

Race, quality of depression care, and recovery from major depression in a primary care setting

Bruce L. Rollman, M.D., M.P.H.^{a,*}, Barbara H. Hanusa, Ph.D.^a, Bea Herbeck Belnap, Ph.D.^a,
William Gardner, Ph.D.^{a,b}, Lisa A. Cooper, M.D., M.P.H.^c, Herbert C. Schulberg, Ph.D.^d

^aDivision of General Internal Medicine, Center for Research on Health Care, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA

^bDepartment of Psychiatry, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA

^cWelch Center for Prevention, Epidemiology & Clinical Research Johns Hopkins Medical Institutions, Baltimore, MD, USA

^dDepartment of Psychiatry, Weill Medical College, Cornell University, White Plains, NY, USA

Abstract

Racial variations in the use of effective medical care and subsequent clinical outcomes have been identified for many medical conditions. Still, it is unclear whether racial variations in care and clinical outcomes exist for depressed primary care patients. Primary care patients presenting for routine treatment were screened for major depression as part of a study to disseminate a depression treatment guideline. Primary care physicians (PCPs) were informed of their patients' depression via an electronic medical record system and asked whether they agreed with the diagnosis. Treatment patterns and depressive symptoms over the following six-months were assessed by chart review and the Hamilton Rating Scale for Depression, respectively. Over a 20-month period, 8,944 African-American and Caucasian patients aged 18–64 were approached for screening. African-Americans were less likely to agree to undergo screening than Caucasians (83% vs. 88%; $P < .0001$), but those doing so were more likely to report mood symptoms (26% vs. 15%; $P < .001$). 204 patients, including 52 African-Americans (25%), met protocol-eligibility criteria and completed a baseline interview. Baseline sociodemographic and clinical characteristics, and PCPs' agreement rate with the depression diagnosis were similar. Although PCPs were less likely to counsel their African-American than Caucasian patients for depression ($P = .03$), this difference resolved after adjusting for education level, employment, and insurance status and we found no other variations in the depression care provided or in clinical outcomes by race. We found little racial variation in either process measures or clinical outcomes for depression in our sample of African-American and Caucasian primary care patients. © 2002 Elsevier Science Inc. All rights reserved.

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1. Introduction

Racial variations in the use of effective medical care and subsequent clinical outcomes have been identified for various common medical conditions [1–3]. It remains unclear, however, whether similar variations in treatment and utilization patterns exist with regards to depression. This question is of major public health significance since depression is the second most prevalent illness encountered in primary care practice after hypertension, its clinical course is often chronic and relapsing, and it worsens the prognosis for co-occurring medical conditions [4–6]. Determination of whether the well documented under-treatment of depression

in primary care practice [7,8] disproportionately affects African-Americans is particularly important given evidence that: 1) African-Americans respond as well to guideline-based treatments for depression as Caucasians [9]; 2) depression is associated with morbidity and mortality from a variety of medical conditions [10]; and 3) policy and programmatic efforts persist to minimize race-related disparities in overall health status among American citizens [11,12].

While patterns of health services utilization are meaningful, alone they do not validly specify the quality of care provided to diverse racial populations. Thus, the question remains about whether primary care physicians (PCPs) concur with the diagnosis of major depression for their African-American patients as frequently as they do for their Caucasian patients when presented with this clinical information. It is also unclear whether PCPs offer African-American and

* Corresponding author. Tel.: +1-412-692-4853; fax: +1-412-692-4838.

E-mail address: rollmanbl@msx.upmc.edu (B.L. Rollman).

Caucasian patients equally appropriate care within standards outlined by evidence-based treatment guidelines [13]. We addressed these questions using data collected as part of a randomized clinical trial to test the effectiveness of disseminating a depression treatment guideline to PCPs via an ambulatory electronic medical record (EMR) system [14,15]. We hypothesized that the following caregiving elements intrinsic to our study would vary by race: 1) patients' participation in the depression screening process; 2) PCPs' response and time to agreement with the depression diagnosis when presented to them electronically via EMR; 3) PCPs' caregiving practices for depression; and 4) patients' 6-month recovery rate from their depressive episode. If racial disparities in study participation, diagnostic agreement, treatment pattern, and clinical outcomes for depression are found, they could inform subsequent interventions to improve care for patients of all races.

2. Methods

Utilizing a protocol approved by the Institutional Review Board (IRB) of the University of Pittsburgh, a study research assistant administered the PRIME-MD [16] to screen for major depression patients who presented for care at an academically affiliated urban primary care practice. Patients screening positive and meeting additional protocol-eligibility criteria were included in our study. These criteria included: 1) a 17-item Hamilton Rating Scale for Depression (HRS-D) [17] score ≥ 12 as determined during a baseline telephone interview administered shortly after screening in the clinic; 2) no current depression care from a mental health professional; 3) no current substance abuse problem; 4) no co-morbid medical illness possibly explaining the depression; 5) no language or other communication barrier to study participation; 6) no active suicidal ideation; and 7) signed informed consent to enroll in the research protocol. A research assistant determined patients' race and gender in the study clinic by observation and each patient's age was recorded from the EMR.

Patients were cared for by one of 15 board-certified study PCPs (100% Caucasian, 53% male, median age 39 years) who were randomly assigned to one of three levels of EMR feedback and guideline-based treatment advice for depression (active, passive, and "usual care"). We combined our three study arms into a single physician cohort to better analyze the impact of race on our outcome measures given that our screening and electronic feedback strategy had little or no differential impact on: 1) PCP agreement with the PRIME-MD finding of major depression [14]; 2) PCP interventions consistent with guideline-based treatment for major depression [15]; or 3) patients' recovery from their depressive episodes even after adjusting for potential clustering of effects within physicians [15].

2.1. Electronic notification of the depression diagnosis procedure

When a patient was identified by the PRIME-MD as having a major depression, we notified his or her PCP via both an interactive e-mail alert ("flag") generated through our EMR system and an electronic letter signed by the study investigators. These messages, generally transmitted to the PCP within one business day of the patient's being diagnosed with this mood disorder and before our telephone assessor contacted each patient to confirm his or her protocol-eligibility (e.g., HRS-D ≥ 12), asked the PCP to indicate whether he/she "agreed," "disagreed," or were "unsure" of the PRIME-MD finding of major depression. The messages also asked the PCP to electronically "sign" the letter to acknowledge its receipt, much as he/she would acknowledge a consult letter from another health care professional.

2.2. Patient assessment

All study participants were contacted shortly after recruitment to confirm their protocol-eligibility and to conduct a standardized telephone assessment. Sociodemographic information collected during these interviews included education, health insurance, and employment status; depressive severity (HRS-D) [17]; quality of life (SF-12) [18]; history of past treatment for depression; and presence of a co-morbid anxiety disorder (PRIME-MD) [16]. Following the baseline telephone assessment, we electronically informed the PCP if the patient failed to meet all protocol-eligibility criteria and was therefore ineligible to continue in our study as further treatment might still be warranted.

We assessed medical comorbidity using a simple count of the number of ICD-9 diagnoses assigned to the patient during a thorough chart review as described below. We readministered the HRS-D to study patients as part of our standardized 3- and 6-month telephone follow-up assessments [15].

2.3. Care processes

The type of depression-specific treatment which the PCP recommended to the patient, and the number and timing of follow-up visits were abstracted directly from data entered into the EMR. Two trained nurses, blinded to the randomized feedback status of a patient's PCP, reviewed each study patient's medical records. The first nurse reviewed a printed copy of every patient's medical record collected from the study clinic, University Medical Center, and from specialists and non-University providers where applicable. She then completed a detailed structured abstract. Each completed abstract was then reviewed by the second nurse for completion and for accuracy. Discrepancies between the two nurse-abstractors, and concerns that a patient had an exclusionary co-morbid medical condition better explaining

his/her depressive episode (e.g., pneumonia, stroke, or a brain tumor), were brought to the attention of an investigator (B.L.R. or B.H.H.) for adjudication. Contacts pertinent to assessing the process of care included both office visits and telephone communications between the PCP and patient that were documented in the EMR.

2.4. Outcome measures

The primary measures analyzed by patient race were: 1) study recruitment and retention patterns; 2) days to the PCPs' response to the PRIME-MD finding of major depression; 3) PCPs' initial response to notification of their patients' depression diagnosis; 4) PCP reports of depression care provided in the six months following screening with the PRIME-MD; and 5) a patient's depression status at 3 and at 6 months as measured by HRS-D. Changes in the continuous HRS-D score from baseline to 3- and to 6 months and depression status, as categorized by the HRS-D at 6 months, were used as measures of clinical course. Indicators of depression care included the number of office visits and PCP contacts with a study patient in the 3 and 6 month periods following screening with the PRIME-MD; proportion of patients with ≥ 3 contacts in 3 and 6 months; proportion of patients with ≥ 3 contacts with depression care in 3 and 6 months; and PCP reports of antidepressant medication prescribed and mental health referrals made.

2.5. Statistical analyses

Comparisons in time to response to the initial diagnosis flag by race were analyzed with discrete survival methods [19]. Univariate and multivariate correlates of the PCP's first response were identified by polychotomous logistic regression. We examined outcomes using intent-to-treat analyses, as well as analyses limited to patients whose PCP had agreed with the depression diagnosis formulated by the PRIME-MD. Since our findings were unchanged by the latter approach, we only present the intent-to-treat analyses involving our full study cohort.

Patients' categorized HRS-D status at 6 months was analyzed with a likelihood ratio χ^2 . Changes in the continuous HRS-D were compared across racial groups using random effects regression. We used regression analyses to compare continuous measures (e.g., mean number of visits) across racial groups, and likelihood ratio χ^2 tests to compare categorical measures (e.g., proportion of patients prescribed antidepressants) by race. Non-Caucasians and non-African-Americans were excluded from all of our analyses because of their small numbers in our study cohort (seven patients, all either east- or south Asian) and to facilitate study comparisons between African-Americans and Caucasians. All analyses are adjusted for the clustering of patients under each PCP and were performed with either SPSS v10.0 [20] or STATA v7.0 [21].

3. Results

3.1. Eligibility, recruitment and retention patterns

We approached 9,513 patients aged 18 to 64 years over a 20-month period (4/97–12/98) and asked them to complete the self-administered PRIME-MD patient screening questionnaire (PQ). Of this total, 8,944 (94%) were either African-American (1,468; 16%) or Caucasian (7,476; 84%). Although African-Americans were less likely to complete the PQ than Caucasians (Fig. 1), those who did were more likely to screen positive for the presence of mood symptoms (26% vs. 15%; $P < .0001$). There were no racial variations on the preliminary review of PQ+ patients' protocol eligibility for assessment with the Mood Module, the brief structured interview component of the PRIME-MD that generates the finding of major depression according to DSM-IV criteria. However, African-Americans were less likely to be so diagnosed with major depression on the Mood Module than Caucasians (69% vs. 74%; $P = .004$). Overall, 7.2% of all African-Americans who completed the PQ met criteria for major depression on the full PRIME-MD compared to 3.7% of all Caucasians ($P < .001$). Both racial groups provided informed consent for administration of the Mood Module and study participation at similar rates.

Following the baseline telephone assessment, the study cohort consisted of 52 (25%) African-Americans and 152 (75%) Caucasians meeting protocol-eligibility criteria. Study attrition did not differ by race on either the baseline telephone evaluation to confirm protocol eligibility or on the follow-up assessment six months later. Overall, African Americans comprised 25% of our final study cohort ($N = 193$).

3.2. Patient characteristics

As Table 1 indicates, depressed African-American patients were less likely to be married (17% vs. 46%) or have private health insurance than Caucasians (50% vs. 85%). Although African-Americans were also less likely to have attained a college degree than the enrolled Caucasians (17% vs. 37%; $P = .05$), 79% had some college education or more and overall educational levels between African-Americans and Caucasians did not differ ($P = .13$). Clinical characteristics of the two groups, including level of depressive severity as measured by the HRS-D, were also similar. However, African-Americans were more likely than Caucasians to screen positive for a co-morbid anxiety disorder (50% vs. 31%; $P = .01$) including generalized anxiety disorder (GAD) (44% vs. 26%; $P = .005$). Since socioeconomic status may affect anxiety symptoms [22,23], we adjusted for educational level and employment status and still found African-Americans were more likely to screen positive for GAD than Caucasians (OR 2.1; 95% confidence interval (CI): 1.2–3.8; $P = .01$).

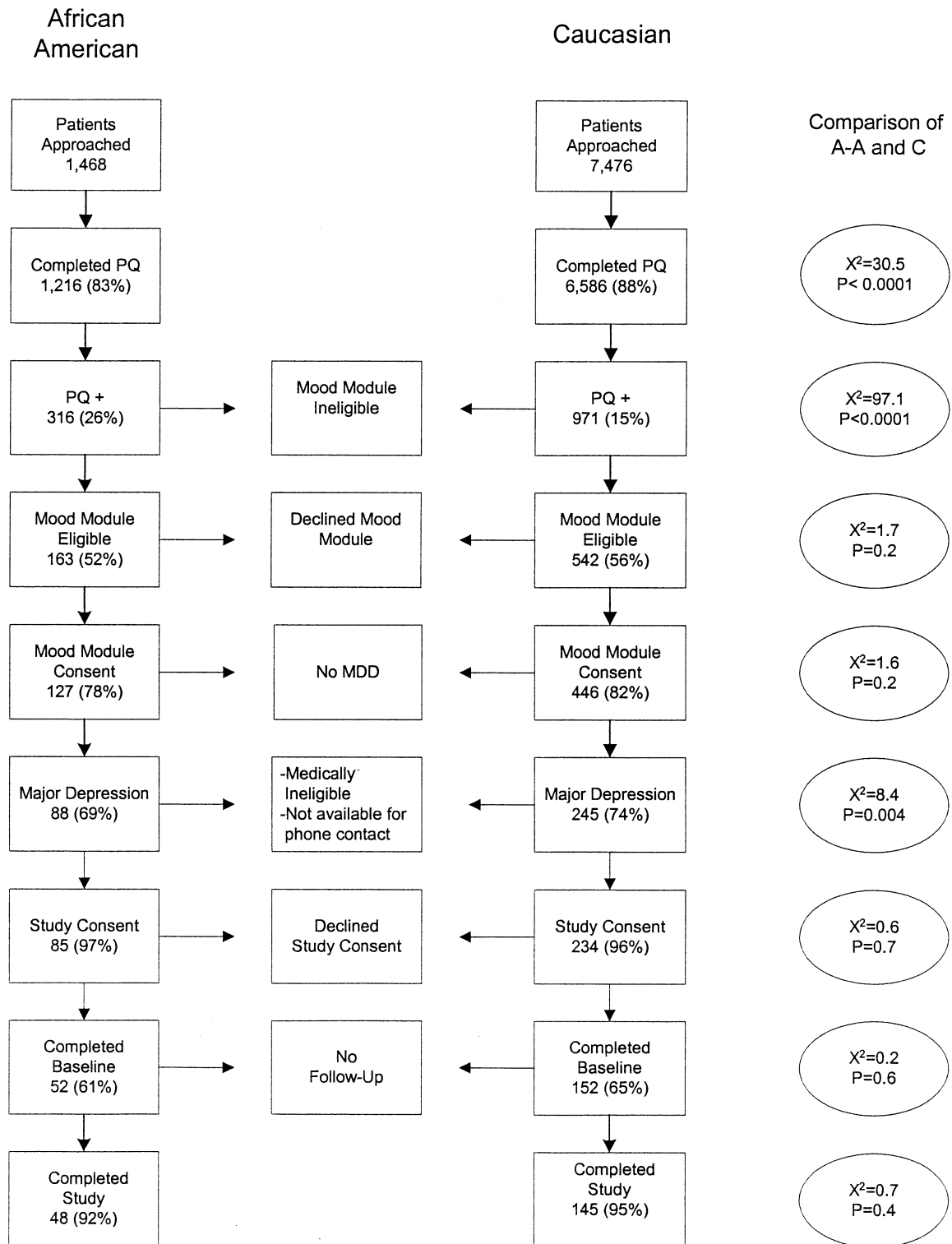


Fig. 1. Study recruitment, eligibility and completion for African American and Caucasian patients.

3.3. PCP agreement with the PRIME-MD diagnosis of major depression

PCPs' response to electronic notification of the depression diagnosis and time to agreement with it was similar by race. The median time of PCP agreement was 2 days for

African-Americans and 1 day for Caucasians and did not differ significantly (Fig. 2). Six months following our screening procedure, PCPs agreed with 83% of the depression diagnoses generated by the PRIME-MD for their African-American patients, disagreed with 15%, and were unsure of the diagnosis for 2%. Their response pattern was

Table 1
Patient demographics and clinical history by race

	African-American (N=48)	Caucasian (N=145)	P
Sociodemographic Variables			
Age (mean years)	43	44	0.66
Female Gender	31 (65%)	106 (73%)	0.13
Education			0.13
≤High School	10 (21%)	26 (18%)	
Some College	30 (62%)	65 (45%)	
≥College Degree	8 (17%)	54(37%)	
Marital status			0.002
Single	22 (46%)	35 (25%)	
Married	8 (17%)	66 (46%)	
Sep/Div/Widowed	18 (37%)	42 (29%)	
Employment			0.15
Full-time	21 (44%)	83 (57%)	
Insurance			0.002
Private	24 (50%)	123 (85%)	
Medicare	4 (8%)	8 (6%)	
Medicaid	16 (33%)	11 (8%)	
Uninsured	4 (8%)	3 (2%)	
Baseline Clinical Variables			
Hamilton Rating Scale for Depression (mean)	21	20	0.18
SF-12 PCS Score (mean)	41	45	0.12
SF-12 MCS Score (mean)	34	34	0.9
Past treatment for depression	21 (44%)	71 (49%)	0.45
Co-morbid anxiety disorder	24 (50%)	45 (31%)	0.01
Co-morbid Panic Disorder	6 (12%)	14 (10%)	0.40
Co-morbid Generalized Anxiety Disorder	21 (44%)	37 (26%)	0.005
2+ co-morbid medical conditions	27 (56%)	83 (57%)	0.9
At Screening:			
Patient was returning to usual PCP	35 (73%)	83 (57%)	0.05
Patient was seeing PCP for first visit	9 (19%)	51 (35%)	
Patient did not see usual PCP	4 (8%)	11 (8%)	

similar for Caucasian patients (77%, 17% and 6%, respectively; $P=.37$).

3.4. Treatment of depressed patients

We then examined PCPs' clinical notes to determine whether racial variations would be found among treatment practices recommended by the AHCPR's Depression Guideline Panel [13]. As is indicated in Table 2, African-American and Caucasian patients had similar numbers of contacts with their PCPs over the 6-month follow-up interval. However, at 3 months the PCPs documented counseling 12% of their African-American patients for depression at least once compared to 23% of their Caucasian patients ($P=.05$). This difference in rate of counseling continued at 6-months follow-up even after adjusting for baseline employment and educational level (OR 0.56; 95% CI: 0.32–0.98; $P=.04$). However, it disappeared after adding insurance status to our multivariate model (OR 0.61; 95% CI: 0.32–1.15; $P=.125$).

There were no racial variations in PCPs' prescription of antidepressant pharmacotherapy or in referrals to a mental health specialist at either 3- or at 6-months following our

screening procedure (Table 2). PCPs prescribed an antidepressant for 60% of their African-American patients and suggested a mental health specialty referral for 23% of them at 3-months, compared to 61% and 28%, respectively, for their Caucasian patients. By 6 months, the corresponding percentages increased slightly to 67% and 31% for African-Americans, and 65% and 32% for Caucasians, respectively.

3.5. Recovery from the depressive episode

Patients' mean HRS-D scores decreased an average of 6 points over time and clinical improvement did not differ by race (Fig. 3). Moreover, the categorical measures of depression status at 6-months did not differ by race (Table 3). After adjusting for baseline differences in marital status, educational level, health insurance status, and presence of a co-morbid GAD, the lack of association between race and 6-month depressive status persisted ($P=.52$).

4. Discussion

This study investigated whether racial differences were associated with screening primary care patients for major

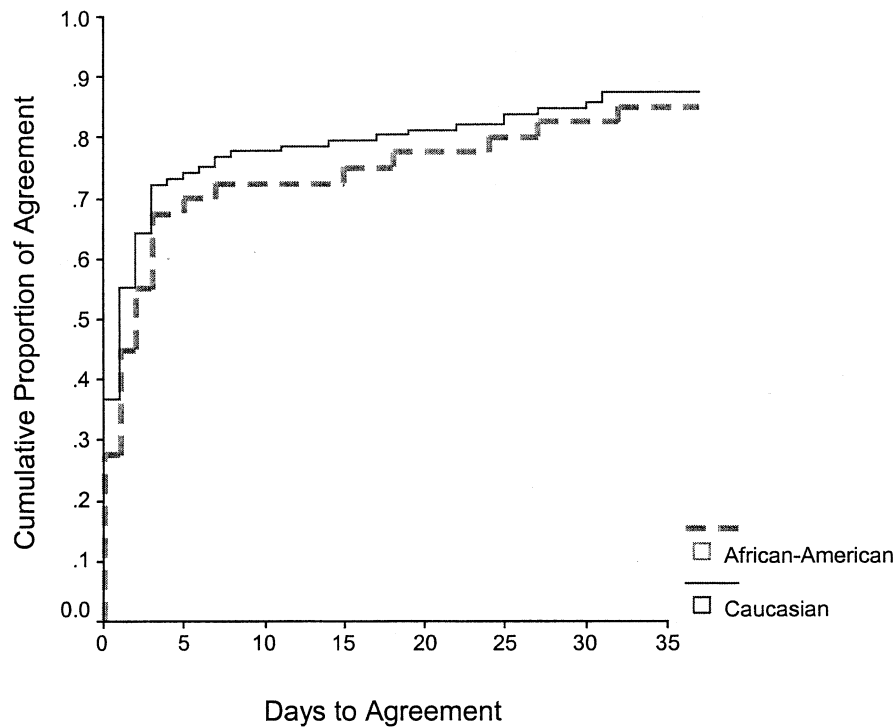


Fig. 2. PCP cumulative proportion of agreement with the depression diagnosis by race.

depression, electronically informing PCPs of the psychiatric diagnosis, and providing evidence-based treatment recommendations to them using an EMR system that could improve the quality of care and 6-month clinical outcomes for depression. African-Americans who presented for primary care at our study site were less likely than Caucasians to participate in our depression screening effort, but those doing so were more likely to screen positive for a mood disorder. Still, African-Americans were less likely than

Caucasians to meet formal criteria for major depression on the full two-part PRIME-MD. PCPs agreed with the finding of major depression when the diagnosis was presented to them electronically via EMR at rates and speed that were similar for both racial groups. While PCPs were more likely to document counseling their Caucasian than their African-American patients for depression after adjusting for education level and employment status, this difference resolved after adjusting for insurance status and no other racial vari-

Table 2
Care processes in the 6-month period following depression screening by race

	African-American (N = 48)	Caucasian (N = 145)	P
At 3 Months			
≥3 Contacts [†] with usual PCP	25 (52%)	77 (53%)	0.9
Depression mentioned in any contact with usual PCP*	37 (81%)	108 (74%)	0.5
Depression mentioned in ≥3 contacts [†] with usual PCP	10 (21%)	31 (21%)	0.9
PCP counsels patient for depression	6 (12%)	33 (23%)	0.05
Antidepressant medication prescribed	29 (60%)	88 (61%)	1.0
Mental health referral suggested	11 (23%)	40 (28%)	0.5
At 6 Months			
≥3 Contacts [†] with usual PCP	35 (73%)	103 (71%)	0.8
Depression mentioned in any contact with usual PCP*	40 (83%)	115 (79%)	0.7
Depression mentioned in ≥3 contacts [†] with usual PCP	17 (35%)	44 (30%)	0.4
PCP counsels patient for depression	7 (15%)	35 (24%)	0.03
Antidepressant medication prescribed	32 (67%)	95 (65%)	1.0
Mental health referral suggested	15 (31%)	47 (32%)	0.9

* Includes office visits and telephone calls.

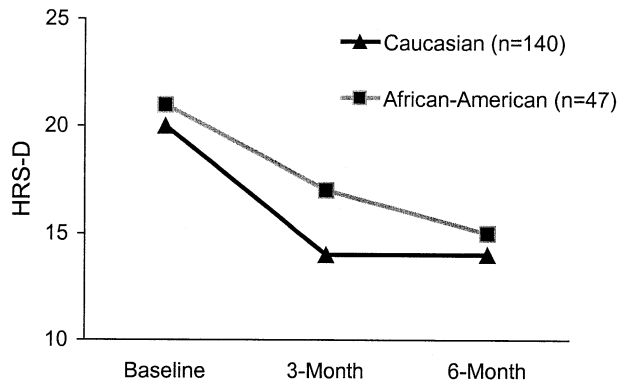


Fig. 3. Hamilton rating scale for depression at baseline, 3-, and 6-months by race (1 African-American and 5 Caucasians did not complete the 6-month telephone assessment and are excluded from this analysis).

ations were found in the care provided these two groups. Indeed, both groups experienced a similar reduction of depressive symptomatology and in depression status at six months.

To the best of our knowledge, this is the first report to describe treatment patterns and outcomes for major depression among African-American and Caucasian patients who were screened for major depression upon presenting for treatment in a primary care setting. While other studies have found physicians less likely to identify African-American patients as depressed [24,25] or to initiate antidepressant pharmacotherapy with them compared to Caucasian patients [26,27], these studies were not conducted in the primary care settings where a significant number of depressed patients - particularly African-Americans - are treated [28]. Moreover, earlier studies did not examine depressed African-American and Caucasian patients of similar educational level or adjust for differences in socioeconomic and clinical status as was done in this report.

The validity and generalizability of our findings is further enhanced by our: 1) administration of a validated depression case-finding instrument designed for use in a busy primary care setting [16]; 2) rapid feedback of the depression diagnosis to PCPs shortly after their patients completed the questionnaire [14]; 3) requiring that physicians electronically acknowledge receipt of the depression diagnosis and respond appropriately [29]; 4) limiting study participation to board-certified PCP and their patients; 5) reviewing of phy-

sicians' medical records to identify treatment patterns rather than relying on either patient [26,30,31] or physician self-reports of care or analyses of insurance claims [32]; 6) finding minimal racial differences in the severity of baseline depressive symptoms as in other reports [33,34]; and 7) absence of racial variations for both patients' consent to study participation and in rates of follow-up assessments.

Although community-based surveys have reported a similar but slightly lower prevalence of major depression among African-Americans and Caucasians [35,36], African-Americans are less likely to be recognized by their physician as being depressed [24,25,37,38]. We overcame the potential for diagnostic bias by informing study PCPs of their patients' clinical depression and then asking them to acknowledge whether they concurred with the diagnosis by responding back via EMR. Cultural beliefs and practices may also affect the manner in which individuals of a particular race, age, gender, or educational background express or manifest symptoms of depression, particularly if the diagnostician is a different group [25,33,39]. In part, this may explain why African-Americans were more likely to screen positive for the presence of mood symptoms on the self-reported PQ, but were less likely to be diagnosed with major depression when the Mood Module was administered to them by one of two young female research assistants (Caucasian and Indian-American). They may also explain why African-Americans in our sample were more likely to meet criteria for a co-morbid anxiety disorder than Caucasians, even after adjustment for socioeconomic status [23]. Still, further research is necessary to increase our understanding of how race, cultural beliefs, and practices influences the manner in which patients express mood and anxiety symptoms and how they are translated into PCP behaviors.

Although the AHCPR Depression Treatment Guidelines standards do not differ by race [13], African-Americans have been found to receive lower quality care for depression than Caucasians [26,30–32]. We too uncovered inadequate rates of medical follow-up, use of pharmacotherapy, and MHS referral. However, it remains unclear why PCPs fail to properly treat depression in their African-American patients. It is conceivable that some patients were reluctant to accept the diagnosis of depression or its treatment because of stigma or other attitudinal barriers [27,40–42]. Still, other patients possibly preferred to seek help from clergy or other lay professionals whom they perceived as better attuned to their spiritual needs and possessing greater levels of cultural sensitivity than nonminority medical professionals [43]. Institutional mistrust of health professionals could also have played a role in some patients' decision-making as to whether and where to seek and accept care for their depressive episode [41]. Nevertheless, while African-Americans as a group are less likely to use mental health services even when covered by health insurance [44,45], recent reports suggest that racial disparities in mental health services utilization may be declining [46,47].

Table 3
Depression status at 6-months by race

Depression Status	African-American (N=47)*	Caucasian (N=140)*	P
Asymptomatic (HRS-D 0-7)	10 (21%)	33 (24%)	0.75
Partially Symptomatic (HRS-D 8-11)	12 (26%)	26 (19%)	
Symptomatic (HRS-D ≥12)	25 (53%)	81 (58%)	

* 1 African-American and 5 Caucasians did not complete the 6-month telephone assessment and are excluded from this analysis.

Racial variation in PCPs' communication patterns and perceived quality of health care have been documented [48–50]. Although we relied on chart reviews of PCPs' documentation of the encounter rather than audio-tapes, we found PCPs' counseling behavior to vary by race despite minimal differences in the severity of patients' depressive symptoms and even after adjusting for education level and employment status, two proxies for socioeconomic status. Variations in cross-cultural communication styles could potentially explain this finding if study PCPs felt less comfortable counseling African-American than Caucasian patients on health-related concerns [50,51]. However, we are unable to assess the association of counseling behavior for depression by racial concordance and discordance of patient-physician pairs as all study PCPs were Caucasian. PCPs' usual style of counseling patients for depression and patients' insurance status may also influence documentation and delivery of depression counseling by PCPs [24,52]. Although we did not assess PCPs' inclination to counsel for depression, PCPs' overall rate of counseling was similar to that reported by other investigators [24,52,53] and race was no longer predictive of this behavior after adjustment for insurance status and socioeconomic status.

Despite this study's design strengths, our findings should be interpreted cautiously. First, this study was conducted within a single, large, academically affiliated primary care practice and we restricted our cohort to patients aged 18–64. Second, although our cohort contained nearly 25% African-Americans, it may still be too small to detect significant differences between racial groups on our process measures (Type II error). Third, our patient sample had a relatively high education level compared to the general U.S. population (81% with at least some college education vs. 41% nationally [54]) and may not generalize to more socioeconomically disadvantaged patients. This finding reflects the fact that the study practice attracts many professionals working at the University and from nearby businesses. Fourth, while the PRIME-MD can standardize the identification of symptoms and characterize them into specific disorders that meet rigorous research classifications, it has not been specifically validated for use with African-American populations. Fifth, we assessed race by a patient's appearance during the recruitment process rather than by self-report. While we believe that the vast majority of black patients presenting for care in our primary care clinic are U.S. born African-Americans rather than being recent African or Afro-Caribbean immigrants to Pittsburgh, variation in acculturation patterns within these patients that could help explain our study outcomes were not assessed [55–57]. Sixth, although our sample of African-Americans and Caucasians differed on several baseline socioeconomic characteristics such as marital and insurance status, we are unable to control for these variables in comparing rates of screening and positive diagnosis of depression by race as we only collected this data on patients who consented to enroll into our clinical trial and completed our baseline assessment

interview. Seventh, race may also be confounded with socioeconomic status. Although we adjusted for type of health insurance coverage and educational status in our multivariate model and found them unrelated to patients' recovery from their depressive episode, there may have been unmeasured differences in socioeconomic status between the two patient groups. Finally, the use of treatment samples to generalize to a community population potentially produces bias if more educated and affluent African-Americans disproportionately utilize health care.

In summary, we found PCP documentation of counseling for depression more frequent among Caucasian patients, but no other racial disparities in 6-month treatment patterns or in clinical outcomes for major depression in our sample of African-American and Caucasian primary care patients with similar sociodemographic characteristics. This finding is encouraging and consistent with recent reports suggesting an absence or narrowing of racial disparities in mental health care [46,47]. Still, we must emphasize that our study PCPs' treatment of depression was suboptimal for both racial groups despite our effort to improve its quality in the context of a clinical trial [14,15]. Given this finding, we recommend that health plans, pharmaceutical manufacturers, and health providers: 1) collaborate to develop and/or expand programs that educate physicians and their staff to consider their patients' unique perspectives towards medical care; 2) enhance the use of culturally appropriate and evidence-based care; 3) participate in initiatives to increase the acceptability of depression treatment for African-Americans and other minority groups; and 4) expand the mental health knowledge base among minorities. Improving quality of depression care constitutes a major step towards eliminating racial and ethnic disparities in health care as urged in Healthy People 2010 [11] and by the Surgeon General's recent report on race and mental illness [12]. Further study is necessary to confirm our findings in other primary care settings and to test state-of-the-art strategies for delivering guideline-based treatments for depressed patients of all racial and ethnic backgrounds [58].

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