Title

Disparities in Assessment, Treatment, and Recommendations for Specialty Mental Health Care: Patient Reports of Medical Provider Behavior

Permalink

Journal

ISSN

Authors

Meyer, Oanh L
Saw, Anne
Cho, Young Il
et al.

Publication Date

DOI

Peer reviewed

Disparities in Assessment, Treatment, and Recommendations for Specialty Mental Health Care: Patient Reports of Medical Provider Behavior

Oanh L. Meyer, Anne Saw, Young Il Cho, and Tonya L. Fancher

Objective. To examine perceptions of medical doctor behavior in mental health (MH) utilization disparities.

Data Sources. Secondary data analyses of the National Comorbidity Survey-Replication and the National Latino and Asian American Study (2001–2003).

Study Design. Sample included non-Hispanic whites (NHWs), blacks, Asians, and Latinos. Dependent variables were patient reports of providers' assessment of and counseling on MH and substance abuse (SA) problems, and recommendation for medications or specialty MH care. The initial sample consisted of 9,100 adults; the final sample included the 3,447 individuals who had been asked about MH and SA problems.

Principal Findings. Bivariate analyses indicated that Asians were the least likely to report being assessed, counseled, and recommended medications and specialty care. In multivariate logistic regression analyses, there were no racial/ethnic differences in assessment of MH or SA problems. Compared to NHWs, black patients were less likely to report receiving a medication recommendation. Latinos were more likely to report counseling and a recommendation to specialty care. U.S.-born patients were more likely to report a medication recommendation.

Conclusions. Perceptions of provider behavior might contribute to documented disparities in MH utilization. Further research is needed to determine other points in the treatment utilization process that might account for racial/ethnic disparities.

Key Words. Disparities, mental health, screening, provider referral, patient perceptions

In 2001, the Surgeon General's Report highlighted disparities in mental health treatment for racial/ethnic minorities (U.S. Department of Health and Human Services 2001). This seminal report was followed soon after by one from the Institute of Medicine, "Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care" (Institute of Medicine 2002). Over a decade later,

these disparities in mental health treatment continue to persist for racial/ethnic minorities (Meyer et al. 2009; Cook et al. 2013). They are widespread and due to a variety of factors (Institute of Medicine 2002). As the strongest predictor of recent mental health care use is referral from a nonmental health professional (Ledoux et al. 2009), and these providers play a significant role in addressing ethnic service disparities (Hixon and Chapman 2000), it is important to examine how often patients believe that providers assess, treat, and refer them to specialty mental health services and what factors are related to these perceptions.

Nonmental health providers (e.g., physician, nurse, physician assistant, etc.) are often the first point of professional contact for individuals experiencing distress (Grumbach et al. 1999; van Weel et al. 2008), especially racial/ethnic minorities (Ferrer 2007). However, medical providers may underrecognize mental health problems (Miranda et al. 2004; Fiscella and Holt 2007; Reschovsky and O'Malley 2008), particularly among racial/ethnic minority patients (Lemelin et al. 1994; Borowsky et al. 2000; Dwight-Johnson et al. 2000; Roness, Mykletun, and Dahl 2005; Yeung et al. 2006). Several studies have shown that primary care providers are less likely to detect psychiatric distress in Asians, blacks, and Latinos compared to non-Hispanic whites (NHWs) (Borowsky et al. 2000; Chung et al. 2003).

This study addresses several limitations in the previous research on perceptions of medical doctor behavior. Prior studies failed to include large groups of Asians and Latinos—the two fastest growing groups in the United States (U.S. Census Bureau 2010), and whose patterns of help-seeking may be unique (Leong and Lau 2001; U.S. Department of Health and Human Services 2001; Meyer et al. 2009). Moreover, previous studies have been derived mostly from unrepresentative samples (e.g., treated populations in the public sector) and/or did not distinguish between immigrant and U.S.-born groups. This study distinguishes between immigrant and U.S.-born individuals using pooled data from two of the three Collaborative Psychiatric Epidemiologic Studies (CPES)—the National Comorbidity Survey-Replication (NCS-R) and the National Latino and Asian American Study (NLAAS).[1] The NCS-R is the

Address correspondence to Oanh L. Meyer, Ph.D., M.A.S., Alzheimer's Disease Center, Department of Neurology, University of California, Davis School of Medicine, 4860 Y Street, Sacramento, CA 95817; e-mail: olmeyer@ucdavis.edu. Anne Saw, Ph.D., is with the Department of Psychology, DePaul University, Chicago, IL. Young Il Cho, Ph.D., is with the Department of Psychology, Sungshin Women's University, Seoul, Korea. Tonya L. Fancher, M.D., M.P.H., is with the Department of Internal Medicine, University of California, Davis School of Medicine, Sacramento, CA.

first nationally representative study of clinically significant mental disorders and mental health in the general U.S. population, while the NLAAS is the first psychiatric epidemiological and service use study of Latinos and Asians using a nationally representative sample. Using both datasets allowed for a rigorous approach to studying perceptions of medical provider behavior in a racially/ ethnically diverse population.

The goal of this study was to examine patient-reported rates of medical doctors' assessment, treatment, and recommendations for specialty care related to mental health and substance abuse problems. The first objective was to determine if there were racial/ethnic group differences in reports of providers' (1) assessment of alcohol or drug use; (2) assessment of mental health problems; (3) provision of counseling; (4) recommendation for prescription medication; and (5) recommendation to see a mental health specialist. Given the extant literature, we hypothesized that compared to NHWs, racial/ethnic minorities would be less likely to report being assessed and treated for mental health and substance problems and referred for specialty care. Our second objective was to examine other sociodemographic factors related to mental health assessment, treatment, and recommendations for specialty care.

METHODS

Study Design and Sample

The NCS-R is a face-to-face household survey conducted from 2001 to 2002 in a nationally representative sample of the U.S. adult household population. The response rate was 73.0 percent. The interview was conducted in two parts. Part I ($N = 9,282$), assessed core DSM-IV mental disorders. Part II, administered to all Part I respondents who screened positive for any disorder ($n = 4,235$) plus a probability subsample of other Part I respondents ($n = 1,457$), assessed additional disorders and correlates. Both samples were weighted to adjust for differential probabilities of selection and for the undersampling of respondents with no Part I disorder. A final poststratification weight was used to match the Part II sample with the 2000 Census on a variety of sociodemographic and geographic variables. NCS-R sampling, field and weighting procedures are discussed in more detail elsewhere (Pennell et al. 2004).

The NLAAS, conducted in 2002–2003, is a national household probability survey of the noninstitutionalized U.S. Latino and Asian American population (Alegria et al. 2004). The overall response rate for the survey was 73.2 percent. Design and data collection methods are described in greater detail

elsewhere (Pennell et al. 2004). In brief, adult respondents (N = 4,649) ages 18 and older, were administered an extensive face-to-face interview in either English, Spanish, Tagalog, Vietnamese, or Chinese. The CPES uses an integration of design-based analysis weights to combine datasets as though they were a single, nationally representative study.

Measures

The dependent variables in this study were patient reports of doctors' assessment of alcohol or drug use ("In the past 12 months, did a medical doctor ask you about your use of alcohol or illegal drugs?"), assessment of mental health problems ("In the past 12 months, did a medical doctor ask you about your emotions, nerves, or mental health?"), counseling for mental health and substance problems ("In the past 12 months, did a medical doctor spend at least 5 minutes counseling you about your emotional or substance problems?"), recommendation for medication ("In the past 12 months, did a medical doctor suggest that you take medication for emotional or substance problems?"), and recommendation for specialty care ("In the past 12 months, did a medical doctor suggest that you see a specialist or go to a special program for emotional or substance problems?"). Independent variables in this study were race/ethnicity (Asian, black, Latino, NHW), age (18–39, 40–64, and 65 and older), gender, education (high school diploma or less vs. some college or more), nativity status (U.S.-born vs. foreign-born), income (household income divided by household size), and insurance coverage—(1) no insurance; (2) private: military, employer, purchased; and (3) public: Medicare, Medicare supplement, government assistance, State.

   To assess need and severity, included in analyses were presence of any past year disorder, past year psychological distress, and past year use of illicit drugs and alcohol. The any past year disorder variable (0 – no disorder, 1 – any mood, anxiety, or substance use disorder) was created based on the World Mental Health Survey Initiative Version of the WHO Composite International Diagnostic Interview (Kessler and Utsun 2004). Psychiatric diagnoses assessed in the present study included 12-month DSM-IV (1) mood disorders (major depression and dysthymia), (2) anxiety disorders (generalized anxiety disorder, PTSD, phobias, panic disorders, and agoraphobia), and (3) substance use disorders (alcohol and drug use disorders) (American Psychiatric Association 1994).

   Psychological distress was measured by the Kessler Psychological Distress Scale (K10: Kessler et al. 2002). The 10 questions included in this mea-

sure assess domains of depressed mood, motor agitation, fatigue, worthless-ness/guilt, and anxiety. Respondents are asked to imagine 1 month in the past year when they experienced their worst depression, anxiety, or emotional distress and then to rate how often they experienced each of the 10 symptoms on a 5-point scale (all of the time, most of the time, some of the time, a little of the time, or none of the time). Responses were reverse coded so that higher scores indicated greater psychological distress (range 0–40). The K10 has demonstrated consistent levels of severity across varying socioeconomic samples and is useful for identifying subclinical disorders (Kessler et al. 2002).

Participants were asked about past year use of marijuana/hash, cocaine, prescription medication without a recommendation, and any other illicit drug. From these items, drug use was dichotomized into *no* (if participants responded negatively to all of the abovementioned items) or *yes* (if participants responded affirmatively to any of the abovementioned items). For past year alcohol use, participants were asked how often they had a drink in the past 12 months, with values ranging from "did not drink in past 12 months" to "nearly every day." We categorized individuals into nonheavy drinkers (*1–2 days/week or fewer)* and heavy drinkers (*3–4 days/week or more).*

Data Analysis

To conduct our analyses, we used the statistical package *STATA* (STATA Corp 2011). All analyses are weighted based on the sample weighting measure to allow generalizations to the U.S. population. We had several analytic steps. First, of the 13,647 NHWs, Latinos, blacks, and Asians from the NCS-R and NLAAS samples, we included the 9,100 individuals who reported that they had a regular medical doctor or regular place to go for routine care *and* had visited the provider or place (visits to a doctor, hospital, or clinic for a routine physical check-up or gynecological exam, if female) at least once in the past 12 months. Only if respondents reported that they had a regular provider or a regular place of care *and* had been seen at least once in the past 12 months did they proceed to answer the assessment questions, "Did a medical doctor ask you about your use of alcohol or illegal drugs?" and "Did a medical doctor ask you about your emotions, nerves, or mental health?"

Second, only if individuals reported that they had been asked about mental health and substance use did they proceed to answer the next three questions regarding treatment (counseling, medication recommendation) and referral (specialty referral recommendation). This final sample consisted of $N = 3,447$ respondents. Analyses (not shown) indicated that individuals

excluded from our study were more likely to be ethnic minority, to have lower education and income, to have no insurance, to be older, and to have less psychological distress. To test our hypothesis that ethnic minorities would be less likely to report receiving any mental health assessment, treatment, and/or recommendations for specialty care, we conducted bivariate and logistic regression analyses for each of the five dependent variables. In our analyses, we included individuals without a disorder because (1) we were interested in patient perceptions of provider assessment of all individuals, regardless of symptoms, and (2) some individuals with problems may not meet criteria for a disorder.

RESULTS

Characteristics of the Sample

Table 1 displays the weighted mean or percentage distribution of all variables used in the study for all individuals who had a regular provider or place to go for routine care and had been seen in the past 12 months ($N = 9,100$). As shown, NHWs were slightly older than racial/ethnic minorities (20.1 percent were 65 years and older vs. 11.9 percent blacks, 10.5 percent Asians, and 9.4 percent Latinos). Blacks had the highest percentage of individuals who were divorced, separated, or widowed (63.8 percent vs. 39.0 percent NHWs, 29.7 percent Asians, and 37.4 percent Latinos). Asians had the highest percentage of individuals with at least some college (68.3 percent vs. 55.3 percent NHWs, 42.7 percent blacks, and 31.9 percent Latinos). NHWs ($37,060) and Asians ($36,092) were similar in income level, while blacks ($23,877) and Latinos ($21,722) had significantly lower incomes. Latinos had the highest percentage of individuals with no insurance (24.4 percent vs. 8.0 percent NHWs, 15.6 percent blacks, and 9.7 percent Asians). Blacks (96.1 percent) and NHWs (96.7 percent) were more likely to be born in the United States compared to Asians (24.0 percent) and Latinos (52.1 percent).

Percentages of those with a disorder in the past 12 months were similar among NHWs (27.6 percent), blacks (24.3 percent), and Latinos (22.6 percent), with Asians (12.9 percent) having the lowest percentage of individuals with a disorder. Psychological distress scores were similar for NHWs (6.6) and blacks (6.1), and lowest for Asians (3.5). Blacks had the highest percentage of individuals who used illicit drugs in the past year (11.6 percent), followed by NHWs (9.5 percent), Latinos (8.1 percent), then Asians (4.0 percent). NHWs had the highest percentage of individuals who were heavy drinkers in the past

Table 1:   Characteristics of Study Sample by Patient Ethnicity

	Weighted % (n) or M (SE)*				
Variable[†]	White	Black	Asian	Latino	p
Gender (n = 9,100)					
Male	45.2 (1,595)	40.6 (227)	44.4 (869)	46.4 (1,005)	<.10
Female	54.8 (2,307)	59.4 (443)	55.6 (1,074)	53.6 (1,580)	
Age (n = 9,100)					
18–39	35.9 (1,555)	46.3 (315)	49.2 (941)	57.8 (1,391)	<.001
40–64	44.1 (1,750)	41.9 (296)	40.3 (845)	32.8 (946)	
≥65	20.1 (597)	11.9 (59)	10.5 (157)	9.4 (248)	
Marital status (n = 9,100)					
Divorced/ separated/ widowed	39.0 (1,516)	63.8 (409)	29.7 (556)	37.4 (993)	<.001
Married/ cohabiting	61.0 (2,386)	36.2 (261)	70.3 (1,387)	62.6 (1,592)	
Education (n = 9,100)					
≤High school diploma	44.7 (1,627)	57.3 (349)	31.7 (610)	68.1 (1,564)	<.001
Some college or higher	55.3 (2,275)	42.7 (321)	68.3 (1,333)	31.9 (1,020)	
Income (n = 9,100)	37,060 (1,065)	23,877 (1,764)	36,092 (1,323)	21,722 (1,106)	<.001
Insurance (n = 9,098)					
None	8.0 (327)	15.6 (95)	9.7 (204)	24.4 (557)	<.001
Public	24.0 (817)	32.6 (209)	17.6 (335)	25.3 (724)	
Private	63.0 (2,574)	45.0 (321)	63.4 (1,241)	45.0 (1,156)	
Other	5.0 (184)	6.9 (43)	9.2 (163)	5.3 (148)	
Nativity status (n = 9,096)					
U.S. born	96.7 (3,778)	96.1 (630)	24.0 (444)	52.1 (1,141)	<.001
Other	3.4 (123)	3.9 (38)	76.0 (1,498)	47.9 (1,444)	
Any 12-month DSM-IV disorder (n = 9,100)[‡]					
Yes	27.6 (1,561)	24.3 (286)	12.9 (250)	22.6 (676)	<.001
No	(2,341)	(384)	(1,693)	(1,909)	
Kessler 10 Score (n = 9,093)	6.6 (.18)	6.1 (.35)	3.5 (.15)	4.5 (.20)	<.001
Drug use in past year (n = 9,100)					
Yes	9.5 (460)	11.6 (103)	4.0 (85)	8.1 (192)	<.05
No	90.4 (3,442)	88.4 (567)	95.9 (1,858)	91.9 (2,393)	
Heavy drinking in past year (n = 6,148)					
Yes	19.3 (599)	15.2 (82)	10.0 (96)	14.6 (210)	<.001
No	80.6 (2,529)	84.8 (375)	90.0 (805)	85.4 (1,452)	
Asked about emotions (n = 8,597)					
Yes	23.4 (1,078)	21.1 (163)	11.6 (203)	21.4 (607)	<.05
No	76.6 (2,671)	78.9 (475)	88.4 (1,613)	78.6 (1,787)	

Table 1. *Continued*

	Weighted % (n) or M (SE)*				
Variable†	*White*	*Black*	*Asian*	*Latino*	*p*
Asked about substance (*n* = 8,596)					
Yes	28.0 (1,207)	31.8 (239)	22.3 (393)	28.4 (767)	<.10
No	72.0 (2,538)	68.2 (401)	77.7 (1,424)	71.6 (1,627)	
Counseling (*n* = 3,447)					
Yes	19.7 (417)	14.0 (62)	10.1 (47)	19.5 (199)	<.01
No	80.3 (1,271)	86.0 (232)	89.9 (424)	80.5 (795)	
Medication suggestion (*n* = 3,445)					
Yes	19.4 (397)	8.2 (37)	5.4 (23)	11.6 (134)	<.001
No	80.6 (1,289)	91.8 (257)	94.6 (448)	88.4 (860)	
Specialty referral (*n* = 3,446)					
Yes	6.7 (134)	4.2 (16)	3.2 (12)	8.5 (95)	<.05
No	93.3 (1,553)	95.8 (278)	96.8 (459)	91.5 (899)	

*M, mean; SE, standard error; *n*, unweighted sample size.
†Significance tests were from chi-squared tests for categorical variables and linear regression tests for continuous variables.
‡Any DSM-IV disorder includes alcohol and drug use, major depression, dysthymia, generalized anxiety disorder, PTSD, phobias, panic disorders, and agoraphobia.

year (19.3), followed by blacks (15.2 percent), then Latinos (14.6 percent), with the lowest percentage among Asians (10.0 percent).

Racial/Ethnic and Nativity Status Differences in Assessment, Treatment, and Referral

In bivariate analyses (Table 1), Asians reported being the least likely to be asked about mental health (11.6 percent) and substance use (22.3 percent), and the least likely to be treated (counseled 10.1 percent; medication recommendation 5.4 percent) and referred for specialty care (3.2 percent) compared to all other groups. Latinos (19.5 percent) and NHWs (19.7 percent) had the highest percentage of individuals being counseled. Latinos had the highest percentage of individuals obtaining a specialty referral (8.5 percent) compared to NHWs (6.7 percent), blacks (4.2 percent) and Asians (3.2 percent).

Tables 2 and 3 display the odds ratios (OR) and 95 percent confidence intervals (CI) of the multivariate logistic regression analyses for factors related to assessment, treatment, and recommendations for specialty mental health care, respectively. All models included race/ethnicity, gender, age, marital status, education, income, insurance, presence of a disorder, psychological distress, and past year use of drugs and alcohol.

Table 2:   Adjusted Odds Ratio of Provider Asking about Alcohol or Drug Use and Mental Health

Variable	Alcohol or Drug Use (n = 5,816)		Mental Health (n = 5,815)	
	Odds Ratio	*95% CI*	*Odds Ratio*	*95% CI*
Race/ethnicity				
White	1.00		1.00	
Asian	1.00	0.83–1.47	0.82	0.58–1.14
Latino	1.11	0.85–1.43	1.08	0.81–1.42
Black	1.24	0.91–1.67	0.91	0.56–1.48
Gender				
Male	1.00		1.00	
Female	1.09	0.94–1.27	1.72	1.44–2.06
Age				
18–49	1.00		1.00	
40–64	0.78	0.64–0.95	1.43	1.21–1.69
65 and older	0.49	0.34–0.71	0.89	0.57–1.39
Marital status				
Widowed/separated/divorced	1.00		1.00	
Married/cohabiting	1.03	0.88–1.21	1.10	0.92–1.33
Education				
≤High school diploma	1.00		1.00	
≥Some college	1.07	0.87–1.31	1.16	0.93–1.43
Income*	1.02	0.99–1.05	1.00	0.98–1.03
Insurance				
None	1.00		1.00	
Public	1.72	1.19–2.50	2.22	1.37–3.60
Private	1.67	1.29–2.17	1.72	1.14–2.60
Other	1.79	1.15–2.76	1.93	1.10–3.37
Nativity status				
Foreign-born	1.00		1.00	
U.S.-born	1.09	0.82–1.44	1.04	0.71–1.52
Any 12-month DSM-IV disorder[†]				
No	1.00		1.00	
Yes	1.46	1.23–1.73	1.90	1.57–2.29
Distress score[‡]	1.02	1.01–1.03	1.05	1.04–1.07
Past year drug use (yes)	1.16	0.89–1.52	0.98	0.77–1.24
Heavy drinker (yes)	1.49	1.19–1.86	1.01	0.83–1.24

*Income is represented in $10,000 units.
[†]Includes major depression, dysthymia, generalized anxiety disorder, posttraumatic stress disorder, phobias, panic disorders, agoraphobia, and alcohol and drug use disorders.
[‡]Distress was measured with the Kessler 10 scale.

Regarding assessment of alcohol or drug use, results indicated no significant effect of race/ethnicity on reported odds of being asked about alcohol or drug use or being asked about mental health problems (see Table 2).

Table 3: Adjusted Odds Ratio of Provider Counseling, Medication Recommendation, and Specialty Referral

	Counseling (n = 2,545)		Medication Recommendation (n = 2,543)		Specialty Referral (n = 2,544)	
Variable	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI
Race/ethnicity						
White	1.00		1.00		1.00	
Asian	1.19	0.57–2.46	0.68	0.29–1.60	0.69	0.23–2.05
Latino	1.74	1.15–2.64	1.02	0.72–1.44	2.00	1.16–3.44
Black	0.97	0.64–1.45	0.42	0.22–0.77	0.56	0.27–1.17
Gender						
Male	1.00		1.00		1.00	
Female	1.26	0.92–1.74	1.57	1.11–2.22	0.69	0.46–1.03
Age						
18–49	1.00		1.00		1.00	
40–64	1.53	1.19–1.99	2.06	1.66–2.57	0.99	0.56–1.74
65 and older	1.03	0.56–1.89	2.47	1.15–5.34	0.50	0.12–2.08
Marital status						
Widowed/ separated/ divorced	1.00		1.00		1.00	
Married/cohabiting	1.18	1.19	1.10	0.83–1.45	0.88	0.58–1.32
Education						
≤High school diploma	1.00		1.00		1.00	
≥Some college	0.78	0.57–1.07	0.96	0.73–1.26	0.88	0.58–1.34
Income*	0.99	0.95–1.02	0.98	0.95–1.02	0.94	0.84–1.05
Insurance						
None	1.00		1.00		1.00	
Public	1.30	0.75–2.21	1.31	0.69–2.48	2.27	0.87–5.92
Private	1.14	0.69–1.88	1.02	0.53–1.95	1.24	0.59–2.61
Other	0.77	0.36–1.62	1.33	0.63–2.80	1.65	0.40–6.81
Nativity status						
Foreign-born	1.00		1.00		1.00	
U.S.-born	1.42	0.73–2.76	1.93	1.20–3.08	1.42	0.73–2.75
Any 12-month DSM-IV disorder[†]						
No	1.00		1.00		1.00	
Yes	2.43	1.84–3.20	2.43	1.80–3.28	2.89	1.44–5.80
Distress score[‡]	1.07	1.06–1.09	1.09	1.08–1.12	1.11	1.08–1.14
Past year drug use (yes)	1.26	0.83–1.89	0.80	0.50–1.26	1.05	0.59–1.89
Heavy drinker (yes)	1.02	0.78–1.33	0.82	0.63–1.07	1.32	0.76–2.29

*Income is represented in $10,000 units.
[†]Includes major depression, dysthymia, generalized anxiety disorder, posttraumatic stress disorder, phobias, panic disorders, agoraphobia, and alcohol and drug use disorders.
[‡]Distress was measured with the Kessler 10 scale.

Table 3 displays the results for provider treatment and referral. Results indicated that Latinos were significantly more likely to report counseling (OR 1.74, 95 percent CI: 1.15–2.64, $p < .01$) and a specialty referral recommendation (OR 1.99, 95 percent CI: 1.16–3.44, $p < .05$) compared to NHWs. Blacks were less likely to report receiving a medication recommendation (OR 0.42, 95 percent CI: 0.23–0.77, $p < .01$) compared to NHWs. Finally, U.S.-born individuals reported being more likely to receive a recommendation for medication compared to foreign-born individuals (OR 1.93, 95 percent CI: 1.20–3.08, $p < .01$).

Sociodemographic Factors Related to Assessment, Treatment, and Referral

Older patients were less likely to be asked about alcohol and drug use, while those with public, private, and other insurance were more likely to be asked compared to those with no insurance. Individuals with a disorder, greater psychological distress, and heavy drinkers were more likely to be asked. For mental health, women were more likely to be asked about mental health compared to men. Compared to the 18–39 age group, those in the 40–64 age group were more likely to be asked about mental health. Individuals with public, private, and other insurance were more likely to be asked about mental health than uninsured individuals. Finally, those with a disorder and greater psychological distress were more likely to be asked about mental health.

For counseling, individuals in the 40–64 age group were more likely to report counseling and those with a disorder and greater psychological distress reported being more likely to receive counseling. For medication recommendations, women reported being more likely to receive a recommendation for medication then men. Compared to the 18–39 age group, older participants were more likely to report receiving a medication recommendation, those with a disorder and greater psychological distress reported being more likely to receive a medication recommendation, and those with a disorder and greater psychological distress reported being more likely to receive a recommendation for specialty care. Finally, women were marginally less likely to report a recommendation for specialty care, and those with public insurance were marginally more likely to report a recommendation for specialty care.

DISCUSSION

Because nonmental health medical providers are often the first step in help-seeking for individuals with mental health or substance abuse problems,

racial/ethnic differences in how these providers deal with patients with such problems may help explain observed disparities in mental health utilization. The study's findings partially supported our hypothesis of racial/ethnic disparities in assessment, treatment, and recommendations for specialty care. In uncontrolled analyses, medical doctors were significantly less likely to ask about mental health and substance use problems in Asians compared to NHWs. When clinical severity was accounted for in multivariate analyses, these differences disappeared. Although this may suggest that provider behaviors are clinically appropriate (given that Asian Americans reported lower distress and fewer psychiatric disorders compared to other groups), as others have noted, this may also reflect culturally based biases among Asian Americans who may minimize or underreport their psychiatric distress, and/or cultural bias in conceptualizations of mental disorders that influence the instruments used in this study (Sue et al. 2012).

When accounting for factors associated with clinical severity and other sociodemographic factors, blacks were less likely to receive recommendations for medication for a mental health or substance abuse problem compared to NHWs. In additional analyses (data not shown), we explored whether this difference might be due to NHWs having higher rates of affective and anxiety disorder compared to blacks. However, we did not find significant differences between NHWs and blacks' past year prevalence of affective or anxiety disorder, indicating that despite similar prevalence of disorders and severity (i.e., psychological distress), blacks are less likely to report being recommended medication. This result mirrors previous study findings showing continued disparities for black patients in prescribed antidepressant medication compared to NHWs (Melfi et al. 2000; Skaer et al. 2000; Stockdale et al. 2008).

Latinos were more likely to report being counseled and recommended specialty care compared to NHWs. This is interesting in light of the fact that they were not more likely to have a disorder or be psychologically distressed compared to NHWs. In analyses not shown, we did find that for the single-item self-rating of mental health, Latinos had significantly worse mental health ratings compared to NHWs. Similar to Asians, this might indicate certain cultural biases in the report or assessment of psychiatric illness or distress in the Latino population. These results suggest a potential need for using several measures to assess psychiatric distress and/or illness in diverse racial/ethnic minority populations. At the same time, our results corroborate other encouraging findings demonstrating no differences in medical providers' recommendation of mental health treatment for Latinos (Miranda and Cooper 2004).

U.S.-born individuals were more likely to report receiving a recommendation for medications. It may be that U.S.-born individuals, because of their acculturation to the United States, are more likely to prefer medications than less acculturated individuals who worry about the side effects of medications (Cooper et al. 2003). Research has also shown that providers are less likely to prescribe medication for less acculturated individuals (Miranda et al. 2003a), potentially due to concerns about differences in certain ethnic group members' metabolic responses to medications (U.S. Department of Health and Human Services 2001). Although these are potential explanations for the differences in medication recommendations, these hypotheses are merely speculative and require further research.

Our results also suggest that there is variation in reported medical provider behavior based on other sociodemographic characteristics of patients. Individuals with insurance had greater odds of being asked about alcohol or drugs and mental health problems compared to individuals with no insurance. This finding supports other research showing that uninsured individuals are less likely to obtain specialty mental health treatment and raise concerns about access to, quality, and content of care received by these individuals (Alegria et al. 2000; Wang et al. 2005; Ferrer 2007). Not surprisingly, across all assessment, treatment, and referral questions, those who met criteria for a DSM-IV disorder and those with greater psychological distress reported being more likely to be treated.

The current study has several limitations. As mentioned, our findings regarding provider assessment, treatment, and recommendations for specialty care were limited to only individuals with a regular source of care. Individuals excluded from the study were more likely to be racial/ethnic minority and to have lower SES. Excluding these individuals from the study may have hidden other possible racial/ethnic differences in treatment and referral that would otherwise be present in a more inclusive sample (with lower SES and more racial/ethnic minority group members). Second, NCS-R and NLAAS data are over 10 years old, and there may have been important changes in treatment utilization in the last decade. Results were based on patient self-report of provider behaviors, which may be subject to recall bias and social desirability concerns (Rhodes and Fung 2004). However, a strength of the CPES is that it attempted to minimize such inaccuracies by using commitment probes (i.e., questions designed to measure a subject's commitment to the survey) and excluded the few respondents (1 percent) who failed to endorse that they would think carefully and answer honestly. Future research from providers' perspectives along with administrative data is needed to obtain more precise

estimates of treatment and referral. Another limitation involved the aggregation of all Asian, Latino, and black groups in the present study without examining subgroups (e.g., Vietnamese, Chinese, etc.). Future research should examine medical provider behavior in ethnic subgroups. In addition, we were unable to control for care setting (e.g., community health center vs. private clinic), although this is to some extent addressed by including income and insurance as covariates. Nevertheless, it is important for future research to examine differences in treatment referrals by setting. Finally, we did not assess for coexisting medical conditions that may impede accurate detection of mental health problems (Borowsky et al. 2000).

Despite these limitations, there are several strengths of the current study. First, we capitalize on nationally representative data to identify patient factors related to variations in mental health and substance use assessment, treatment, and recommendations for specialty care in nonmental health settings. Although previous studies have examined provider factors associated with referral (Kravitz et al. 2006), understanding the diverse patient factors that might influence mental health treatment and referral may help providers be more cognizant of issues surrounding their decisions. The NCS-R and NLAAS include large samples of racial/ethnic minorities, established diagnostic assessments for psychiatric disorders, and extensive information on health and mental health care. Using the CPES data also increases the generalizability of our findings to the population of individuals with a regular source of care. Finally, we distinguish between U.S.-born and foreign-born individuals because acculturation level is related to health and health care (Leong and Lau 2001; Meyer et al. 2009; Jimenez 2012).

As primary care and other medical services are core access points for patients to enter (and receive) mental health services (Grumbach et al. 1999; van Weel et al. 2008), our findings could have important implications for physician education and efforts to reduce disparities in health and health care due to provider bias. In the present study, there seem to be fewer concerns about disparities for Latino patients in medical settings, while there may be disparities in assessment, treatment, and referral for Asians and blacks. Although Latinos were more likely to receive counseling and a specialty care referral, disparities still exist for them in mental health treatment utilization (e.g., Miranda and Cooper 2004). Further research is needed to determine if (and where) other points in the treatment seeking process might account for previously documented racial/ethnic disparities (e.g., initial treatment seeking, failure to follow up on referrals, and failure to fill prescriptions) (Miranda and Cooper 2004). Recent research from integrated and collaborative care trials

where common mental health problems are treated in coordinated or colocated medical settings indicates that careful attention to patients along the treatment utilization process enhances success (Unutzer et al. 2002; Miranda et al. 2003b; Nutting et al. 2008; Cohen et al. 2011). The availability of these types of settings could greatly aid in the reduction of racial/ethnic disparities in service utilization.

ACKNOWLEDGMENTS

NOTE

1. The third sample in the CPES—the National Survey of American Life—did not include the instrument we used to answer the present study's research questions.

REFERENCES

Alegria, M., R. V. Bijl, E. Lin, E. E. Walters, and R. C. Kessler. 2000. "Income Differences in Persons Seeking Outpatient Treatment for Mental Disorders: A Comparison of the United States with Ontario and the Netherlands." *Archives of General Psychiatry* 57 (4): 383–91.

Alegria, M., D. Takeuchi, G. Canino, N. Duan, P. Shrout, X. L. Meng, W. Vega, N. Zane, D. Vila, M. Woo, M. Vera, P. Guarnaccia, S. Aguilar-Gaxiola, S. Sue, J. Escobar, K. M. Lin, and F. Gong. 2004. "Considering Context, Place and Culture: The National Latino and Asian American Study." *International Journal of Methods in Psychiatric Research* 13 (4): 208–20.

American Psychiatric Association. 1994. *Diagnostic and Statistical Manual of Mental Disorders*. Washington, DC: American Psychiatric Association.

Borowsky, S. J., L. V. Rubenstein, L. S. Meredith, P. Camp, M. Jackson-Triche, and K. B. Wells. 2000. "Who Is at Risk of Nondetection of Mental Health Problems in Primary Care?" *Journal of General Internal Medicine* 15 (6): 381–8.

Chung, H., J. Teresi, P. Guarnaccia, B. S. Meyers, D. Holmes, T. Bobrowitz, J. P. Eimicke, and E. Ferran Jr. 2003. "Depressive Symptoms and Psychiatric Distress in Low Income Asian and Latino Primary Care Patients: Prevalence and Recognition." *Community Mental Health Journal* 39 (1): 33–46.

Cohen, D. J., B. A. Balasubramanian, N. F. Isaacson, E. C. Clark, R. S. Etz, and B. F. Crabtree. 2011. "Coordination of Health Behavior Counseling in Primary Care." *Annals of Family Medicine* 9 (5): 406–15.

Cook, B. L., T. Doksum, C. N. Chen, A. Carle, and M. Alegria. 2013. "The Role of Provider Supply and Organization in Reducing Racial/Ethnic Disparities in Mental Health Care in the U.S." *Social Science and Medicine* 84: 102–9.

Cooper, L. A., J. J. Gonzales, J. J. Gallo, K. M. Rost, L. S. Meredith, L. V. Rubenstein, N. Y. Wang, and D. E. Ford. 2003. "The Acceptability of Treatment for Depression among African-American, Hispanic, and White Primary Care Patients." *Medical Care* 41 (4): 479–89.

Dwight-Johnson, M., C. D. Sherbourne, D. Liao, and K. B. Wells. 2000. "Treatment Preferences among Depressed Primary Care Patients." *Journal of General Internal Medicine* 15 (8): 527–34.

Ferrer, R. L. 2007. "Pursuing Equity: Contact with Primary Care and Specialist Clinicians by Demographics, Insurance, and Health Status." *Annals of Family Medicine* 5 (6): 492–502.

Fiscella, K., and K. Holt. 2007. "Impact of Primary Care Patient Visits on Racial and Ethnic Disparities in Preventive Care in the United States." *Journal of the American Board of Family Medicine: JABFM* 20 (6): 587–97.

Grumbach, K., J. V. Selby, C. Damberg, A. B. Bindman, C. Quesenberry Jr, A. Truman, and C. Uratsu. 1999. "Resolving the Gatekeeper Conundrum: What Patients Value in Primary Care and Referrals to Specialists." *JAMA: The Journal of the American Medical Association* 282 (3): 261–6.

Hixon, A. L., and R. W. Chapman. 2000. "Healthy People 2010: The Role of Family Physicians in Addressing Health Disparities." *American Family Physician* 62 (9): 1971–6.

Institute of Medicine. 2002. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care.* Washington, DC: National Academies Press.

Jimenez, J. 2012. "Associations between Socioeconomic Status and Catecholamine Levels Vary by Acculturation Status in Mexican-American Women." *Annals of Behavioral Medicine* 44 (1): 129–35.

Kessler, R. C., and T. B. Utsun. 2004. "The World Mental Health (WMH) Survey Initiative Version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI)." *International Journal of Methods in Psychiatric Research* 13: 93–121.

Kessler, R. C., G. Andrews, L. J. Colpe, E. Hiripi, D. K. Mroczek, S. L. Normand, E. E. Walters, and A. M. Zaslavsky. 2002. "Short Screening Scales to Monitor Population Prevlances and Trends in Non-Specific Psychological Distress." *Psychological Medicine* 32 (6): 959–76.

Kravitz, R. L., P. Franks, M. Feldman, L. S. Meredith, L. Hinton, C. Franz, P. Duberstein, and R. M. Epstein. 2006. "What Drives Referral from Primary

Care Physicians to Mental Health Specialists? A Randomized Trial Using Actors Portraying Depressive Symptoms." *Journal of General Internal Medicine* 21 (6): 584–9.

Ledoux, T., M. D. Barnett, L. M. Garcini, and J. Baker. 2009. "Predictors of Recent Mental Health Service Use in a Medical Population: Implications for Integrated Care." *Journal of Clinical Psychology in Medical Settings* 16: 304–10.

Lemelin, J., S. Hotz, R. Swensen, and T. Elmslie. 1994. "Depression in Primary Care. Why Do We Miss the Diagnosis?" *Canadian Family Physician Medecin de Famille Canadien* 40: 104–8.

Leong, F. T., and A. S. Lau. 2001. "Barriers to Providing Effective Mental Health Services to Asian Americans." *Mental Health Services Research* 3 (4): 201–14.

Melfi, C. A., T. W. Croghan, M. P. Hanna, , and R. L. Robinson. 2000. "Racial Variation in Antidepressant Treatment in a Medicaid Population." *Journal of Clinical Psychiatry* 61: 16–21.

Meyer, O., N. Zane, Y. I. Cho, and D. T. Takeuchi. 2009. "Use of Specialty Mental Health Services by Asian Americans with Psychiatric Disorders." *Journal of Consulting and Clinical Psychology* 77 (5): 1000–5.

Miranda, J., and L. A. Cooper. 2004. "Disparities in Care for Depression among Primary Care Patients." *Journal of General Internal Medicine* 19 (2): 120–6.

Miranda, J., F. Azocar, K. C. Organista, E. Dwyer, and P. Arean. 2003a. "Treatment of Depression among Impoverished Primary Care Patients from Ethnic Minority Groups." *Psychiatric Services* 54 (2): 219–25.

Miranda, J., N. Duan, C. Sherbourne, M. Schoenbaum, I. Lagomasino, M. Jackson-Triche, and K. B. Wells. 2003b. "Improving Care for Minorities: Can Quality Improvement Interventions Improve Care and Outcomes for Depressed Minorities? Results of a Randomized, Controlled Trial." *Health Services Research* 38 (2): 613–30.

Miranda, J., M. Schoenbaum, C. Sherbourne, N. Duan, and K. Wells. 2004. "Effects of Primary Care Depression Treatment on Minority Patients' Clinical Status and Employment." *Archives of General Psychiatry* 61 (8): 827–34.

Nutting, P.A., K. Gallagher, K. Riley, S. White, W. P. Dickinson, N. Korsen, and A. Dietrich. 2008. "Care Management for Depression in Primary Care Practice: Findings from the RESPECT-Depression Trial." *Annals of Family Medicine* 6 (1): 30–7.

Pennell, B. E., A. Bowers, D. Carr, S. Chardoul, G. Q. Cheung, K. Dinkelmann, N. Gebler, S. E. Hansen, S. Pennell, and M. Torres. 2004. "The Development and Implementation of the National Comorbidity Survey Replication, the National Survey of American Life, and the National Latino and Asian American Survey." *International Journal of Methods in Psychiatric Research* 13 (4): 241–69.

Reschovsky, J. D., and A. S. O'Malley. 2008. "Do Primary Care Physicians Treating Minority Patients Report Problems Delivering High-Quality Care?" *Health Affairs* 27 (3): w222–31.

Rhodes, A. E., and K. Fung. 2004. "Self-Reported Use of Mental Health Services Versus Administrative Records: Care to Recall?" *International Journal of Methods in Psychiatric Research* 13 (3): 165–75.

Roness, A., A. Mykletun, and A. A. Dahl. 2005. "Help-Seeking Behaviour in Patients with Anxiety Disorder and Depression." *Acta Psychiatrica Scandinavica* 111 (1): 51–8.

Skaer, T. L., D. A. Sclar, L. M. Robison, and R. S. Galin. 2000. "Trends in the Rate of Depressive Illness and use of Antidepressant Pharmacotherapy by Ethniciy/Race: An Assessment of Office-Based Visits in the United States, 1992-1997." *Clinical Therapeutics* 35: 1575–89.

STATA Corp. 2011. *Stata Statistical Software: Release 12.1.* College Station, TX: Stata Corp.

Stockdale, S. E., I. T. Lagomasino, J. Siddique, T. McGuire, and J. Miranda. 2008. "Racial and Ethnic Disparities in Detection and Treatment of Depression and Anxiety among Psychiatric and Primary Health Care Visits, 1995-2005." *Medical Care* 46 (7): 668–77.

Sue, S., J. K. Cheng, C. S. Saad, and J. P. Chu. 2012. "Asian American Mental Health: A Call to Action." *American Psychologist* 67 (7): 532–44.

Unutzer, J., W. Katon, C. M. Callahan, J. W. Williams Jr, E. Hunkeler, L. Harpole, M. Hoffing, R. D. Della Penna, P. H. Noel, E. H. Lin, P. A. Arean, M. T. Hegel, L. Tang, T. R. Belin, S. Oishi, and C. Langston. 2002. "Collaborative Care Management of Late-Life Depression in the Primary Care Setting: A Randomized Controlled Trial." *JAMA: The Journal of the American Medical Association* 288 (22): 2836–45.

U.S. Census Bureau. 2010. "U.S. Census Bureau, 2010 Census Brief—Overview of Race and Hispanic Origin" [accessed on December 8, 2010]. Available at http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf

U.S. Department of Health and Human Services. 2001. *Mental Health: Culture, Race, and Ethnicity – A Supplement to Mental Health: A Report of the Surgeon General.* Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Office of the Surgeon General.

Wang, P. S., P. Berglund, M. Olfson, H. A. Pincus, K. B. Wells, and R. C. Kessler. 2005. "Failure and Delay in Initial Treatment Contact after First Onset of Mental Disorders in the National Comorbidity Survey Replication." *Archives of General Psychiatry* 62 (6): 603–13.

van Weel, C., R. Roberts, M. Kidd, and A. Loh. 2008. "Mental Health and Primary Care: Family Medicine Has a Role." *Mental Health in Family Medicine* 5 (1): 3–4.

Yeung, A., S. C. Yu, F. Fung, S. Vorono, and M. Fava. 2006. "Recognizing and Engaging Depressed Chinese Americans in Treatment in a Primary Care Setting." *International Journal of Geriatric Psychiatry* 21 (9): 819–23.

Supporting Information

Additional supporting information may be found in the online version of this article:

Appendix SA1: Author Matrix.