



Perceptions of Healthcare, Health Status, and Discrimination Among African-American Veterans

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Abstract

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Respondents reported an average of 16 lifetime experiences of discrimination and over half recalled a situation when they experienced discrimination in healthcare. Modest ratings of perceived quality of care, and satisfaction with healthcare reflect areas for improvement. Perceived healthcare discrimination was negatively and significantly associated with satisfaction ($p < 0.001$), perceived quality of care ($p < 0.01$), and physical functioning ($p < 0.05$). Policies eliminating discrimination in healthcare are needed to improve patient satisfaction, quality of care, and health outcomes of African-American veterans.

Keywords

African American veterans; African-Americans; Discrimination; Discrimination in medical care; Health services accessibility; Healthcare; Outcomes; Veterans

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ABSTRACT

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Respondents reported an average of 16 lifetime experiences of discrimination and over half recalled a situation when they experienced discrimination in healthcare. Modest ratings of perceived quality of care, and satisfaction with healthcare reflect areas for improvement. Perceived healthcare discrimination was negatively and significantly associated with satisfaction ($p \leq 0.001$), perceived quality of care ($p \leq 0.01$), and physical functioning ($p \leq 0.05$). Policies eliminating discrimination in healthcare are needed to improve patient satisfaction, quality of care, and health outcomes of African-American veterans.

Key Words: Healthcare, Discrimination, African-American, Veterans, Outcomes

INTRODUCTION

Despite overall improvement in the health status and longevity of the general U.S. population over the last several decades, racial/ethnic disparities in health status and healthcare access continue to persist and in some cases have increased (Mills & Combs, 2002; Smedley, Stith, & Nelson, 2003). Specifically, compared to Caucasian Americans, African-Americans have higher mortality and morbidity, have less access to services, and receive lower quality healthcare (Anderson & Smith, 2005; National Center for Health Statistics, 1994; Smedley et al., 2003; Spalter-Roth, Lowenthal, & Rubio, 2005; U.S. Department of Health and Human Services, 2006). Because having health insurance improves access to healthcare (Andrulis, 1998; Bindman et al., 1995; Pappas, Hadden, Kozak, & Fisher, 1997) and veterans could have healthcare coverage through the Veteran's Administration (VA), one might expect fewer health disparities among African-American veterans compared to their non-veteran counterparts. However, health insurance coverage through the VA may not necessarily guarantee actual access to services and fair treatment by healthcare providers. Institutionalized discrimination in access and quality of healthcare documented in the general population may be mirrored in the healthcare received by veterans (Borowsky & Cowper, 1999; Mayberry, Fatima, & Ofili, 2000).

Disparities in Health Status and Quality of Healthcare

Data on health status and healthcare disparities among African-American veterans are mixed, with some reports showing disparities (Allen, 1986; Dominitz, Maynard, Billingsley, & Boyko, 2002; McGinnis et al., 2003) and other reports with conflicting frequencies of disparities (Bosworth et al., 2006; Chakkerla et al., 2005; Deswal, Petersen, Urbauer, Wright, & Beyth, 2006; Horner, Matchar, Divine, & Feussner, 1991; Ibrahim et al., 2005; Jha, Shlipak, Hosmer, Frances, & Browner, 2001; Jones, Brazel, Peskind, Morelli, & Raskind, 2000; Kamalesh, Subramanian, Ariana, Sawada, & Peterson, 2005; McGinnis et al., 2003; Selim et al., 2004; Villa, Harada, Washington, & Damron-Rodriguez, 2003). Data on access and quality of care are also mixed with regards to the presence of racial disparities among veterans. While some studies have found that African-American veterans are less likely to receive certain needed medical procedures (Heisler, Smith, Hayward, Krein, & Kerr, 2003; Ibrahim et al., 2005; Jones, Kwok, Kelley, & Ibrahim, 2005; Oddone, Horner, Monger, & Matchar, 1993), others report no race differences in some medical procedures (Deswal et al., 2006; Goldstein, Matchar, Hoff-Lindquist, Samsa, & Horner, 2003) and in access to prescribed medications (Ambriz, Woodward, Kressin, & Peterson, 2004; Petersen, Wright, Peterson, & Daley, 2002; Safford et al., 2003; Wei, Jackson, & Herbers, 2003; Woodard, Kressin, & Petersen, 2004). Overall, however, there seems to be agreement that racial disparities in health status and health services provided to veterans exist (Saha et al., 2008; Sohn & Harada, 2008).

Socioeconomic factors play an important role in explaining at least some portion of observed race disparities among veterans (Harada et al., 2002; Larson & Welsh, 2007; Murdoch, Hodges, Cowper, Fortier, & van Ryn, 2003; Wendel et al., 2006). Other factors, such as war period, exposure to combat, perceptions of military experience, and experience of discrimination in the military, are also significant predictors of health disparities (Clancy et al., 2006; Forman-Hoffman et al., 2007; LaVerda, Vessey, & Waters, 2006; Wendel et al., 2006).

Discrimination in VA Care

In the general population, lifetime experience of discrimination and specific discrimination experienced in receiving health care have been shown to be important contributors to health disparities (Dressler, 1996; Harrell, Hall, & Taliaferro, 2003; Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005; Williams, Neighbors, & Jackson, 2003). However, there is limited research on the

relationships between perceived discrimination, health status and quality of health care among African-American veterans who receive health care within or outside the VA health system. Discrimination in health status and receipt of healthcare may be inferred (Krieger, 1999) indirectly from studies showing persistence of disparities after controlling for known risk factors such as socioeconomic status, severity of illness, and insurance status. While a number of studies of VA patients have suggested that discrimination and clinical bias based on race contribute to lack of access to certain medical procedures (Allen, 1986; Oddone et al., 1993; Sedlis et al., 1997; Whittle, Conigliaro, Good, & Lofgren, 1993), studies that directly measure perceived discrimination and its role in access and quality of care among veterans are few. One exception is a study by Kressin and colleagues (2004) who examined whether patients' beliefs, such as evaluations of physicians' degree of respect and caring, their trust in their physicians, and quality of cardiac care in the VA, were associated with racial disparities in cardiac catheterization rates. They found that African-American patients were less likely to receive cardiac catheterization and were more likely to report experiences of racial and social class discrimination than Caucasians. A second study by Sohn and Harada (2008) found that racial/ethnic discrimination during military service was significantly associated with lower physical health. A systematic review of racial and ethnic disparities in the VA healthcare system (Saha et al., 2008) concluded that lack of cultural fit with VA services and historical or personally experienced discrimination among minority veterans might contribute to lack of trust and skepticism of medical interventions, which in turn may account for observed disparities.

One of the concerns regarding discrimination and subsequent dissatisfaction in VA healthcare is that it may result in African-American veterans using services outside of the VA health system or, worse, may dissuade them from receiving any healthcare. In a study of 577 veterans who reported VA primary care visits, 28% also reported non-VA primary care visits (Borowsky & Cowper, 1999). This and another investigation showed that dissatisfaction with VA care was significantly related to dual use of both the VA and non-VA health systems (Bean-Mayberry, Chang, McNeil, Hayes, & Scholle, 2004; Borowsky & Cowper, 1999). With increased diversity in the veteran population (Segal & Wechsler, 2004) and growing proportion of veterans who return with significant injuries (U.S. Department of Labor, 2004) and need for health care, the question of whether African-American veterans face barriers to quality care has become more pressing.

Several theoretical frameworks for the study of the role of race in health have been developed. One of the most comprehensive frameworks exploring the relationship between racism and health status is Williams' 1997 framework (Williams, 1997). This framework includes *basic causes* that impact on social status such as race, socio-economic status, gender, and age. The model further suggests that social status affects *surface causes* such as health practices, stress, psychological resources and medical care. Williams' framework further indicates that surface causes influence *biological processes* including cardiovascular and central nervous system factors that result in *health status* (morbidity, mental health, positive health, and mortality). This model explicitly includes racism as an important part of the structure of society that shapes how race is defined and can significantly affect health. Our theoretical framework expands on Williams' framework to explore specifically if racism is associated with other surface factors such as perceived quality of care and satisfaction with care. There is some evidence for this expanded framework as it has been found that African-Americans were more likely to report both perceived racism and mistrust which led to less satisfaction with their healthcare (La Veist, Nickerson, & Bowie, 2000). In addition to replicating these latter findings, we explored if these findings are generalizable to African-American veterans.

Study Aims

This study was initiated in response to concerns by the Boston Tri-Ad Veterans, Inc., regarding perceived discrimination in healthcare among African-American veterans. In response to these concerns, this study sought to: (1) describe African-American veterans' perceptions of healthcare services they receive and perceived discrimination in healthcare and (2) investigate the relationship between perceived discrimination and patient perceptions of care, satisfaction with healthcare, and health status among African-American veterans.

METHODS

Recruitment Procedures

The study employed a cross-sectional design with a sample of African-American veterans recruited via community outreach. Criteria for participation included: age 18 or older, self identification as African-American, having proof of veteran status, English fluency, and having received healthcare services in the past year.

We utilized convenience-sampling methods to obtain surveys during twelve recruitment sessions at six different locations throughout the Boston communities of Roxbury, Dorchester, and Mattapan during May to June 2006. Outreach was conducted by Tri-Ad Veterans, Inc., a grassroots organization of African-American veterans. The study was advertised on multiple occasions through local media including television, radio, and newspaper. Flyers with dates and locations of recruitment and survey administration sessions were posted at locations where veterans were likely to congregate such as at the American Legion Posts. At least one Northeastern-University-trained researcher and one representative of the Tri-Ad Veterans group were present at each of the survey administration sessions. The study was approved by the Northeastern University Institutional Review Board.

Measures

Data were obtained via a self-administered survey that took approximately 30 minutes to complete. Information on demographics included: age (continuous); gender (0=male, 1=female); educational attainment (1= high school or less, 2= some college, 3= college graduate/graduate school); employment status (0= not working, 1= working); marital status (0=married, 1=never married, 2=divorced/separated/widowed); and living arrangement (0=lives alone, 1=lives with others). Information was also obtained on military service including branch of service (0=Army, 1=Marines, 2=Navy, 3=Air Force, 4=Other); if they experienced active combat (0=no, 1= yes); if they had been certified as having a service-related disability (0= no, 1= yes); and their assigned VA service-related disability rating (percent disability on a scale of 10 to 100%).

Items on health services utilization included if the respondent had someone to take them to the doctor if ill (0= no, 1= yes); if they had used health services in the past three years (0=VA only, 1=non-VA only, 2=VA and non-VA, 3=no services); if they had been seen by a provider (0=VA only, 1=non-VA, 2= VA and non-VA providers) in the past 12 months (0= VA only or non-VA only providers, 1= VA and non-VA providers); if they planned to use the VA in the future (0= yes, as a primary source of care; 1= yes, as back up to non-VA care; 2= yes, for prescriptions only; 3= no), and if they had any form of health and prescription insurance outside of VA coverage (0= yes, private health insurance; 1= yes, through a government program such as Medicare or Medicaid; 2= no other health insurance).

Patient satisfaction was measured by the short form of the Patient Satisfaction Questionnaire PSQ-III (Marshall & Hays, 1994). This short form, known as PSQ-18, contains 18 items covering the following seven dimensions: general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with doctor, and accessibility and convenience. Example items include "Doctors are good about explaining the reason for medical tests," "Sometimes

doctors make me wonder if their diagnosis is correct," and "My doctors treat me in a very friendly and courteous manner." Responses were rated on a Likert scale ranging from strongly agree (1) to strongly disagree (5). Since several items were positively stated, these items were recoded during data analysis. Thus, the higher the PSQ-18 score, the more satisfied respondents were with their healthcare services. The range of possible scores was 18 to 90. The Cronbach's alpha was 0.937 in this sample.

Perceived quality of care was measured via a 15-item index on respondent's quality of medical care based on items used in previous studies (Collins, Hughes, Doty, Ives, Edwards, & Tenney, 2002; Kressin et al., 2002). Examples of items taken or modified from the evaluation of VA care scale used by Kressin and colleagues (2002) are: "I am treated with dignity," "I feel respected by the clerical staff," "I get to know my doctors," and "Doctors and nurses use the most advanced medical knowledge and techniques." Other items in this section were adapted from the Commonwealth Fund 2001 survey (Collins et al., 2002). Responses were rated on a Likert scale ranging from strongly disagree (1) to strongly agree (5), where a higher score reflected better perceived quality of care (possible range from 15 to 75). The Cronbach's alpha was 0.931 in this sample.

Experience of lifetime discrimination was measured using nine items from an Experience of Discrimination (EOD) tool developed by Krieger and colleagues (Krieger, 1990; Krieger & Sidney, 1996). These items asked about the frequency of lifetime experiences of unfair treatment and racial discrimination. Respondents were presented the following main question: "Have you ever experienced discrimination, been prevented from doing something, or been hassled or made to feel inferior in any of the following situations because of your race, ethnicity, or color?" Respondents were to apply this question to nine situations (school, getting hired or getting a job, at work, etc.) in which they indicated if they had experienced any discrimination (yes or no) and reported the frequency of discrimination (once, two/three times, four or more times). Using Krieger's scoring approach (Krieger et al., 2005) for the situation version of the EOD, we summed the number of situations in which a participant reported experiencing racial discrimination. Krieger and colleagues (2005) reported that the EOD situation scale had a Cronbach's alpha of 0.88 and a test-retest reliability correlation of 0.89. A higher number on this measure reflected greater experiences of lifetime discrimination. The Cronbach's alpha of the Experience of Lifetime Discrimination measure in our sample was 0.77.

Healthcare discrimination was measured by an item from the Perceptions of Racism Scale (Green, 1995) which asked respondents about experiences of discrimination where they receive their healthcare services. This item involved a global measure of discrimination in healthcare: "I can recall a situation in which I experienced discrimination where I receive my healthcare services." Responses were rated on a Likert scale ranging from strongly agree (1) to strongly disagree (5). This item was reverse coded so that a higher score reflected greater perceived discrimination in healthcare (possible range from 1 to 5).

Physical and mental health status was measured by seven items from the SF-12 version 2 survey (Ware, Turner-Bowker, & Kosinski, 2005) and three items from the larger Veterans SF-36 Survey that assessed physical and mental status over different periods of time (Kazis, Lee, Spino, Miller, Williams, Ren, & Zhang, 2004; Ware et al., 2005). The Veterans SF-36 Survey was an extension of the Medical Outcomes Study (MOS) and assessed health-related quality of life but with a specific focus on health issues affecting the veteran population, in particular, functional status of the respondents and their general well-being. We used the SF-12 version 2 scoring algorithms to score SF-12 items. Ware and colleagues (2005) reported that the reliabilities for the physical component summary (PCS) and the mental component summary (MCS) were 0.89 and 0.86, respectively, for the SF-12 version (Geronimus, 2000). Our sample results were similar to Ware and colleagues with a Cronbach alpha of 0.89 for the PCS and 0.85 for the MCS. Higher physical component summary scores (PCS) and mental

component summary scores (MCS) reflect better physical and mental functioning/status respectively.

Data Analysis

Data analysis was conducted using SPSS 14.0. First, we calculated descriptive statistics for all study variables. Second, reliability of scales and indices was assessed using the Cronbach alpha. Third, we conducted bivariate analyses using Pearson correlations to identify significant relationships between predictors (i.e., sociodemographic and health services characteristics and history of perceived lifetime and healthcare discrimination) and outcome variables (i.e., perceived quality of care, patient satisfaction, physical health status, and mental health status). Fourth, stepwise hierarchical regressions were conducted to identify associations between the major predictor variables of interest (i.e., perceived lifetime discrimination and healthcare discrimination) and the outcome variables while controlling for possible confounders identified in the previous step. In conducting the stepwise hierarchical regression analyses, variables were entered in the following steps: (1) age, grade level, and working status, (2) certified disability, help to go to a doctor, dual use of VA and other providers, and history of lifetime perceived discrimination, and (3) healthcare discrimination. The rationale for entering healthcare discrimination last was to ascertain whether after controlling for the effects of other possible confounders, it was associated with the outcomes of interest. Separate models were tested for the four outcome variables of interest (perceived quality of care, satisfaction with care, physical health status, and mental health status). For all significance testing, a p-value of greater than or equal to 0.05 was set as the a priori level to achieve statistical significance.

RESULTS

Sample Characteristics

Table 1 provides a profile of study participants. Participants were largely male and, on average, middle-aged. Less than a quarter of the sample had completed college and/or attended graduate school. Approximately, one-fifth was currently married and almost 60% of the sample lived alone. The majority were not working (60%) and less than one-fifth (17%) were looking for work. A majority of respondents reported having served in the Army and not having seen active combat. About 28% of the sample reported having a certified service-related disability. More than half of the sample had some additional type of health insurance other than with the VA but did not have additional prescription insurance outside of that with the VA or TRICARE (the U.S. Department of Defense's healthcare program for members of the uniformed services, their families and survivors). The sample was almost evenly divided into those who in the last 12 months obtained care in the VA only, those who obtained care from non-VA providers only, and those who received care from both VA and non-VA providers. About half of the sample indicated willingness to go to the VA as a primary source of care in the future and almost a third indicated they were only willing to use the VA as a back-up to non-VA care. Most respondents reported having help to go to the doctor if they were ill. On average, respondents reported a range of experiences of lifetime discrimination from 1 to 40 with a mean of 15.8 (SD= 9.59). Of the items related to physical functioning, the mean and standard deviation was 22.7 and 6.16, respectively. The mean and standard deviation of mental health status items was 24.7 and 5.92, respectively. The PCS and MCS scores ranged from 7 (both PCS and MCS) to 31 (PCS) or 35 (MCS).

Table 1. Demographic Characteristics (n=141).

	n(%)
Mean age (SD)	56.7(10.8)
Male	131(92.9)
Educational background	
High school or less	46(32.7)
Some college	63(44.7)
College graduate/graduate school	32(22.7)
Marital status	
Married	30(21.3)
Never married	32(22.7)
Divorced/separated/widowed	79(56)
Live alone	82(58.2)
Looking for employment	25(17.1)
Working	53(37.6)
Branch of military served	
Army	75(53.2)
Marines	15(10.6)
Navy	29(20.6)
Air Force	19(13.5)
Other	2(1.4)
Missing	1(0.7)
Saw active combat	44(31.2)
Certified service-related disability	40(28.4)
Mean certified disability rating (SD)	10.5(22.6)
Other form of health insurance (not including VA coverage)	
Yes, private health insurance	49 (34.8)
Yes, through government program	30 (21.3)
No other health insurance	59 (41.8)
Missing	3 (2.1)
Any form of prescription insurance (not including VA coverage or TRICARE)	
Yes, private prescription insurance	37 (26.2)
Yes, through government programs	29 (20.6)
No prescription medication insurance	73 (51.8)
Missing	2 (1.4)
During the past 12 months, been seen by	
VA providers only	51 (36.2)
Non-VA providers only	49 (34.8)
VA and non-VA providers	41 (29.1)
Future use of VA healthcare system	
Yes, as a primary source of care	75 (53.2)
Yes, only as back up to non-VA care	44 (31.2)
Yes, for prescriptions only	5 (3.5)
No	16 (11.3)
Have help to go to doctor if ill	115 (81.6)
Mean number of lifetime discrimination events, (SD)	15.8 (9.59)

Perceived Quality of Care

Table 2 shows the number and percent responses for each ordinal category, mean item (SD), and sum scores for perceived quality of care. The mean item responses for perceived quality of care generally correspond to response items in the "neutral" to "agree" range. Items receiving the strongest positive endorsement included: "I feel respected by the clerical staff," "In general, doctors and nurses explain procedures I might be having," "In general, doctors and nurses ask questions," and "In general, doctors and nurses give me a chance to explain problems or issues I am having that might be affecting my health." In all of these latter statements, approximately 75% or more of the respondents agreed with each statement. However, even for these items, the average response was just below an "agree" response. Particularly noteworthy are three items with the lowest levels of satisfaction, which focused on healthcare providers integrating spiritual needs into care (about 10% agreed or strongly agreed with the statement) and problems obtaining follow-up services (a little more than a third agreed or strongly agreed) and specialty care (a little over 50% agreed or strongly agreed). For the total scale, respondents' scores ranged from 23 to 75 with a mean (SD) of 52 (9.9).

Satisfaction with Healthcare

Table 3 shows the mean item and sum scores for patient satisfaction with healthcare. The mean item responses for satisfaction with healthcare generally correspond to response items in the "neutral" to "agree" range. Most respondents agreed that their doctors had good communication skills as evidenced by a majority noting their doctors are good about explaining the reason for medical tests, being friendly and courteous, and not ignoring them. About half of the respondents felt the doctors spent plenty of time with them and disagreed that their providers were in a hurry when treating them. Further, most respondents felt their doctor's office had everything needed to provide complete medical care and the medical care they received was near perfect. However, even for these items, the average response was just below an "agree" response. A majority of respondents felt that doctors made them wonder if their diagnosis was correct. For the total scale, respondents' scores ranged from 26 to 90 with a mean (SD) of 60.6 (13).

Perceived Healthcare Discrimination

In response to the statement, "I can recall a situation in which I experienced discrimination where I receive my health care services," the majority of participants indicated that they "agreed" (40.4%) or "strongly agreed" (12.1%) while the remainder were "neutral" (26.2%), "disagreed" (14.9%), or "strongly disagreed" (3.5%). The range of responses was from 1 to 5 with a mean and standard deviation of 2.56 and 1.01 respectively.

Relationships between Perceived Discrimination, Perceived Quality of Care, Patient Satisfaction, Physical Health and Mental Health

Table 4 presents results of final models testing the relationship between perceived healthcare discrimination and each of the following outcome variables -- perceived quality of care, patient satisfaction, physical health status, and mental health status -- while controlling for possible confounders. The first step involved entering demographic variables (age, grade level, and working status); in the second step health-related and other control variables (certified disability, help to go to the doctor, type of use of VA, and experience of lifetime discrimination) were added; finally, the healthcare discrimination variable was added in the final step of the hierarchical regression.

The pattern of results was fairly similar for perceived quality of care and patient satisfaction. Both final models show that perceived healthcare discrimination was significantly associated with perceived quality of care and patient satisfaction. Healthcare discrimination in both models was the strongest factor. In addition, both final models show that those who reported using a combination

Table 2. Perceived Quality of Care (n=141).

Quality of Care	M** n(%)	Strongly Agree (=5) n(%)	Agree (=4) n(%)	Neutral (=3) n(%)	Disagree (=2) n(%)	Strongly Disagree (=1) n(%)	Mean (SD)
I am treated with dignity.	0(0.0)	21(14.9)	85(60.3)	23(16.3)	9(6.4)	3(2.1)	3.79(0.850)
I feel respected by the clerical staff.	0(0.0)	22(15.6)	83(58.9)	25(17.7)	9(6.4)	2(1.4)	3.81(0.827)
I get to know my doctors.	1(0.7)	25(17.7)	68(48.2)	34(24.1)	12(8.5)	1(0.7)	3.74(0.876)
Doctors & nurses use the most advanced medical knowledge & technique.	2(1.4)	19(13.5)	60(42.6)	45(31.9)	12(8.5)	3(2.1)	3.58(0.909)
Medical care is as good as the care provided in other hospitals in this community.	2(1.4)	20(14.2)	66(46.8)	33(23.4)	16(11.3)	4(2.8)	3.59(0.969)
Doctor & nurses treat veterans with the respect they deserve.	2(1.4)	13(9.2)	64(45.4)	40(28.4)	17(12.1)	5(3.5)	3.45(0.950)
In general, doctors and nurses explain procedures I might be having.	2(1.4)	16(11.3)	91(64.5)	23(16.3)	6(4.3)	3(2.1)	3.80(0.782)
In general, doctors and nurses ask me about or discuss my spiritual needs.	2(1.4)	4(2.8)	11(7.8)	35(24.8)	71(50.4)	18(12.8)	2.37(0.910)
In general, doctors and nurses ask questions.	2(1.4)	19(13.5)	90(63.8)	17(12.1)	10(7.1)	3(2.1)	3.81(0.842)
In general, doctors and nurses give me a chance to explain problems or issues I am having that might be affecting my health.	2(1.4)	20(14.2)	92(65.2)	17(12.1)	6(4.3)	4(2.8)	3.85(0.825)
I am able to see a specialist when I need to.	3(2.1)	16(11.3)	61(43.3)	29(20.6)	24(17.0)	8(5.7)	3.38(1.08)
I am able to get the immediate attention of my health care provider when I need to.	4(2.8)	14(9.9)	62(44.0)	34(24.1)	19(13.5)	8(5.7)	3.40(1.04)
I am able to get procedures that are recommended and needed in a timely fashion.	1(0.7)	6(4.3)	74(52.5)	34(24.1)	22(15.6)	4(2.8)	3.40(0.904)
I get answers to my health care questions from my health care providers.	2(1.4)	18(12.8)	83(58.9)	22(15.6)	14(9.9)	2(1.4)	3.73(0.866)
I have received follow-up services to assist me with my health care needs.	7(5.0)	5(3.5)	44(31.2)	47(33.3)	30(21.3)	8(5.7)	3.06(0.971)
Sum of Quality of Care Questions Range 15-75	0(0.0)						52.0(9.9)

**M column= frequency and raw % of missing

Table 3. PSQ-18 Items on Patient Satisfaction with Health Care.

Satisfaction Item	M ^{**} n(%)	Strongly Agree (=5) n(%)	Agree (=4) n(%)	Neutral (=3) n(%)	Disagree (=2) n(%)	Strongly Disagree (=1) n(%)	Mean (SD)
Doctors are good about explaining the reason for medical tests.	2(1.7)	24(20.3)	62(52.5)	16(13.6)	13(11.0)	1(0.85)	3.82(0.92)
I think my doctor's office has everything needed to provide complete medical care.	2(1.7)	19(16.1)	66(55.9)	20(16.9)	11(9.32)	0(0.0)	3.80(0.83)
The medical care I have been receiving is just about perfect.	2(1.7)	12(10.2)	56(47.4)	30(25.4)	16(13.6)	2(1.7)	3.52(0.92)
Sometimes doctors make me wonder if their diagnosis is correct.*	2(1.7)	9(7.63)	46(39.0)	33(28.0)	21(17.8)	7(5.93)	2.75(1.04)
I feel confident that I can get the medical care I need without being set back financially.	3(2.54)	17(14.4)	61(51.7)	18(15.2)	10(8.50)	9(7.63)	3.58(1.10)
When I go for medical care, they are careful to check everything when treating and examining me.	2(1.7)	17(14.4)	66(55.9)	18(15.2)	17(14.4)	0(0.0)	3.70(0.89)
I have to pay for more of my medical care than I can afford.*	0(0.0)	10(8.47)	23(19.5)	16(13.6)	52(44.1)	16(13.6)	3.43(1.48)
I have easy access to the medical specialists I need.	0(0.0)	13(11.0)	57(48.3)	23(19.5)	18(15.2)	7(5.93)	3.43(1.07)
Where I get medical care, people have to wait too long for emergency treatment.*	0(0.0)	11(9.32)	24(20.3)	34(28.8)	42(35.6)	7(5.93)	3.08(1.08)
Doctors act too businesslike and impersonal toward me.*	2(1.7)	5(4.24)	19(16.1)	35(29.7)	46(39.0)	11(9.32)	3.34(1.00)
My doctors treat me in a very friendly and courteous manner.	4(3.39)	24(20.3)	67(56.8)	14(11.9)	7(5.93)	2(1.7)	3.91(0.858)
Those who provide my medical care sometimes hurry too much when they treat me.*	0(0.0)	7(5.93)	29(24.6)	22(18.6)	52(44.1)	8(6.78)	3.21(1.08)
Doctors sometimes ignore what I tell them.*	2(1.7)	8(6.78)	18(15.2)	22(18.6)	54(45.8)	14(11.9)	3.41(1.10)
I have some doubts about the ability of the doctors who treat me.*	0(0.0)	5(4.24)	15(12.7)	27(22.9)	62(52.5)	9(7.63)	3.47(0.958)
Doctors usually spend plenty of time with me.	1(0.847)	8(6.78)	53(44.9)	27(22.9)	22(18.6)	7(5.93)	3.28(1.04)
I find it hard to get an appointment for medical care right away.*	0(0.0)	14(11.9)	29(24.6)	19(16.1)	49(41.5)	7(5.93)	3.05(1.18)
I am dissatisfied with some things about the medical care I receive.*	2(1.7)	8(6.78)	33(28.0)	25(21.2)	45(38.1)	5(4.24)	3.05(1.06)
I am able to get the medical care whenever I need it.	1(0.847)	16(13.6)	53(44.9)	22(18.6)	21(17.8)	5(4.24)	3.46(1.07)
PSQ-18 Scale (18-90)	0(0.0)						60.6 (13.0)

*This item has been recoded and thus reflected in the mean: 1=Strongly Agree, 2=Agree, 3=Neutral, 4=Disagree, 5=Strongly Disagree

**M column= frequency and raw % of missing

Table 4. Final Models for Associations between Perceived Discrimination and Perceived Quality of Care, Patient Satisfaction, and Physical and Mental Health Status (n=141).

	Perceived quality of care	Patient satisfaction	Physical health	Mental health
	β b	β b	β b	β b
Age	0.092 0.088	0.064 0.081	-0.116 -0.144	0.101 0.062
Education	0.023 0.310	0.084 1.46	0.223** 3.90	0.055 0.482
Employed†	-0.031 -0.635	-0.113 -3.10	0.183* 4.75	-0.116 -1.50
Certified disability†	0.040 0.875	0.051 1.51	-0.225** -6.42	-0.005 -0.077
Help to go to doctor†	0.167* 4.62	0.131 4.92	0.004 0.150	0.238* 4.15
Dual use of combined VA and non-VA services†	-0.226** -4.94	-0.288*** -8.04	-0.046 -1.26	-0.085 -1.15
Perceived lifetime Discrimination	-0.246** -0.259	-0.324*** -0.450	-0.140 -0.189	-0.033 -0.022
Perceived healthcare discrimination	-0.319*** -3.15	-0.321*** -4.17	-0.219* -2.90	-0.068 -0.447
Adjusted R ²	0.340 F=9.5, df=8***	0.444 F=12.1, df=8***	0.265 F=6.58, df=8**	0.070 F=2.16, df=8*

†Dichotomous variables, β = Standardized beta coefficient, b= Unstandardized beta coefficient
*p<0.05, **p<0.01, ***p<0.001.

Education: Grade level: 1= High school or less, 2= Some college, 3= College graduate/graduate school; Working: 0= Not working, 1= Working; Certified disability: 0= No, 1=Yes; Help to doctor: 0= No, 1= Yes, Use of VA: 0= VA-only or non-VA only providers, 1= VA and non-VA providers, Experience of discrimination: Sum of experience of discrimination items with higher scores indicating greater frequency of experiences of lifetime discrimination, Healthcare discrimination (1 item): "I can recall a situation in which I experienced discrimination where I receive my health care services." Higher scores indicate greater healthcare discrimination. Quality of care: Sum of quality of care items with higher scores indicate greater perceived quality of care. Higher scores of patient satisfaction indicate greater patient satisfaction with health care services. Higher scores on both physical and mental functioning items indicate greater physical and mental functioning.

of VA and non-VA services had significantly lower scores on perceived quality of care and patient satisfaction compared to those who used only VA services or only non-VA services. Perceived lifetime discrimination was also significant in these models. The final models explained 34% and 44% of the variance for perceived quality of care and patient satisfaction, respectively.

As shown in Table 4, after controlling for possible confounders, experiencing greater healthcare discrimination was significantly associated with poor physical functioning ($p \leq 0.05$). Other important factors associated with physical health status were the degree of certified disability and grade level. Experience of lifetime discrimination was not associated with physical or mental health status. The model accounted for 26.5% of the variance in physical health. For mental health status, the only significant factor was having help to go to the doctor and the final model accounted for 7% of the variance in mental health.

DISCUSSION

The current study aimed to: (1) describe African-American veterans' perceptions of healthcare services they receive and perceived discrimination in healthcare and (2) investigate the relationship between perceived healthcare discrimination and patient perceptions of quality of care, satisfaction with care, and health status among African-American veterans. With regard to the first study aim, findings show that African-American veterans have mixed perceptions of satisfaction with their health care, the perceived quality of care, and the presence of healthcare discrimination. With regard to the second study aim, we found that controlling for the effects of possible confounders, perceived healthcare discrimination was associated with lower perceived quality of care, patient satisfaction, and physical health status, but not with mental health status. Those who received care from only VA or non-VA providers reported greater patient satisfaction and perceived quality of care.

African-American Veterans' Experiences in Healthcare

African-American veterans expressed mixed satisfaction with their healthcare and perceived quality of care. These findings conflict with prior research showing patient evaluations of their physicians and VA care to be relatively high (Ren, Kazis, Lee, Rogers, & Pendergrass, 2001; Kressin et al., 2002). Differences between our findings on satisfaction with care and those reported in previous studies may be attributable to the focus on veterans receiving healthcare at the VA, whereas our sample included veterans who receive their care both within and outside the VA system. The present study showed that many respondents expressed significant concern about the lack of spiritual assessment. Prior literature shows that religion has an important role in the lives of African-American veterans (Kressin et al., 2002; Kressin et al., 2004). Our findings confirm the need for a stronger integration of spiritual assessments in the healthcare management of African-American veterans. Such assessments may foster greater satisfaction with care and desire to follow treatment. Quality of care findings also indicate that only a third of the African-American veterans agreed they received follow-up care to meet their healthcare needs. This is lower than 64% of a general African-American population with diabetes who received follow-up monitoring specific to diabetes (eye exams, foot exams, and blood pressure monitoring) in a six- to twelve-month time period (Collins et al., 2002).

The finding that perceived healthcare discrimination is common among African-American veterans is consistent with previously reported findings. For example, Collins and colleagues (2002) found that a quarter of African-American veterans felt they were not treated with dignity and respect. Feeling disrespected and experiencing a lack of dignity when accessing health care have also been reported by Hobson (2001) in a study of African-Americans, including both veterans and non-veterans, which found that one in three African-Americans living in Central and Southeast Seattle perceived discrimination in healthcare. Perceived discrimination led some respondents in

the Seattle study to change their health-seeking behaviors, such as avoiding institutions providing the discriminatory care and/or delaying efforts to seek treatment, partially due to not knowing where else to get care (Hobson, 2001). As with the city of Seattle, Boston may also need to conduct an indepth study so the experiences of racial discrimination among African-American veterans can be further explored. There is a need for further studies on the nature and extent of racial discrimination experienced by African-American veterans, especially considering the significant number of African-American veterans from recent conflicts.

The present study found that about one-third of the sample were dual users of both VA and non-VA services. This finding is similar to what has been previously reported in the literature (Borowsky & Cowper, 1999). When dual users and non-users of the VA are combined, about two-thirds of the sample did not use the VA as their sole provider. This could be because participants were geographically limited or did not meet requirements to qualify. Nevertheless, this indicates that a large percentage of African-American veterans are using services outside a healthcare system that should be available to them by function of their past military service. Since income data were not collected as part of this study, it is unclear whether the veterans with higher incomes who may have to pay more out of pocket for VA care decided to use non-VA services since the benefit of using VA care may not have been as great.

The decision to use non-VA services may have to do with different alternative or better health benefits from current employment and/or dissatisfaction with VA services (Stroupe et al., 2005). Individuals who are dual users may be more likely to be less satisfied with one type of care and for this reason may have shifted to sources outside of the VA. Those individuals likely to use one type of service, VA or non-VA, may be more likely to be satisfied with their source of care and not likely to go out of a given service type. Support for this argument comes from the present study findings indicating that African-American veterans were significantly more likely to have lower patient satisfaction and perceived quality of care when going to dual providers than when using only one type of provider. Prior literature also supports the relationship between dual use and dissatisfaction with healthcare (Bean-Mayberry et al., 2004; Stroupe et al., 2005). Since only about 10% of the sample indicated a lack of willingness to use the VA in the future and more than half of the sample had alternative healthcare, the decision not to use VA services may have less to do with dissatisfaction with the VA system and more with their access to other sources of healthcare or with financial issues. Future research should examine why veterans use services outside the VA system.

Relationships between Perceived Healthcare Discrimination and Perceived Quality of Care, Patient Satisfaction, and Health Status

Our findings indicate that after controlling for possible confounders, perceived healthcare discrimination is significantly related to lower perceived quality of care, patient satisfaction, and physical health status. We are not aware of any other studies that have investigated the role of perceived healthcare discrimination and these important dimensions of healthcare among African-American veterans. However, these findings are consistent with prior studies with general population samples showing a relationship between patients' experience of discrimination in the healthcare system and their satisfaction with care (Chen, Fryer, Phillips, Wilson, & Pathman, 2005; LaVeist et al., 2000; Malat & van Ryn, 2005). It seems relatively intuitive that perceived discrimination by healthcare providers would be directly related to negative evaluations of care. Our findings confirm prior findings that perceived discrimination influences satisfaction with care which in turn is associated with health status.

Less obvious may be the relationship between lifetime discrimination and perceptions of quality of care and patient satisfaction. It is possible that lifetime discrimination predisposes patients to perceive healthcare as less satisfying and affects their interactions with providers. Alternatively, it

is also possible that those who experience lifetime discrimination are more likely to also experience discrimination from healthcare providers. While these potential explanations are plausible, there is some evidence suggesting that it is only personal experiences with healthcare discrimination that impact patient outcomes and not prior knowledge of historical discrimination or perceptions of current disparities in treatment (Malat & van Ryn, 2005). We explored the possibility of an interaction effect between the two discrimination measures on patient satisfaction and perceived quality of care. A post-hoc analysis found no significant interaction on these two outcomes (data not shown). Thus, each discrimination measure appears to be a significant and independent predictor of these outcomes. More research needs to be conducted to uncover the psychosocial processes linking experience of past discrimination, patient satisfaction, and perceived quality of care.

The study also found that having help to get to the doctor was a significant predictor of perceived quality of care and mental health status. These results reinforce prior findings showing that issues of access are relevant to perceived quality of care and other outcomes (Boston Public Health Commission, 2005; Collins et al., 2002; Commonwealth Fund, 1999; Gary, McGuire, McCauley, & Brancati, 2004; Geronimus, 2000; Malat & van Ryn, 2005). It is possible that having help in getting to the doctor is a proxy measure of available instrumental social support, which has been associated with positive health status (Cohen & Syme, 1985; House, Landis, & Umberson, 1988; Seeman, 2000; Tomaka, Thompson, & Palacios, 2006). Future research should explore the specific concerns veterans have and the barriers they face with transportation in getting to the doctor and also investigate the role of both emotional and instrumental social support in the health of African-American veterans. Assistance in getting to the doctor was also related to perceived quality of care and this relationship deserves further investigation to ascertain if having transportation contributes to the overall perception of the medical visit or whether it is the company and possible assistance of another person at the medical visit that impacts perceived quality of care.

Study findings indicate that physical health status was significantly associated with educational level, employment, and certified disability. It seems relatively clear that those who have better physical health status would be less likely to have a certified disability and/or more likely to be working. Based on prior literature, it was also not surprising that those with greater education have better physical functioning than those with less education (Ross & Wu, 1996). Mental health status, on the other hand, was unrelated to educational level, a finding not consistent with the literature (Miech & Shanahan, 2000; Ross & Wu, 1996).

Study Limitations

The present study had several limitations. First, the convenience sample may not be representative of African-American veterans in Boston so findings may not be generalizable to all African-American veterans. Second, the relatively small sample size limited our ability to conduct certain types of analyses that would have allowed us to more fully explore the complex relationships among the variables studied. Third, the measure of healthcare discrimination was not setting-specific and therefore, reports of healthcare discrimination can not be attributed to experiences in the VA or non-VA provider. Fourth, due to the cross-sectional nature of the study, it is not possible to infer causality between healthcare discrimination and the outcomes studied. Finally, the single item measure of perceived healthcare discrimination may not be as robust as a multiple-item measure.

CONCLUSION

This is the first study, to our knowledge, that explored the relationships between healthcare discrimination and perceived quality of care, patient satisfaction, and health status among African-American veterans. Our findings indicate that a significant proportion of African-American veteran

participants in this study reported perceived discrimination in healthcare, low perceived quality of care, and low levels of satisfaction with the healthcare they receive. Our findings that perceived healthcare discrimination is associated with lower perceived quality of care, lower satisfaction, and lower health status point to the need for studies with more representative and larger samples and longitudinal designs. Research is also needed on comprehensive measures of perceived discrimination among African-American veterans. Such investigations will hopefully lead to: (1) a deeper and more comprehensive investigation of access to care, quality of care, and discrimination in health care among African-American veterans, (2) future ongoing performance-based monitoring of policies and provider behaviors contributing to discrimination in healthcare and negative patient outcomes, and (3) greater efforts to educate administrators and service providers about health issues and concerns faced by African-American veterans. Additional research is also needed to better understand African-American veterans' choices regarding using or not using VA services and how satisfaction with care, perceived quality of care, and experiences of discrimination impact such choices. Grassroots advocacy organizations such as those which collaborated in the current study can be instrumental in assisting researchers to meet the above goals and create an atmosphere of zero tolerance of any discrimination of African-American veterans in healthcare settings. Finally, while this study focused on African-American veterans, findings on healthcare disparities among other minority veterans (Saha et al., 2008) suggest a need to include other minority groups in studies on the relationships between healthcare discrimination and quality of care, satisfaction with care, and health status and outcomes

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