separately by gender, yet there are several reasons to do so. Women have higher depression prevalence [19] and lower SUD prevalence than men. Women are more likely to receive depression services than men [20, 21], yet face additional SUD treatment barriers and are less likely to seek these services [22]. Men are more likely than women to prefer antidepressant treatment to counseling [23,24]. Ethnic differences in SUD treatment initiation [25] and retention [26] may vary by gender, with implications for improving services. Examining men and women together could obscure

these effects [26,27]. For these reasons we explore ethnic differences and factors associated with accessing depression and SUD treatment separately by gender.

The present study investigated race-ethnic disparities in accessing treatment for depression and SUD among members of a large Northern California health plan with an integrated health care delivery system. Primary outcomes examined in multivariate analysis included accessing antidepressant medication (for patients diagnosed with depression) and accessing chemical dependency programs (for patients diagnosed with SUD) because these are the main treatment modalities in the health plan. Factors hypothesized to impact accessing treatment were based on the behavioral model of service utilization [28] used in prior studies of ethnic disparities [8,17] that may help to explain effects of ethnicity on accessing treatment. Studies of adults under age 65 have found that age, income, and education have been predisposing factors associated with treatment utilization for depression [8,29] and SUD [9,11,27]. Having a co-occurring condition (both depression and SUD) is a marker of psychiatric severity and treatment need [11,30], and has been associated with SUD treatment initiation [9,31]. Having a regular health care provider is a facilitating factor that may vary by ethnicity and could increase likelihood that patients receive specialty care [13]. The study hypothesized that these factors might predict accessing treatment independent of ethnicity.

As secondary outcomes for patients diagnosed with depression, in bivariate analysis we examined ethnic differences in accessing psychiatry and psychological counseling or therapy. These outcomes are less clearly indicative than medication of receiving depression care, since psychiatric services or counseling might be sought for problems other than depression. But because of the literature that ethnic minorities are less likely to use antidepressant medication [4–6], these outcomes were tested to explore whether minorities might compensate for lack of antidepressant utilization with other types of services.

This investigation potentially makes several contributions to the literature on health care disparities. It investigated differences in accessing medication, psychiatry clinics, and chemical dependency programs in an integrated health system in which all patients have coverage for this care, and in which services are provided internally rather than contracted with other agencies. Patient services were measured using a combination of electronic specialty care clinic records, pharmacy records, and self-report survey measures. We examined both depression and SUD in the same sample, as well as the impact on accessing treatment of having both disorders. The study includes Asian Americans, who have been particularly under-investigated. It is anticipated that the findings will contribute to understanding health care disparities and contributing factors, and identify areas for improvement in service delivery.

METHODS

Participants and Setting

The Kaiser Permanente Medical Care Program in Northern California is a large health plan with an integrated delivery system (primary and specialty care, including psychiatry and SUD treatment) serving 15 counties and 3.3 million adult members. Depression is treated both in primary care (antidepressant prescriptions) and in 28 psychiatry clinics located throughout Northern California (antidepressant prescriptions and psychotherapy). Specialty chemical dependency (CD) programs to treat SUDs are also widely available in 21 locations in the region. Both types of specialty care services are available to all health plan members. Patients are frequently referred to treatment by primary care or other medical departments but also access psychiatry clinics and CD programs directly. Availability of specialty care services is publicized through printed and online materials distributed to members.

Participants were members who responded to the 2002 or 2005 Kaiser Permanente Adult Member Health Survey (MHS), a mailed survey with independent random samples of members aged 20 and over. The present study was restricted to participants aged 20 to 65, because older adults have health issues that could impact disparities differently from younger adults (such as salience of physical health problems and greater mental health stigma) [32,33], because SUD prevalence is relatively low among adults over 65, and because the health plan membership over age 65 is less ethnically diverse. Data from two MHS years were combined to increase statistical power, with 2002 data dropped in the relatively rare case that an individual participated in both surveys ($n = 40$). The MHS in 2002 and 2005 were similar in form and content, covering demographics, health, and use of services. All questions used in the present study were identical in the two survey years. The surveys were mailed in April of 2002 and 2005, with two follow-up surveys sent to non-respondents by mid-July. The survey was available only in English.

The overall survey response rate was 47.3% (18,604/39,307) for 2002 and 45.2% (18,733/41,429) for 2005. Since the health plan did not collect information about race-ethnicity, education, or income, we cannot determine how representative the sample is based on those demographic factors. However, we analyzed differences between responders ($N = 23,514$) and non-responders ages 20 to 65 ($N = 38,509$) on other factors and found that responders were older (50.1% < 39 years old vs. 33.6% < 39 years old for non-responders), female (57.5% female vs. 45.7% female non-responders), more likely to have had a primary care visit in the 12 months prior to the survey (86.2% vs. 79.8% for non-responders), and marginally more likely to have had a psychiatry visit in the 12 months prior to the survey (7.7% vs. 7.5% for non-responders). All differences were statistically significant at $p < .001$.

Respondents were assigned post-stratification weighting factors so that the weighted sample would reflect the age, gender, and geographic distribution of the health plan membership. Race-ethnicity data were available from the survey for 23,378 respondents (99%), and of these, 22,543 (97%) were members of major race-ethnic groups used for the study: non-Hispanic White (6327 men and 8272 women), African American/Black (582 men and 1032 women), Latino (1065 men and 1626 women), and Asian American (1539 men and 2100 women). Survey respondents were 1.3% Native American, excluded from the analyses due to sample size.

Survey responses for the final sample ($n = 22,543$) were linked at the individual level with data abstracted from Kaiser computerized records on length of enrollment, outpatient utilization, and ICD-9 diagnoses for depression and SUD associated with outpatient visits (Outpatient Summary of Clinical Records database, OSCR), and prescriptions for medications for the treatment of depression and/or SUD filled at a Kaiser outpatient pharmacy (Pharmacy Information Management System database, PIMS). Medical record data were available for all survey respondents. These data were abstracted for a 21-month period for each respondent covering the 12 months prior to April 1st of the survey year through the end of the calendar year of the survey (i.e., 4/1/01 to 12/31/02 for MHS 2002 respondents and 4/1/04 through 12/31/05 for MHS 2005 respondents). The time window did not vary based on the actual date the MHS form was returned by participants. This broad time frame was chosen since patients often delay seeking treatment for depression and SUD [34,35].

Measures

Demographic Characteristics—Race-ethnicity was assigned based on the MHS question "What best describes your race and ethnicity? (Check ALL that apply)." If more than one was checked, an algorithm assigned one race-ethnicity based on methodology used in prior surveys [36]. People who indicated African American or Other Black and another ethnicity were designated as African American/Black; people who indicated Mexican/Central American or

other Hispanic/Latino and another ethnicity other than African American/Black were designated as Latino/Hispanic. People were designated as Asian if one or more of Chinese, Japanese, Korean, Filipino, Southeast Asian, Indian/Pakistani, or Other Asian category were indicated and African American/Black and Latino/Hispanic were not indicated. MHS participants indicated date of birth, gender, education, prior-year household income, and preferred language for communicating about health (English, Spanish, Cantonese, or other).

Provider-Recorded Depression and Substance Use Disorder (SUD) Diagnoses
—ICD-9-based diagnoses abstracted from OSCR database included depressive disorders (296.2, 296.3, 298.0, 300.4, 309.0, 309.1, 311); substance use or substance-induced disorder (291, 292, 303, 304, 305). Diagnoses were included regardless of where diagnosis was assigned (e.g., primary care or specialty care).

Health Service Utilization—Within the health plan, CD programs and psychiatry can be accessed directly by patients. Primary utilization measures included whether or not patients had one or more visits to CD programs or psychiatry clinics [5,25], obtained from automated databases. Additional questions from the Member Health Survey included whether participants had received "any psychological counseling or therapy" in the prior 12 months (not specifying whether it was received in the health plan or elsewhere), and how many times they had non-Kaiser health visits or prescriptions filled. These self-report measures were included to examine whether there were differences in utilization not captured in health plan databases [37].

Prescription Medications—Medications were identified based on Therapeutic Index codes: antidepressants as a class (281604) and two drugs used in alcohol treatment, naltrexone and disulfiram, in text fields in the PIMS database (buprenorphine and methadone were not covered in 2002–2005). PIMS records prescriptions filled when presented to a Kaiser pharmacy. If the prescription is not filled or is filled outside of Kaiser, there is no record that a medication was recommended or prescribed. Patients can be prescribed psychotropic medication from most departments, including primary care [38]. Health plan pharmacy data encompass about 97% of member prescriptions [39].

Analyses—The study tested differences among White, Latino, African-American, and Asian-American participants using Rao-Scott chi-square. Analyses were conducted with weighted data using SAS version 9.1 procedures (Proc Surveyfreq, Proc Surveymeans, and Proc Surveylogistic) for analysis of data obtained from a complex survey design. These procedures take into account error introduced by design effects when calculating the variances used for significance testing. Analyses were conducted separately for men and women.

Among those with provider-diagnosed depression, bivariate analyses compared race-ethnic groups with regard to having filled ≥ 1 antidepressant prescription, having ≥ 1 psychiatry visit, and having received any psychological counseling or therapy (yes/no), similar to prior studies of service access [5]. Among those with provider-diagnosed SUD, bivariate analyses compared race-ethnic groups with regard to having ≥ 1 CD program visit and having received any psychological counseling or therapy (yes/no) [25].

Logistic regression models were used to identify factors associated with accessing the primary treatment modalities in the health plan for depression and SUD (having filled ≥ 1 antidepressant prescription and having ≥ 1 CD program visit, respectively). The model for antidepressant treatment was run among participants diagnosed with depression, and the model for CD treatment was run among participants diagnosed with an SUD. The models included race-ethnicity (African American, Latino, and Asian American, with White as the reference group), and additional variables of age, income, having a co-occurring diagnosis (an SUD diagnosis, for those with depression; and a depression diagnosis, for those with an SUD), having a regular

health provider, and having a positive rating of the health plan [4,40,41]. All logistic regression analyses were restricted to participants with at least 18 months of health plan enrollment during the 21-month study window period.

We examined missing data for survey questions used in the models. Survey data were missing on education for 0.3% of Whites, 0.8% of African Americans, 0.6% of Latinos, and 0.6% of Asian Americans (χ^2 (3, $N = 22,543) = 20.0$, $p < .001$); missing on income for 12.0% of Whites, 10.0% of African Americans, 9.2% of Latinos, and 11.7% of Asian Americans (χ^2 (3, $N = 22,543) = 22.1$, $p < .001$); missing on having a regular Kaiser health care provider for 1.0% of Whites, 1.8% of African Americans, 2.0% of Latinos, and 1.9% of Asian Americans (χ^2 (3, $N = 22,543) = 35.4$, $p < .001$). Cases were dropped from the models if data were missing on one or more independent variables.

RESULTS

Sample Characteristics

The sample ($N = 22,543$) was 52.0% female, 63.3% non-Hispanic White, 6.5% African American/Black, 12.8% Latino, and 17.4% Asian American, with a mean age of 42.5 ($sd = 13.8$). Over 80% (83.5%) had some college or more education, 75.5% were married or partnered, and 62.2% reported household income of $50,000 or more in the prior year. As prior studies of large survey samples [35,42] have found, education and income were higher among non-Hispanic Whites and Asian Americans than among African Americans and Latinos (not shown). Among Latinos, 88% reported that English was preferred to discuss health; among Asian Americans, 90% said that English was preferred.

The mean length of health plan enrollment was 19.9 months ($sd = 2.2$) for Whites, 19.8 months ($sd = 2.4$) for African Americans, 19.7 months ($sd = 2.4$) for Latinos, and 19.7 months ($sd = 2.3$) for Asian Americans ($F = 28.9$, 3/22,392, $p < .001$), with no gender differences. Among men, 69.5% of Whites, 73.6% of African Americans, 61.6% of Latinos, and 66.0% of Asian Americans reported having a regular Kaiser health care provider (χ^2 (3, $N = 9,378) = 38.8$, $p < .001$). Among women, 82.9% of Whites, 83.7% of African Americans, 78.8% of Latinos, and 81.1% of Asian Americans reported having a regular Kaiser health care provider (χ^2 (3, $N = 12,859) = 15.6$, $p < .001$).

There were 2,426 patients diagnosed with depression. Among men, depression was diagnosed in 7.8% of Whites, 5.4% of African Americans, 6.1% of Latinos, and 2.4% of Asian Americans. Among women, depression was diagnosed in 15.9% of Whites, 11.8% of African Americans, 12.8% of Latinos, and 5.0% of Asian Americans (not shown). There were 467 participants diagnosed with an SUD (41.7% alcohol only, 16.2% drug only, 8.9% both alcohol and drug abuse or dependence, and 33.2% non-specified substance abuse or dependence, with no significant differences by ethnicity or gender). Among men, SUDs were diagnosed in 3.4% of Whites, 3.5% of African Americans, 3.0% of Latinos, and 0.5% of Asian Americans. Among women, SUDs were diagnosed in 2.0% of Whites, 1.3% of African Americans, 1.0% of Latinos, and 0.2% of Asian Americans (not shown).

Ethnic Differences in Accessing Services

The study found significant race-ethnic differences in depression-related care (Table 1). Among men, African Americans were least likely to have filled an antidepressant prescription. Among women, Asian Americans were least likely and White women most likely to have filled an antidepressant prescription. Percentages of those with a recorded psychiatry visit or self-reported psychological counseling were not significantly different across race-ethnic groups.

Patients diagnosed with an SUD showed no significant race-ethnic differences with regard to having ≥ 1 CD program visit, although power was limited by sample size. The data trends suggest that African-American men and women may have been less likely to use services than other groups (Table 1). Use of specific medications to treat SUDs was infrequent: only five men and four women filled a disulfiram prescription, and two men and no women filled a naltrexone prescription (not shown). Those diagnosed with depression or with an SUD showed no race-ethnic differences in self-reported use of non-health plan pharmacies or medical providers during the 12 months prior to the survey (not shown).

Factors Associated with Accessing Antidepressant and CD Treatment

The logistic regression models (Table 2) showed that among men with diagnosed depression, older age increased the odds of having filled an antidepressant prescription (OR = 1.03, CI = 1.02, 1.06, $p < .001$) and being African American (versus White) decreased the odds (OR = 0.24, CI = 0.09, 0.63, $p = .004$). Among women with diagnosed depression, being older (OR = 1.03, CI = 1.02, 1.04, $p < .001$), having a comorbid SUD diagnosis (OR = 3.58, CI = 1.56, 8.24, $p = .003$), and having a regular physician (OR = 1.57, CI = 1.09, 2.26, $p = .016$) were associated with increased odds of filling an antidepressant prescription, while being Latina (OR = 0.55, CI = 0.37, 0.82, $p = .004$) or Asian American (versus White) (OR = 0.30, CI = 0.18, 0.49, $p < .001$) decreased the odds. Among men with an SUD, none of the factors significantly predicted initiating CD program treatment. Among women with a diagnosed SUD, having a comorbid depression diagnosis (OR = 2.78, CI = 1.21, 6.39, $p = .016$) increased the odds, while being African American (versus White) decreased the odds (OR = 0.18, CI = 0.04, 0.87, $p = .033$).

DISCUSSION

This study linked health survey data to patient medical record data on diagnoses, pharmacy, and health care utilization to explore race-ethnic disparities in accessing treatment for depression and SUD among men and women in a large health plan in the United States with integrated services [26,27]. Key results showed that among men with diagnosed depression, African Americans were less likely than Whites to fill an antidepressant prescription; and among women with diagnosed depression, Asian Americans and Latinos were less likely than Whites to fill an antidepressant prescription. A further significant finding was that among women diagnosed with an SUD, African Americans were less likely than Whites to have received CD program treatment. These results were found despite equivalent insurance coverage and after controlling for the effects of age, education, income, comorbid SUD/ depression, and having a regular health care provider. Findings have implications for further investigation of behavioral health care disparities including studies of gender differences and managed care health plans.

Accessing Depression Treatment

Previous studies suggest that African-American and Latino primary care patients with diagnosed depression are less likely to use recommended antidepressant medications [6,43]. In contrast, our findings suggest that antidepressant utilization may vary among race-ethnic subgroups, a result that should be confirmed in larger samples. While previous studies have found that African Americans are less likely than Whites to access all types of mental health services [17], we did not find a difference by ethnicity in having one or more visits to the psychiatry department. Because patients in the health plan often are prescribed antidepressant medication in primary care, a lack of significant differences in having a psychiatry visit does not in itself demonstrate that patients received comparable care for depression in the health plan. However, it does suggest that patient factors (such as treatment preferences regarding

antidepressants) or prescribing patterns might have been more significant in antidepressant utilization than referrals to specialty psychiatric care.

Accessing SUD Treatment

Although this portion of the study had limited statistical power, the data suggest that African-American men and women may be less likely than other groups to access CD programs. These findings, if replicated, would be in contrast with findings showing that race-ethnic minorities are over-represented in treatment [11]. An explanation for the discrepancy could be that there were fewer participants of lower socioeconomic status (which is associated with SUD severity and treatment seeking [9]) within this privately insured sample. Patient-level factors such as transportation, child care and work leave obstacles, and stigma regarding services are also factors in race-ethnic disparities that deserve further investigation [44], and which could exert different effects in a privately insured population. For example, it may be more difficult for African-American women in a privately insured sample to take time away from work in order to attend treatment, or stigma could be particularly strong in this group.

Effect of Co-Occurring Diagnoses

Among women, having a comorbid diagnosis (either an SUD or depression) emerged as a strong independent predictor of receiving treatment for the other disorder, while the same effect was not found among men. As in other populations [19], women with SUDs have higher rates of depression than men [45]. One prior study found that among women recommended for SUD treatment, co-occurring psychiatric diagnoses were associated with reduced odds of initiating treatment [27]. However, this study included psychiatric disorders other than depression. While it is not possible to determine the direction between these variables and accessing services in the current study, results may indicate that greater psychiatric severity among dually diagnosed women motivates treatment utilization [46]. The results also suggest that health providers may be facilitating treatment initiation for women with co-morbid disorders, which would be consistent with best practices recommendations regarding coordinated services [34,35]. However, it remains important to develop additional strategies, such as improving provider education, to facilitate treatment initiation for patients who have only one disorder or whose problems are not yet of the higher severity typical of dually diagnosed patients.

Implications for Behavioral Health

Prior studies have identified factors contributing to race-ethnic disparities in psychiatric care, including patient education, income, and insurance status [35,47,48]. While the analyses controlled for these factors, as well as others, differences in treatment utilization persisted. This indicates that much work remains in order to discern patient and system factors that contribute to disparities and to test methods to remove barriers to care [49,50]. Proposed strategies include improved training for residents [51] increasing minorities in the mental health work force [43], community outreach, and patient education [52]. To our knowledge the current investigation is the first to show that Asian-American women are less likely than White women to access antidepressant medication within a sample diagnosed with depression. It is important that strategies broadly proposed to reduce disparities in depression care also address services for this large and growing demographic subgroup [7,8].

In integrated health plans, in which patients do not require a referral from primary care to access psychiatry or CD programs, patient education regarding the availability of services may be especially important. In the study of managed care health plans, researchers have emphasized identifying disparities [53,54] including those found in depression [55] and SUD services [56]. Some data indicate that disparities within Medicare managed care plans have decreased over time [57], while others show that overall mental health care disparities are not decreasing [58]. The study results contribute to the evidence that further efforts are necessary. Such work

also should extend to other health systems internationally. For example, race-ethnic disparities in access to care have been found in spite of universal coverage in Canada [59,60] and the United Kingdom [61,62]. While there are significant differences between the Kaiser health plan and national health systems in other countries, the common finding of significant disparities suggests that our findings are generalizable to other countries in which mental health care and CD services are publicly supported.

We explored the possibility that other types of services were supplementing health plan antidepressant or CD programs by examining self-reported use of prescriptions outside the health plan or psychological services or counseling, but found no significant differences by ethnicity nor patterns in the data indicating that study participants were using these resources as an alternative. As a further resource, it has been suggested that for African Americans, religious sources of support may be a more important part of mental health care than for whites [63], or that religious involvement in some cases is an alternative to mental health treatment [64]. However, if African Americans, Latinos, or Asian Americans are less willing than Whites to use antidepressants, providing appropriate and acceptable psychosocial services within the health plan becomes especially important, while enhancing treatment linkages from primary care to CD programs is also essential to improve services. As an example, this health plan and others increasingly offer complementary and alternative medical services such as mindfulness-based meditation classes, an evidence-based approach for depression [65] and SUD [66] treatment.

Our analytic approach examined differences in accessing treatment separately among men and women [26,27]. Prior studies have highlighted significant gender differences in factors influencing utilization, including patterns of disorder prevalence and comorbidity [19,67], treatment preferences [23,24], and stigma [22,68]. Variability in the current study's findings indicates that strategies to reduce disparities could be targeted by gender/ethnic subgroups, especially in the case of depression where we found that African-American men and Asian-American women were less likely than other subgroups to access treatment. Patient outreach and education in primary care could be particularly important for these subgroups.

Strengths and Limitations of the Study

This study investigated potential factors associated with race-ethnic differences in accessing treatment among members receiving care in the same health plan. It examined a health plan structured as an integrated health care delivery system with minimal administrative barriers to prescription and CD program services. In addition, it examined two different types of behavioral health care problems (depression and SUD) concurrently in the same population. Ethnic composition is also a strength of the study. Few studies of ethnic disparities have examined Asian Americans. To our knowledge, it is the first study demonstrating that Asian-American women diagnosed with depression are less likely than White women to access antidepressant medication treatment. Due to the small sample size in this ethnic group (especially for SUD), our findings should be replicated in larger samples.

Our analysis indicated that survey respondents were older, more likely to be female, and more likely to use health services than non-respondents. These differences in survey response are similar to those found in other large health surveys in California [69]. Because the analytic sample was selected based on clinical diagnoses made by providers, it may not be representative of the overall health plan population of patients with depression or SUD. However, selecting patients in this way yields a sample of patients who have a disorder identified in their medical records. From a health services perspective, it is important to determine who among these patients receives care. In addition, African Americans and Hispanics may have been less likely to respond to the survey than Whites, based on analysis of a previous Member Health Survey year [70]. Individuals who are non-English speaking, who have very poor reading ability, or

were relatively less acculturated (e.g., were less familiar with surveys or less comfortable providing personal information) may also be underrepresented. It is possible that such bias would attenuate our ethnicity findings. However, education and language could also function as barriers to care [34], and thus the impact of sampling bias due to these factors in the current study may be limited. We included education in the models to control for these effects to the extent possible. To address these sampling issues, future studies should combine representative survey data with validated depression and SUD diagnostic measures and service utilization records.

Analysis of medication use was based on filled prescriptions. It was not possible to distinguish between not filling a prescription because the provider did not prescribe the medication (a system barrier) and the patient either telling the provider that he/she did not want medication or choosing not to fill a prescription for financial or other reasons (patient factors). However, a previous study found no ethnic difference in antidepressant recommendations (as reported by patients), but that whites were more likely to fill a prescription than African Americans or Latinos [5]. We did not examine whether patients received an adequate course of acute or continuation phase antidepressant treatment. Further investigations should disentangle the relative impact of patient, provider, and system factors on antidepressant treatment initiation and quality of care.

CONCLUSIONS

Determining the extent of depression and SUD treatment disparities in managed care health organizations and other large health care systems, identifying causes and potentially modifiable factors to reduce disparities is a major focus of the health services field. Similar to other systems, even among insured members in a comprehensive health care delivery system that integrates psychiatry and specialty CD programs with general medical services, race-ethnic differences occur in patients' accessing depression and SUD services, which may indicate disparities in patient care. This study found variation in service utilization patterns by gender among Whites, African Americans, Latinos, and Asian Americans that persisted after controlling for other factors. Further studies should investigate ways in which health plans could address disparities, including linkages from primary care to resources within health plans and improved follow-up regarding service utilization for depression and SUD.

References

1. McGuire TG, Alegria M, Cook BL, Wells KB, Zaslavsky AM. Implementing the Institute of Medicine definition of disparities: An application to mental health care. Health Services Research 2006;41:1979–2005. [PubMed: 16987312]

2. Das AK, Olfson M, McCurtis HL, Weissman MM. Depression in African Americans: Breaking barriers to detection and treatment. Journal of Family Practice 2006;55:30–39. [PubMed: 16388764]

3. Simpson SM, Krishnan LL, Kunik ME, Ruiz P. Racial disparities in diagnosis and treatment of depression: A literature review. The Psychiatric Quarterly 2007;78:3–14. [PubMed: 17102936]

4. Harman JS, Edlund MJ, Fortney JC. Disparities in the adequacy of depression treatment in the United States. Psychiatric Services 2004;55:1379–1385. [PubMed: 15572565]

5. Miranda J, Cooper LA. Disparities in care for depression among primary care patients. Journal of General Internal Medicine 2004;19:120–126. [PubMed: 15009791]

6. Cooper LA, Gonzales JJ, Gallo JJ, Rost KM, Meredith LS, Rubenstein LV, Wang NY, Ford DE. The acceptability of treatment for depression among African-American, Hispanic, and white primary care patients. Medical Care 2003;41:479–489. [PubMed: 12665712]

7. Han E, Liu GG. Racial disparities in prescription drug use for mental illness among population in US. Journal of Mental Health Policy and Economics 2005;8:131–143. [PubMed: 16278501]

8. Ta VM, Juon HS, Gielen AC, Steinwachs D, Duggan A. Disparities in use of mental health and substance abuse services by Asian and Native Hawaiian/other Pacific Islander women. Journal of Behavioral Health Services & Research 2008;35:20–36. [PubMed: 17647106]

9. Compton WM, Thomas YF, Stinson FS, Grant BF. Prevalence, correlates, disability, and comorbidity of DSM-IV drug abuse and dependence in the United States: Results from the national epidemiologic survey on alcohol and related conditions. Archives of General Psychiatry 2007;64:566–576. [PubMed: 17485608]

10. Caetano R. Alcohol-related health disparities and treatment-related epidemiological findings among whites, blacks, and Hispanics in the United States. Alcoholism: Clinical and Experimental Research 2003;27:1337–1339.

11. Weisner C, Matzger H, Tam T, Schmidt L. Who goes to alcohol and drug treatment? Understanding utilization within the context of insurance. Journal of Studies on Alcohol 2002;63:673–682. [PubMed: 12529067]

12. Kaskutas LA, Weisner C, Caetano R. Predictors of help seeking among a longitudinal sample of the general population, 1984–1992. Journal of Studies on Alcohol 1997;58:155–161. [PubMed: 9065893]

13. Daley MC. Race, managed care, and the quality of substance abuse treatment. Administration and Policy in Mental Health 2005;32:457–476. [PubMed: 15844860]

14. National Institute on Drug Abuse. Highlights From the 1989 National Drug and Alcoholism Treatment Unit Survey (NDATUS). Rockville, MD: Department of Health and Human Services; 1990.

15. Jacobson JO, Robinson PL, Bluthenthal RN. Racial disparities in completion rates from publicly funded alcohol treatment: Economic resources explain more than demographics and addiction severity. Health Services Research 2007;42:773–794. [PubMed: 17362217]

16. Alegria M, Canino G, Rios R, Vera M, Calderon J, Rusch D, Ortega AN. Inequalities in use of specialty mental health services among Latinos, African Americans, and non-Latino whites. Psychiatric Services 2002;53:1547–1555. [PubMed: 12461214]

17. Padgett DK, Patrick C, Burns BJ, Schlesinger HJ. Ethnicity and the use of outpatient mental health services in a national insured population. American Journal of Public Health 1994;84:222–226. [PubMed: 8296944]

18. Schneider EC, Zaslavsky AM, Epstein AM. Racial disparities in the quality of care for enrollees in medicare managed care. Journal of American Medical Association 2002;287:1288–1294.

19. Kessler RC. Epidemiology of women and depression. Journal of Affective Disorders 2003;74:5–13. [PubMed: 12646294]

20. Hinton L, Zweifach M, Oishi S, Tang L, Unutzer J. Gender disparities in the treatment of late-life depression: Qualitative and quantitative findings from the IMPACT trial. American Journal of Geriatric Psychiatry 2006;14:884–892. [PubMed: 17001028]

21. Williams JB, Spitzer RL, Linzer M, Kroenke K, Hahn SR, deGruy FV, Lazev A. Gender differences in depression in primary care. American Journal of Obstetrics and Gynecology 1995;173:654–659. [PubMed: 7645648]

22. Green CA. Gender and use of substance abuse treatment services. Alcohol Research and Health 2006;29:55–62. [PubMed: 16767855]

23. Dwight-Johnson M, Sherbourne CD, Liao D, Wells KB. Treatment preferences among depressed primary care patients. Journal of General Internal Medicine 2000;15:527–534. [PubMed: 10940143]

24. Gum AM, Arean PA, Hunkeler E, Tang L, Katon W, Hitchcock P, Steffens DC, Dickens J, Unutzer J. Depression treatment preferences in older primary care patients. Gerontologist 2006;46:14–22. [PubMed: 16452280]

25. Heflinger CA, Chatman J, Saunders RC. Racial and gender differences in utilization of Medicaid substance abuse services among adolescents. Psychiatric Services 2006;57:504–511. [PubMed: 16603746]

26. Mertens JR, Weisner CM. Predictors of substance abuse treatment retention among women and men in an HMO. Alcoholism: Clinical and Experimental Research 2000;24:1525–1533.

27. Green CA, Polen MR, Dickinson DM, Lynch FL, Bennett MD. Gender differences in predictors of initiation, retention, and completion in an HMO-based substance abuse treatment program. Journal of Substance Abuse Treatment 2002;23:285–295. [PubMed: 12495790]

48. Chow JC, Jaffee K, Snowden L. Racial/ethnic disparities in the use of mental health services in poverty areas. American Journal of Public Health 2003;93:792–797. [PubMed: 12721146]

49. Kilbourne AM, Switzer G, Hyman K, Crowley-Matoka M, Fine MJ. Advancing health disparities research within the health care system: A conceptual framework. American Journal of Public Health 2006;96:2113–2121. [PubMed: 17077411]

50. Kales HC, Mellow AM. Race and depression: Does race affect the diagnosis and treatment of late-life depression? Geriatrics 2006;61:18–21. [PubMed: 16649814]

51. Lu FG, Primm A. Mental health disparities, diversity, and cultural competence in medical student education: How psychiatry can play a role. Academic Psychiatry 2006;30:9–15. [PubMed: 16473988]

52. Aguilar-Gaxiola SA, Zelezny L, Garcia B, Edmondson C, Alejo-Garcia C, Vega WA. Translating research into action: Reducing disparities in mental health care for Mexican Americans. Psychiatric Services 2002;53:1563–1568. [PubMed: 12461216]

53. Moffet HH, Adler N, Schillinger D, Ahmed AT, Laraia B, Selby JV, Neugebauer R, Liu JY, Parker MM, Warton M, Karter AJ. Cohort profile: The Diabetes Study of Northern California (DISTANCE) —Objectives and design of a survey follow-up study of social health disparities in a managed care population. International Journal of Epidemiology 2008;38:38–47. [PubMed: 18326513]

54. Selby JV, Swain BE, Gerzoff RB, Karter AJ, Waitzfelder BE, Brown AF, Ackermann RT, Duru OK, Ferrara A, Herman W, Marrero DG, Caputo D, Narayan KM. Understanding the gap between good processes of diabetes care and poor intermediate outcomes: Translating Research into Action for Diabetes (TRIAD). Medical Care 2007;45:1144–1153. [PubMed: 18007164]

55. Virnig B, Huang Z, Lurie N, Musgrave D, McBean AM, Dowd B. Does Medicare managed care provide equal treatment for mental illness across races? Archives of General Psychiatry 2004;61:201–205. [PubMed: 14757597]

56. Campbell CI, Weisner C, Sterling S. Adolescents entering chemical dependency treatment in private managed care: Ethnic differences in treatment initiation and retention. Journal of Adolescent Health 2006;38:343–350. [PubMed: 16549294]

57. Trivedi AN, Zaslavsky AM, Schneider EC, Ayanian JZ. Trends in the quality of care and racial disparities in Medicare managed care. New England Journal of Medicine 2005;353:692–700. [PubMed: 16107622]

58. Cook BL, McGuire T, Miranda J. Measuring trends in mental health care disparities, 2000–2004. Psychiatric Services 2007;58:1533–1540. [PubMed: 18048553]

59. Tiwari SK, Wang J. Ethnic differences in mental health service use among White, Chinese, South Asian and South East Asian populations living in Canada. Social Psychiatry and Psychiatric Epidemiology 2008;43:866–871. [PubMed: 18500481]

60. Wood E, Montaner JS, Li K, Barney L, Tyndall MW, Kerr T. Rate of methadone use among Aboriginal opioid injection drug users. Canadian Medical Association Journal 2007;177:37–40. [PubMed: 17606937]

61. Ali S, Davies MJ, Taub NA, Stone MA, Khunti K. Prevalence of diagnosed depression in South Asian and white European people with type 1 and type 2 diabetes mellitus in a UK secondary care population. Postgraduate Medical Journal 2009;85:238–243. [PubMed: 19520874]

62. Walters P, Ashworth M, Tylee A. Ethnic density, physical illness, social deprivation and antidepressant prescribing in primary care: ecological study. British Journal of Psychiatry 2008;193:235–239. [PubMed: 18757984]

63. Young JL, Griffith EE, Williams DR. The integral role of pastoral counseling by African-American clergy in community mental health. Psychiatric Services 2003;54:688–692. [PubMed: 12719499]

64. Koenig, HG.; McCullough, ME.; Larson, DB. Handbook of religion and health. New York: Oxford University Press; 2001.

65. Kuyken W, Byford S, Taylor RS, Watkins E, Holden E, White K, Barrett B, Byng R, Evans A, Mullan E, Teasdale JD. Mindfulness-based cognitive therapy to prevent relapse in recurrent depression. Journal of Consulting and Clinical Psychology 2008;76:966–978. [PubMed: 19045965]

66. Bowen S, Witkiewitz K, Dillworth TM, Chawla N, Simpson TL, Ostafin BD, Larimer ME, Blume AW, Parks GA, Marlatt GA. Mindfulness meditation and substance use in an incarcerated population. Psychology of Addictive Behaviors 2006;20:343–347. [PubMed: 16938074]

67. Karno M, Hough RL, Burnam MA, Escobar JI, Timbers DM, Santana F, Boyd JH. Lifetime prevalence of specific psychiatric disorders among Mexican Americans and non-Hispanic whites in Los Angeles. Archives of General Psychiatry 1987;44:695–701. [PubMed: 3498453]

68. Chandra A, Minkovitz CS. Stigma starts early: Gender differences in teen willingness to use mental health services. Journal of Adolescent Health 2006;38:754, e751–758. [PubMed: 16730608]

69. California Health Interview Survey. Making California's Voices Heard on Health. Los Angeles, CA: The Regents of the University of California; 2007. [cited August 28, 2008]. Available at: http://www.chis.ucla.edu/

70. Gordon, NP. Surveillance of health, functional status, and satisfaction of health plan members by mailed survey: Potential sources of bias. 123rd annual meeting of the American Public Health Association; San Diego, CA. 1995.

Table 1

Antidepressant Medication, Specialty Care Services, and Psychological Counseling Used by Whites, Latinos, African Americans, and Asian Americans among Participants with Provider-Diagnosed Depression or Substance Use Disorder

	White	African American	Latino	Asian American	χ^2
Diagnosed with depression					
Men	(N = 519)	(N = 31)	(N = 66)	(N = 40)	
≥1 antidepressant prescription (%)	79.9	49.3	75.6	79.1	11.4**
≥1 psychiatry visit (%)	69.9	70.9	54.2	72.8	6.6
Counseling (%)[a]	27.8	14.8	31.4	23.5	3.0
Women	(N = 1321)	(N = 127)	(N = 213)	(N = 110)	
≥1 antidepressant prescription (%)	83.6	76.7	71.1	63.3	36.3***
≥1 psychiatry visit (%)	67.8	63.0	65.6	73.1	2.7
Counseling (%)[a]	34.7	33.2	33.3	34.4	0.2
Diagnosed with substance use disorder					
Men	(N = 209)	(N = 19)	(N = 31)	(N = 10)	
≥1 chemical dependency visit (%)	40.9	27.8	43.5	50.7	1.4
Counseling (%)[a]	19.9	13.9	15.6	10.6	1.1
Women	(N = 160)	(N = 13)	(N = 20)	(N = 5)	
≥1 chemical dependency visit (%)	47.8	21.2	62.8	40.1	4.9
Counseling (%)[a]	42.6	26.0	35.2	76.1	3.6

Notes: Participants were aged 20–65.

[a]Counseling = self-reported "psychological counseling or therapy." Other measures are based on computerized health plan records.

**
$p < .01$;

***
$p < .001$.

Table 2

Logistic Regression Models to Predict Accessing Depression and Substance Use Disorder Treatment

Predictors of having filled one or more antidepressant prescription (yes/no) among women and men diagnosed by providers with depression

	Women (N = 1453)		Men (N = 520)	
	OR	**95% CI**	**OR**	**95% CI**
Age (older)	1.09[*]	1.00, 1.18	1.19[*]	1.03, 1.37
Age (squared term)	0.99	0.99, 1.00	0.99	0.99, 1.00
Race-Ethnicity				
African-American (vs. White)	0.67	0.39, 1.17	0.24[**]	0.09, 0.64
Latino (vs. White)	0.52[**]	0.34, 0.77	0.98	0.43, 2.20
Asian-American (vs. White)	0.30[***]	0.18, 0.50	0.81	0.24, 2.72
Education (>= some college vs. <= high school)	1.06	0.71, 1.57	0.75	0.40, 1.44
Income (>= $50,000 vs. <$50,000)	0.87	0.64, 1.17	0.87	0.52, 1.46
Comorbid substance use disorder	3.41[**]	1.47, 7.92	1.32	0.69, 2.53
Has regular health provider	1.36	0.91, 2.05	0.91	0.42, 2.00
Length of health plan enrollment (months)	0.96	0.89, 1.05	0.88	0.76, 1.02

Predictors of having had one or more chemical dependency program visits (yes/no) among women and men diagnosed by providers with a substance use disorder

	Women (N = 153)		Men (N = 216)	
	OR	**95% CI**	**OR**	**95% CI**
Age (older)	1.05	0.85, 1.29	0.97	0.80, 1.19
Age (squared term)	1.00	0.99, 1.00	1.00	0.99, 1.00
Race-Ethnicity				
African-American (vs. White)	0.19[*]	0.04, 0.94	0.47	0.11, 2.04
Latino (vs. White)	1.92	0.61, 61.0	1.03	0.38, 2.81
Asian-American (vs. White)	0.32	0.58, 6.37	1.33	0.25, 7.15
Education (>= some college vs. <= high school)	1.28	0.43, 3.80	1.47	0.73, 2.95
Income (>= $50,000 vs. <$50,000)	1.34	0.61, 2.94	0.88	0.46, 1.68
Comorbid depressive disorder	2.73[*]	1.21, 6.20	0.93	0.50, 1.72
Has regular health provider	0.71	0.25, 2.01	0.61	0.27, 1.37
Length of health plan enrollment (months)	0.94	0.76, 1.16	1.02	0.84, 1.25

Notes: Age was entered as a squared term to control for possible non-linear effects. Participants were aged 20–65 and had at least 18 months of health plan membership during the 21-month study window period. Analyses eliminate cases with missing data on any variable.

[*]
$p < .05$;

[**]
$p < .01$;

[***]
$p < .001$.