

RACE OF PHYSICIAN AND SATISFACTION WITH CARE AMONG AFRICAN-AMERICAN PATIENTS

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The purpose of this study is to examine predictors of physician-patient race concordance and the effect of race concordance on patients' satisfaction with their primary physicians among African American patients. The specific research question is, do African American patients express greater satisfaction with their care when they have an African American physician? Using the Commonwealth Fund, Minority Health Survey, we conduct multivariate analysis of African American respondents who have a usual source of care ($n = 745$). More than 21% of African American patients reported having an African American physician. Patient income and having a choice in the selection of the physician were significant predictors of race concordance. And, patients who were race concordant reported higher levels of satisfaction with care compared with African American patients that were not race concordant. (*J Natl Med Assoc.* 2002; 94:937-943.)

INTRODUCTION

Race relations have been among the most vexing problems facing American culture, and healthcare has not been immune to this. Through most of the 20th century, healthcare facilities were racially segregated, with African Americans generally receiving suboptimal care. In addition, African American physicians were typically barred from practicing medicine on white patients.^{1,2} While many of these conditions have abated, vestiges of this history remain. There is substantial contemporary evi-

dence of race disparities in access, utilization and quality of care.^{3,14,15}

Among the most commonly proposed solutions to race disparities in quality of care, is the recommendation to increase the number of African American healthcare providers. This suggestion supposes that increasing the number of providers will increase the likelihood that African American patients will have an African American provider. In turn, physician-patient race concordance is expected to lead to better quality care and greater patient satisfaction.²⁸ Medical schools have responded to this proposition by increasing the production of minority physicians.^{4,5} Yet, although quite popular, the race concordance hypothesis has received only limited scrutiny. In this paper, we address the question, do African American patients express greater satisfaction with their

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care when they have an African American physician?

METHODS

Data for this analysis came from the 1994 Commonwealth Fund Minority Health Survey (MHS). The MHS is a sample within the contiguous United States of adults 18 years of age and older residing in households with telephones.⁶ Interviews were conducted via telephone using random digit dialing. African Americans were over-sampled in the MHS, resulting in a total sample of 1048 African American respondents. The present analysis examines the subsample of 745 African American respondents who indicated that they had a usual source of care.

Dependent Variables

The first set of analyses examined predictors of race concordance, and the second set examined patient satisfaction. Race concordance was specified as a binary variable indicating that the respondent's race is concordant with the race of the physician. Patient satisfaction is assessed by a five-item scale. Respondents were asked how good their doctor is at: (1) providing good healthcare overall; (2) treating them with dignity; (3) making sure the patient understands what he/she has been told; (4) listening to health problems; (5) being assessable by phone or in person. The responses were on a scale of 1 to 4, with 1 being excellent and 4 being poor. In the regression analysis, responses to the five items were summarized to form an index ranging from 5 to 20. This index had a Chronbach's Alpha of 0.81.

Independent Variables

In analysis predicting race concordance, physician choice was the primary independent variable. Physician choice was measured by the question, "How much choice you do have in where you go for medical care?" Respondents indicating that they have a "great deal" or "some" were coded as having a choice, and responses of "very little" or "no choice" were

coded as no choice. In analysis of patient satisfaction, physician-patient race concordance was the primary independent variable.

Covariates

The covariates were sex, age, income, education, and health insurance. Sex was specified as a binary variable indicating male. Age was specified as a set of binary variables indicating age: 18–30, 31–40, 41–50, 51–65, and 66–94. Annual income was specified as a continuous variable. Education was specified as a set of binary variables indicating less than high school graduate, some college, college graduate, and more than college graduate. Health insurance was specified as a set of binary variables indicating private insurance, Medicare, Medicaid, and uninsured.

RESULTS

Table 1 presents distributions of the variables included in the analysis. The table shows that the respondents were evenly divided by gender, with 50% of the respondents being male. Age of the respondents was spread fairly evenly within a range of 18 to 94 years of age. The median age fell within the range of between 41 and 50 years old. And respondents over age 66 represented the smallest category (12.7%). The median income for the sample was between \$25,001 and \$35,000 per annum, with 91.4% of respondents reporting a salary under \$75,000.

Eighty-two percent of respondents had obtained at least a high school education and 50.8% received some higher education. More than 75% of respondents had private health insurance and slightly less than one-fifth had Medicare. Just over 15% of the respondents had Medicaid and 10% were uninsured. Finally, nearly two-thirds of respondents reported having a choice for their physician.

Table 2 examines the distribution of physician's race among African American respondents. The table shows that nearly 22% of respondents had an African American doctor. The largest percentage of respondents (58.5%)

Table 1. Sample Descriptive Statistics

Variable	Percent
Male	50.0
Age	
18-30	20.4
31-40	27.0
41-50	18.9
51-65	20.9
66-94	12.7
Income	
<\$7,500	13.2
\$75,001-\$15,000	12.6
\$15,001-\$25,000	19.3
\$25,001-\$35,000	18.6
\$35,001-\$50,000	17.4
\$50,001-\$75,000	10.3
\$75,001-\$100,000	5.8
>\$100,000	2.8
Education	
<HS grad	17.7
HS grad	31.6
Some college	27.0
College grad	13.8
Post college	10.0
Insurance*	
Private	75.6
Medicare	19.9
Medicaid	15.4
Uninsured	10.8
Doctor choice	65.3

*Insurance status categories are not mutually exclusive. For example, a respondent can have Medicare and a private healthcare policy. Also, one could be dually eligible for Medicare and Medicaid.

reported having a white physician. About 10% of respondents had Asian or Pacific Islander physicians and 9.7% had a doctor who was of Hispanic descent or another ethnic group (Hispanic physicians were not analyzed as a sepa-

Table 2. Race of Physician Among African American Respondents who Reported Having a Usual Source of Care

Physician's race	(n=745)
White	436 (58.5%)
Black	162 (21.7%)
Hispanic/other	46 (6.5%)
Asian/pacific islander	75 (10.1%)

Table 3. Logistic Regression Analysis of Predictors of Physician-patient Race Concordance, Odds Ratio (95% Confidence Interval)

	Female Male	B .863 (.593,1.25)
Age		B
18-30		
31-40		.41 (.24, .71)
41-50		.47 (.27, .83)
51-65		.53 (.31, .92)
66-94		.25 (.11, .1)
Income		1.13 (1.0, 1.26)
Education		B
K-12		
High School		.62 (.34, 1.13)
Some College		.73 (.39, 1.36)
College Graduate		.64 (.31, 1.30)
Post College Degree		.64 (.29, 1.38)
Insurance		B
Private		
Medicare		1.43 (.75, 2.74)
Medicaid		.69 (.37, 1.32)
Uninsured		1.19 (.59, 2.39)
Doctor Choice		1.91 (1.00, 3.64)
Model Statistics		Hosmer and Lemeshow $\chi^2 = 4.71$ df = 8 p = .00

rate category because their total numbers were too small, only 17 respondents reported having a Hispanic physician).

Table 3 presents the results of logistic regression models examining predictors of race concordance. The table shows that patient's age, income, and having a choice of physician are significant predictors of physician-patient race concordance. Younger respondents were more likely to be race concordant. Higher income was associated with a greater likelihood of race concordance. And, respondents who report they have the ability to choose their own physician had nearly double the odds of being race concordant with their physician compared with patients that did not have choice.

In Table 4, the analysis turns to an assessment of patient satisfaction. The table displays bivariate analysis of each item comprising the five-item patient satisfaction scale arrayed by race of physician. The general pattern among

Table 4. Patient Satisfaction, Percent responding excellent

How would you rate your doctor on the job he/she is doing.. . .	Race of Physician				Total
	African American	White	Hispanic/ Other	Asian/ Pacific Islander	
In providing healthcare overall?*	67.3%	49.8%	68.1%	56.8%	56.0%
In treating you with respect and dignity?*	78.3%	59.5%	65.7%	65.3%	64.8%
Making sure you understand what you are told about your medical problems?	69.6%	60.0%	71.4%	60.0%	63.1%
Listening to your health concerns and taking them seriously?*	70.2%	52.8%	77.1%	54.1%	59.0%
In being accessible either by phone or in person?*	57.1%	41.0%	54.3%	44.6%	46.1%

* = p -value for χ^2 test < .001

the variables is that African American respondents reported the greatest satisfaction with African American physicians and the least satisfaction with white physicians. Respondents were more than 35% more likely to rate African American physicians as excellent at "providing healthcare overall," compared with white physicians. For all physicians, the lowest rating was for "being assessable by telephone or in person."

Table 5 displays ordinary least squares (OLS) multiple regression analyses examining race concordance as a predictor of patient satisfaction. Model 1 tests the bivariate effect of race concordance on patient satisfaction, and Model 2 tests the relationship with adjustments for a set of covariates. The table shows that race concordance is an important predictor of patient satisfaction. Patients who have white or Asian/Pacific Islander physicians were significantly less satisfied with their care, compared with African Americans who are race concordant.

Model 2 adjusts for covariates. The model shows that the significant effect of physician race on patient satisfaction persists after model adjustment. The model also shows statistically significant controls for patients age 51 to 65, high school graduates, those with post-graduate educations, and those having the ability to choose their doctor.

DISCUSSION

We conducted analysis of the 1994 Commonwealth Fund Minority Health Survey to explore the correlates of physician-patient race concordance and to determine whether race concordance was predictive of patient satisfaction. More than one-half of the African American respondents reported having a white physician. However, this is likely reflective of the fact that whites comprise the overwhelming majority of all physicians in the US. Our analysis found that the percentage of African American physicians caring for African American respondents (21.7%) was much higher than the percentage of African American physicians in the general population (3.6%). This confirms previous analyses showing that African American physicians are more likely to practice in African American communities, compared with doctors of other race/ethnic groups.^{5,7-12}

Race concordance among African American patients appeared to be a matter of choice rather than merely a byproduct of constrained options caused by geographic limitations. Respondents who reported having the ability to choose their own physician were significantly more likely to have an African American physician. Moreover, more affluent African American respondents were more likely to have an African American phy-

Table 5. Ordinary Least Squares (OLS) Regression of Predictors of Patient Satisfaction-race/Ethnic Specific Analysis, Standardized Coefficient (P-value)

	Model 1	Model 2
Physician race		
Black	—	—
White	-.166 (p = .0001)	-.155 (p = .0002)
Asian/pacific islander	-.093 (p = .02)	-.098 (p = .02)
Hispanic/other	.026 (p = .53)	.031 (p = .44)
Female		B
Male		-.024 (p = .53)
Age		
18-30		—
31-40		.016 (p = .75)
41-50		.037 (p = .45)
51-65		.128 (p = .011)
66-94		.046 (p = .44)
Income		.023 (p = .61)
Education		
K-12		—
High school graduate		.115 (p = .04)
Some college		.088 (p = .13)
College graduate		.039 (p = .46)
Post graduate degree		.131 (p = .012)
Insurance		
Private		B
Medicare		.045 (p = .42)
Medicaid		.001 (p = .98)
Uninsured		.059 (p = .13)
Patient does not have ability to choose doctor		B
Patient has ability to choose doctor		.169 (p = .0001)
Model statistics	Adj R ² = .024	Adj R ² = .064
	F = 6.69	F = 3.83
	p = .000	p = .000

sician, compared with less affluent persons. These respondents, presumably, have a greater choice of providers.

While physician-patient race concordance leads to greater patient satisfaction, there is room for improvement. As Table 4 shows, African American respondents were more satisfied with Hispanic and other race physicians at making sure patients understood what they were being told and listening to patient's health concerns and taking them seriously. Additionally, only 57.1% of respondents reported that African American physicians were doing an excellent job at being accessible by telephone or in person. We point out that the Hispanic/other physician category is somewhat

of a miscellaneous category, so findings related to this group must be interpreted with caution. However, it is meaningful that African American physicians did not obtain the highest ratings for all categories. Moreover, Chen et al.,¹³ demonstrated that African American physicians were as likely as white physicians to fail to refer African American cardiac patients for coronary Angiography when the procedure was indicated. Thus, while African American patients are more satisfied with their care, it is not clear that all dimensions of quality are enhanced by race concordance. For example, are African Americans more likely to receive preventive health services? Are their health services utilization patterns different? Is their com-

pliance better? These questions remain to be explored in future research.

Nevertheless, in spite of some shortcomings in satisfaction among race concordant African Americans, our finding of greater patient satisfaction supports the need for the continuation of efforts to increase African American physician production.

One might interpret these results as supporting a return to racial segregation in medicine; that is, that patients are better off with physicians who are of their own racial or ethnic group. However, we would strenuously resist this interpretation. Instead, we favor providing patients with an array of options that maximizes choice, and we view the race of physician as merely one factor to be considered among many others. As Table 5 shows, patient choice is also highly associated with patient satisfaction.

As to the matter of whether increasing the number of African American physicians will lead to better health outcomes for African Americans, an interpretation of our findings within the context of other related literature leads us to conclude that it most likely will. Increasing the number of African American physicians will expand the opportunities for African American patients who choose to be race concordant. Our findings suggest that there will be greater satisfaction among African Americans who are inclined to choose doctors in concordance with race.

Previous findings demonstrate that African American physicians are more likely to practice in minority and under-served communities.⁷⁻¹¹ Studies of patient satisfaction and other related concepts (such as patient-centeredness) find improved outcomes in race concordant physician-patient pairs.¹⁶ There is a very limited literature on race concordance and medical outcomes,¹³ but the one available study indicates that African American physicians are as likely as white physicians to under-refer African American patients for heart surgery. Chen's¹³ findings are inconsistent with the findings in the present analysis, as well as other studies,^{16,17}

and may be anomalous. Clearly, there is a need for further study to confirm or refute Chen's findings. However, whether or not future research confirms Chen, patient satisfaction is an important outcome in its own right. In addition to its intrinsic importance for individual health-care consumers and third-party payers, patient satisfaction also is an important determinant of health-related outcomes, such as health services utilization,^{18,19} decision to switch to another health plan,²⁰⁻²³ compliance with medical regimen,²⁴ and the decision to initiate malpractice suits.²⁵ Moreover, the Institute of Medicine recommends including patient satisfaction as an indicator of quality of care.^{26,27}

As the African American population continues to grow and becomes increasingly affluent, the demand for African American physicians will grow, as well. However, as previous analyses have shown, the current rate of African American physician production, will not keep pace with future demand.⁵ As such, alternatives such as effective "cultural competency" training, are needed if we are to achieve the objective of eliminating race disparities in health, improve quality of care among African American patients, and make the healthcare system responsive to the changing racial demographics of our nation.

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REFERENCES

1. Gamble VN. A legacy of distrust: African Americans and medical research. *Am J Prev Med.* 1993;9(6 Suppl):35-38.
2. Smith DB. *Health Care Divided: Race and Healing a Nation.* Ann Arbor, MI: University of Michigan Press, 1999.
3. Mayberry RM, Mili F, Ofili E. Racial and ethnic differences in access to medical care. *Med Care Res Rev.* 2000;57(Suppl 1):108-145.
4. Carlisle DM, Gardner JE, Honghu Liu. The entry of underrepresented minority students into US medical schools: an evaluation of recent trends. *Am J Pub Hlth.* 1998;88:1314-1318.
5. Libby DL, Zhou Z, Kindig DA. Will minority physician supply meet US needs? *Health Affairs.* 1997;16:205-214.
6. Hogue, Carol JR, Hargraves MA. The Commonwealth Fund Minority Health Survey of 1994: an overview, in Carol JR, Hogue, Hargraves MA and Collins KS (eds.), *Minority health in America: findings and policy implications from the Commonwealth Fund*

Minority Health Survey, Baltimore and London: Johns Hopkins University Press, 2000.

7. Cantor JC, Miles EL, Baker LC, Barker DC. Physician service to the underserved: implications for affirmative action in medical education. *Inquiry*. 1996;33:167-180.

8. Komaromy M, Grumbach K, Drake M, et al. The role of Black and Hispanic physicians in providing health care for underserved populations. *New Eng J Med*. 1996;334:1305-1310.

9. Moy E, Bartman BA. Physician race and care of minority and medically indigent patients. *JAMA*. 1995;273:1515-1520.

10. Keith SN, Bell RM, Swanson AG, Williams AP. Effects of affirmative action in medical schools: a study of the class of 1975. *New Eng J Med*. 1985;313:1519-1525.

11. Lloyd SM Jr., Johnson DG. Practice patterns of Black physicians: results of a survey of Howard University College of Medicine alumni. *J Nat Med Assoc*. 1982;74:129-141.

12. Rocheleau B. Black physicians and ambulatory care. *Pub Hlth Repts*. 1978;93:278-282.

13. Chen J, Rathore SS, Radford MJ, Wang Y, Krumholz HM. Racial differences in the use of cardiac catheterization after acute myocardial infarction. *New Engl J Med*. 2001;344:1443-1449.

14. Geiger HJ. Racial and ethnic disparities in diagnosis and treatment: a review of the evidence and a consideration of causes. In *Unequal Treatment; Confronting Racial and Ethnic Disparities in Health Care*. 2002 IOM. Washington, DC: National Academy Press.

15. Kressin NR, Peterson LA. Racial differences in the use of invasive cardiovascular procedures: review of the literature and prescription for future research. *Ann Intern Med*. 2001;135:352-366.

16. Cooper-Patrick L, Gallo JJ, Gonzales JJ, et al. Race, gender, and partnership in the patient-physician relationship. *JAMA*. 1999;282:583-589.

17. Saha S, Komaromy MM, Koepsell RD, Bindman AB. Patient-physician racial concordance and the perceived quality and use of health care. *Arch Int Med*. 1999;159:997-1004.

18. Zastoway TR, Roghmann KJ, Cafferata GL. Patient satisfaction and the use of health services: explorations in causality. *Med Care*. 1989;27:705-723.

19. Roghmann KJ, Hengst A, Zastoway TR. Satisfaction with medical care: its measurement and relation to utilization. *Med Care*. 1979;17:461-479.

20. Murray BP, Dwore RB, Gustafson G, Parsons RJ, Vor-

derer LH. Enrollee satisfaction with HMOs and its relationship with disenrollment. *Managed Care Interface*. 2000;13:55-61.

21. Allen HM Jr., Rogers WH. The consumer health plan value survey: round two. *Hlth Aff*. 1998;17:265-268.

22. Hennelly VD, Boxerman SB. Disenrollment from a prepaid group plan: a multivariate analysis. *Med Care*. 1983;21:1154-1167.

23. Sorensen AA, Wersinger RP. Factors influencing disenrollment from an HMO. *Med Care*. 1981;19:766-773.

24. Smith NA, Ley P, Seale JP, Shaw J. Health benefits, satisfaction and compliance. *Pat Educ Counsel*. 1987;10:279-286.

25. Penschansky R, Macnee C. Initiation of medical malpractice suits: a conceptualization and test. *Med Care*. 1996;34:280-282.

26. Hurtado MP, Swift EK, Corrigan JM (Eds.). *Envisioning the National Health Care Quality Report*. 2001 IOM. Washington DC: National Academy Press.

27. Institute of Medicine, Committee on Quality of Health Care in America. *Crossing the Quality Chasm: A New Health System for the 21st Century 2001*. IOM. Washington DC: National Academy Press.

28. LaVeist TA, Nuru-Jeter A. Is doctor-patient race concordance associated with greater satisfaction with care? *J Hlth Soc Behv*. (forthcoming)

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