ORIGINAL ARTICLES

Racial and Ethnic Differences in Patient Perceptions of Bias and Cultural Competence in Health Care

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OBJECTIVES: **To determine: 1) whether racial and ethnic differences exist in patients' perceptions of primary care provider (PCP) and general health care system–related bias and cultural competence; and 2) whether these differences are explained by patient demographics, source of care, or patient-provider communication variables.**

DESIGN: **Cross-sectional telephone survey.**

SETTING: **The Commonwealth Fund 2001 Health Care Quality Survey.**

SUBJECTS: **A total of 6,299 white, African-American, Hispanic, and Asian adults.**

MEASUREMENTS AND MAIN RESULTS: **Interviews were conducted using random-digit dialing; oversampling respondents from communities with high racial/ethnic minority concentrations; and yielding a 54.3% response rate. Main outcomes address respondents' perceptions of their PCPs' and health care system–related bias and cultural competence; adjusted probabilities (Pr) are reported for each ethnic group. Most racial/ethnic differences in perceptions of PCP bias and cultural competence were explained by demographics, source of care, and patient–physician communication variables. In contrast, racial/ethnic differences in patient perceptions of health care system–wide bias and cultural competence persisted even after controlling for confounders: African Americans, Hispanics, and Asians remained more likely than whites ($P < .001$) to perceive that: 1) they would have received better medical care if they belonged to a different race/ethnic group (Pr 0.13, Pr 0.08, Pr 0.08, and Pr 0.01, respectively); and 2) medical staff judged them unfairly or treated them with disrespect based on race/ethnicity (Pr 0.06, Pr 0.04, Pr 0.06, and Pr 0.01, respectively) and how well they speak English (Pr 0.09, Pr 0.06, Pr 0.06, and Pr 0.03, respectively).**

CONCLUSION: **While demographics, source of care, and patient–physician communication explain most racial and ethnic differences in patient perceptions of PCP cultural competence, differences in perceptions of health care system–wide bias and cultural competence are not fully explained by such factors. Future research should include closer examination of the sources of cultural bias in the US medical system.**

KEY WORDS: **bias; cultural competence; disparities; racial and ethnic minorities.**
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Racial and ethnic disparities in health care access and quality have been extensively documented.[1] In 2002, the Institute of Medicine report *Unequal Treatment*[2] confirmed that racial and ethnic disparities in health care are not entirely explained by differences in access, clinical appropriateness, or patient preferences. The report suggested that disparities in health care exist in the broader historical and contemporary context of social and economic inequality, prejudice, and systematic bias. Because most studies of disparity have focused on technical aspects of care, such as the receipt of certain tests, therapies, and procedures, less is known about interpersonal aspects of care that may contribute to observed disparities in health care quality.

Recent work shows that ethnic minorities, who are commonly in ethnic-discordant relationships with health professionals, rate the quality of interpersonal care by physicians and within the health care system in general more negatively than whites.[3–11] Researchers have also provided evidence that bias and stereotyping exists among health care providers.[12,13] Moreover researchers assert that the cultural orientation of the medical care system is less congruent with the cultural perspectives of some patient groups than others.[14–16] Given the important role that interpersonal processes, including manifestations of bias and cultural competence, may play in the provision of health care to racial and ethnic minorities,[14,15,17] measures of these phenomena might be important indicators of individual physician and health care system cultural competence.

No single definition of cultural competence is universally accepted. However, several definitions currently in use share the requirement that health care professionals adjust and recognize their own culture in order to understand the culture of the patient.[18] Cultural and linguistic competence can be conceptualized in terms of organizational, structural, and clinical (interpersonal) barriers to care.[19] The Office of Minority Health defines cultural competence as the ability of health care providers and health care organizations to understand and respond effectively to the cultural and linguistic needs brought by patients to the health care encounter.[20] At the patient-provider level, it may be defined as the ability of individuals to establish effective interpersonal and working relationships that supercede cultural differences.[3] The Liaison Committee on Medical Education includes the need for medical students to recognize and address personal biases in their interactions with patients among their objectives for cultural competence training.[21] Medical educators have defined eight content areas (general cultural concepts, racism and stereotyping, physician–patient relationships, language, specific cultural content, access issues, socioeconomic status, and gender roles and sexuality) that are taught within a commonly accepted rubric of cross-cultural education curricula.[22]

Building on these definitions, frameworks, and objectives, we hypothesized that racial and ethnic differences exist in patient perceptions of: 1) individual physicians' bias and cultural competence; and 2) bias and cultural competence experienced at health care system–wide levels. Second, we hypothesized that these differences would be partially explained by demographic factors, access to care, patient–physician communication, and patients' health literacy.

METHODS

Study Design and Population

We used data from the nationally representative Commonwealth Fund 2001 Health Care Quality Survey of 6,722 adults living in the United States who reported their race as black/African American, Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, white, Hispanic/Latino, or other/mixed race. This study included all survey respondents who reported their race as white, African American, Hispanic, or Asian (N = 6,299). Respondents who identified themselves as Native Hawaiian/Pacific Islander, American Indian/Alaska Native, or other/mixed race/ethnicity were excluded from this analysis because the numbers of respondents in these categories were too small for meaningful statistical examination.

Random-digit dialing methods were used to select respondents; communities with high concentrations of African-American, Hispanic, and Asian residents were oversampled. As many as 20 repeat phone call attempts were made to solicit participation in the survey, and an overall response rate of 54.3% was achieved. In order to correct for disproportionate sampling and nonresponse, and to make final results more reflective of overall population estimates, data were weighted posthoc.

The Commonwealth Fund 2001 Health Care Quality Survey was intended to collect information on the health care experiences of a cross section of adults living in the United States representing people from a diverse group of racial/ethnic backgrounds.[10] Key findings from the survey fall into one of four broad categories: 1) interactions with the health care system; 2) cultural competence and health care; 3) quality, medical errors, preventive care, and chronic disease management; and 4) access to health care.[10] Survey questions covered experiences in the health care system including usual sources of care and patient–physician communication. In addition, the survey inquired about respondents' demographics, socioeconomic and self-rated health status, health literacy, primary language spoken in the home, and foreign-born status. The survey was pilot-tested, revised, and translated into several languages prior to final administration. Telephone interviewers were trained in survey administration and offered respondents the option of answering the survey questions in English, Spanish, Mandarin and Cantonese, Vietnamese, or Korean.

Study Variables

The main independent variable in this study is the respondents' self-reported race or ethnicity. The main outcome variables measure respondents' perceptions of bias and cultural competence while interacting with primary care providers and while seeking health care overall. We operationalized cultural competence in a manner consistent with the descriptive findings of the Commonwealth Fund 2001 Health Care Quality Survey.[10] These survey questions are shown in Table 1. Three outcome measures ask respondents to consider their experiences with their primary health care provider(s) in the past 2 years in terms of that provider(s)'s respectfulness; level of cultural understanding; and acceptance of the respondent, and his/her way of life. Three outcome measures assess respondents' perceptions of health care system bias and cultural competence. General perceptions are measured with a single question assessing whether or not respondents believe that the medical care they received would have been better if they belonged to a different race/ethnic group. Personal experiences with racial/ethnic bias (i.e., being judged unfairly) and treatment with disrespect are measured with one question. A third question addresses whether respondents themselves have been judged unfairly or treated with disrespect based on the way they speak English. We consider health care as encompassing care and procedures delivered by health care providers in several settings, including hospitals, outpatient settings, and long-term care,[23] and representing the infrastructure and organizational network through which health care is delivered. However, respondents were not given a definition of the

Table 1. Bias and Cultural Competence Survey Questions

Physician Bias and Interpersonal Cultural Competence Measures (questionnaire items)
1) Did the doctor treat you with a great deal of respect and dignity, a fair amount, not too much, or none at all?
2) I feel that my doctor understands my background and values.
   Strongly agree
   Somewhat agree
   Somewhat disagree
   Strongly disagree
3) I often feel as if my doctor looks down on me and the way I live my life.
   Strongly agree
   Somewhat agree
   Somewhat disagree
   Strongly disagree

Health System Bias and Cultural Competence Measures (questionnaire items)
1) Do you think there was ever a time when you would have gotten better medical care if you had belonged to a different race or ethnic group?
   Yes
   No
2) Thinking about all of the experiences you have had with health care visits in the last 2 years, have you ever felt that the doctor or medical staff you saw judged you unfairly or treated you with disrespect because of your race or ethnic background?
   Yes
   No
3) Thinking about all of the experiences you have had with health care visits in the last 2 years, have you ever felt that the doctor or medical staff you saw judged you unfairly or treated you with disrespect because of how well you speak English?
   Yes
   No

health care system; rather, they were asked these questions in the context of all the experiences they had with health care visits in the last 2 years.

We adjusted for several potential confounders when evaluating the relationship of respondent race/ethnicity with ratings of physician and health system bias and cultural competence. Model 1 adjusted for demographic characteristics, including age, socioeconomic status (SES) (educational attainment and family income level as a percent of the federal poverty limit), self-rated health status, and primary source of medical care (type of insurance and whether or not the respondent has a regular doctor). In addition to the covariates included in model one, model 2 also adjusted for patient–physician communication (patient ratings of physicians' listening and explanatory skills, willingness to involve patient in decision-making, the adequacy of time spent with the patient, and the patient's unanswered questions after the encounter), and respondent health literacy (respondent self-assessed ability to read and understand prescription drug labeling).

Statistical Analyses

We performed bivariate analyses on all outcome measures first by race/ethnicity, and then by demographic and other covariates to determine which covariates would be included in logistic regression analyses. Only covariates that were both statistically significantly ($P < .05$) different across race/ethnic groups and statistically significantly associated with at least 4 of the outcome measures of interest were included in the multivariate logistic regression models. All analyses were performed using weighted techniques for interpreting survey data using the statistical analysis software, Stata version 7.0 (Stata Statistical Software, College Station, TX).[24]

We performed logistic regression analyses using the entire sample to determine whether statistically significant differences in response patterns to our outcome measures existed for each racial/ethnic minority group as compared to white respondents. We created multivariate models in a step-wise fashion, including demographic and SES measures, source of health care measures, patient–physician communication, and health literacy, primary language, and foreign born status to determine the extent to which these covariates explain differences observed by race/ethnicity or whether an independent effect of race/ethnicity on perceptions of physician cultural competence or health system cultural competence exists. Because controlling for primary language and foreign-born status yielded findings consistent with models not including these measures, they were removed from the final models presented for the purposes of parsimony. We also did not include patient–physician race concordance, because this information was only available for respondents with a regular physician. Additionally, because odds ratios tend to overstate the probability of frequent events, we present estimated probabilities for logistic regression analyses. Adjusted probabilities compare respondents from various race/ethnic groups while holding all covariates in a given model constant at the mean value (for continuous variables) or the average probability of belonging in a particular category (for dichotomous variables) and thus allow comparisons among otherwise equivalent respondents. We performed analyses in which we included only patients with available data for the

outcomes and all of the covariates in their respective models. We also performed analyses limited to respondents with a regular physician in which we adjusted for patient–physician race concordance. These results were entirely consistent with the results reported in Tables 4 and 5.

RESULTS

Characteristics of Study Sample

The total study yielded 6,722 responses (54.3% response rate). Of the 6,722 respondents who participated, 93.7% (n = 6,299 respondents) are included in these analyses, which were limited to those respondents who reported their race as white (n = 3,488), African American (n = 1,037), Hispanic (n = 1,153), or Asian (n = 621). Characteristics of the study sample are shown in Table 2. More than half of the sample was female, and there were no statistically significant gender differences across race/ethnic groups. The average age of respondents from ethnic minority groups (African Americans 43.2 years, Hispanics 39.1 years, and Asians 41.5 years) was statistically significantly (P < .001) younger than that of whites (47.7 years).

There were statistically significant differences (P < .001) in socioeconomic status across race/ethnic groups. African Americans and Hispanics were more likely than whites and Asians to report that: 1) they had not finished high school and 2) their household income was at or below the poverty line. There were racial differences in self-rated health; 17.2% of African Americans and 22.0% of Hispanics reported their health status to be fair or poor as compared with only 14.4% of whites and 12.5% of Asians. A different pattern emerges with regard to primary language and nativity status, however, with whites and African Americans more likely (P < .001) than Hispanics and Asians to report English as their primary language and being born in the US.

Table 3 shows racial and ethnic differences in source of care and patient–physician communication characteristics. Whites were statistically significantly (P < .001) more likely than African Americans, Hispanics, and Asians to

Table 2. Respondent Characteristics by Race/Ethnicity Group

Respondent Characteristics	Total Sample (N = 6,299)*	White (N = 3,488)*	African American (N = 1,037)*	Hispanic (N = 1,153)*	Asian (N = 621)*	P Value
Mean age, y (SD)†	46.0 (18.0)	47.7 (18.1)	43.2 (17.8)	39.1 (15.8)	41.5 (17.3)	< .001
Gender, %						
Male	45.0	45.1	41.9	45.9	49.6	
Female	55.0	54.9	58.1	54.1	50.4	.277
Educational attainment, %						
< High school	15.0	11.0	19.6	39.4	8.9	
High school graduate	32.2	32.8	36.2	28.8	17.0	
Some college	27.6	28.7	27.9	21.3	22.1	
College graduate	25.3	27.5	16.3	10.5	51.9	< .001
Household income, %						
< 100 of poverty level	12.7	9.4	19.3	29.6	11.7	
100 to 199 of poverty level	23.0	20.9	31.3	29.9	19.7	
200 or more of poverty level	64.3	69.8	49.4	40.5	68.6	< .001
Self-rated health status, %						
Poor/Fair	15.5	14.4	17.2	22.0	12.5	
Good	33.2	30.4	41.0	42.0	38.6	
Very good/excellent	51.3	55.2	41.9	36.0	48.9	< .001
Health literacy: ease in reading/ understanding prescription instructions, %						
Easy	94.9	96.2	93.9	89.0	89.5	
Difficult	5.1	3.8	6.1	11.0	10.5	< .001
Primary language, %						
English	95.1	100.0	99.6	59.4	90.4	
Other	4.9	–	0.4	40.6	9.6	< .001
Nativity status/no. of yrs. in US, %						
US born	87.2	95.9	91.9	47.1	18.3	
Foreign born/ > 10 years in US	8.7	2.9	5.6	34.9	54.5	
Foreign born/5 to 10 years in US	1.9	0.4	1.2	8.6	12.4	
Foreign born/ < 5 years in US	2.3	0.7	1.3	9.4	14.7	< .001

* *The sample size shown reflects the total number of respondents in each category. The actual sample size upon which percentages are based may vary slightly in each category of respondents as a result of non-responders. The ranges of sample sizes for each response category by race/ethnic group are as follows: total sample (6,299 to 5,161), white (3,488 to 2,864), African American (1,037 to 868), Hispanic (1,153 to 920), and Asian (621 to 509).*

Table 3. Respondents' Reports of Their Sources of Health Care and Perceptions of Patient–Physician Communication by Race/Ethnicity

	Total Sample (*N* = 6,299)*	White (*N* = 3,488)*	African American (*N* = 1,037)*	Hispanic (*N* = 1,153)*	Asian (*N* = 621)*	*P* Value
Source of care characteristics						
Regular doctor(s), %						
Yes	77.2	81.2	71.9	59.0	68.6	
No	22.8	18.2	28.1	41.0	31.5	< .001
Health insurance type, %						
Private/Other	69.6	72.8	61.0	53.7	79.5	
Medicaid	3.5	2.4	8.6	5.8	2.4	
Medicare	12.6	14.2	9.8	7.7	4.7	
Uninsured	14.3	10.6	20.6	32.8	13.4	< .001
Patient–physician communication characteristics						
Doctor listened to what you had to say, %						
Less than everything	32.8	30.9	30.7	42.3	52.9	
Everything	67.2	69.1	69.3	57.7	47.1	< .001
You understood what the doctor said, %						
Less than everything	34.0	31.1	38.4	43.7	52.6	
Everything	66.0	68.9	61.6	56.4	47.4	< .001
Doctor involved you in decision-making about your care, %						
Less than desired	22.8	20.3	24.9	33.1	40.6	
As much as desired	77.2	79.7	75.1	66.9	59.4	< .001
Questions you wanted to discuss but didn't, %						
Yes	11.6	10.2	13.2	19.7	14.5	
No	88.4	89.8	86.8	80.3	85.5	< .001
Doctor spent as much time as you wanted, %						
Less than desired	29.9	27.5	29.3	42.2	49.6	
As much as desired	70.1	72.5	70.7	57.8	50.5	< .001

** The sample size shown reflects the total number of respondents in each category. The actual sample size upon which percentages are based may vary slightly in each category of respondents as a result of non-responders. The ranges of sample sizes for each response category by race/ethnic group are as follows: total sample (6,299 to 4269), white (3,488 to 2,575), African American (1,037 to 675), Hispanic (1,153 to 619), and Asian (621 to 400).*

report having a regular doctor. Statistically significant ($P < .001$) differences across race/ethnic groups also exist in health insurance coverage. Only 10.6% of whites and 13.4% of Asians reported being uninsured as compared with 20.6% of African Americans and Hispanics. Respondents' experiences of medical communication with their physicians also differed significantly ($P < .001$) by race/ethnicity. Hispanics and Asians were less likely than whites and African Americans to say that: 1) the doctor listened to everything they had to say; 2) they understood everything the doctor had to say; 3) the doctor involved them as much as they wanted in decision-making about their care; and 4) the doctor spent as much time with them as they wanted.

Relation of Respondent Race with Perceptions of Physician Bias and Cultural Competence

Table 4 compares racial and ethnic minorities' perceptions of the bias and interpersonal cultural competence of their physicians as compared with whites. Asians were statistically significantly less likely than whites to agree that their physicians treat them with respect and dignity in unadjusted analyses Pr (adjusted probability [0.59; 95% confidence interval [CI] 0.52 to 0.69 vs Pr 0.77; 95% CI, 0.75 to 0.79]) but this difference was no longer statistically significant when demographics, self-rated health status, and source of health care were taken into account (Pr 0.72; 95% CI, 0.64 to 0.79 vs Pr 0.79; 95% CI, 0.77 to 0.82). In contrast, while Hispanics were just as likely to perceive that their physicians treated them with respect and dignity as whites in unadjusted analyses, they were more likely than whites to perceive such treatment in adjusted analyses. This latter finding primarily reflects the fact that Hispanics reported worse medical visit communication, which was a strong predictor of perceived respect. That is, Hispanics perceived the same level of respect and dignity from physicians as white patients did, despite their perceptions of worse communication. After adjusting for poorer communication, Hispanics perceived greater levels of respect than whites. Being older ($P < .01$), reporting higher levels of educational attainment ($P = .02$), having a regular doctor

Table 4. Relationship of Respondent Race with Perceptions of Physician Bias and Interpersonal Cultural Competence

	Doctor Treats Me with Respect and Dignity (a Great Deal vs Less Than a Great Deal)		Doctor Understands My Background and Values (Agree vs Disagree)		Doctor Looks Down on Me and the Way I Live My Life (Agree vs Disagree)	
	Estimated Probability† (95% CI)	*P* Value	Estimated Probability† (95% CI)	*P* Value	Estimated Probability§ (95% CI)	*P* Value
Unadjusted model*						
White (reference)	0.77 (0.75 to 0.79)	–	0.91 (0.89 to 0.92)	–	0.09 (0.08 to 0.11)	–
African American	0.75 (0.71 to 0.79)	.485	0.88 (0.85 to 0.91)	.097	0.15 (0.12 to 0.18)	< .01
Hispanic	0.76 (0.72 to 0.80)	.702	0.89 (0.86 to 0.92)	.467	0.20 (0.16 to 0.24)	< .01
Asian	0.59 (0.52 to 0.69)	< .01	0.90 (0.86 to 0.93)	.814	0.22 (0.17 to 0.28)	< .01
Adjusted model #1*‡						
White (reference)	0.76 (0.73 to 0.78)	–	0.91 (0.89 to 0.92)	–	0.09 (0.07 to 0.10)	–
African American	0.77 (0.72 to 0.81)	.621	0.91 (0.88 to 0.95)	.871	0.11 (0.08 to 0.14)	.189
Hispanic	0.80 (0.75 to 0.84)	.126	0.92 (0.90 to 0.95)	.249	0.10 (0.07 to 0.14)	.303
Asian	0.61 (0.53 to 0.68)	< .01	0.92 (0.89 to 0.95)	.932	0.21 (0.16 to 0.29)	< .01
Adjusted model #2†‡						
White (reference)	0.79 (0.77 to 0.82)	–	0.93 (0.91 to 0.94)	–	0.08 (0.06 to 0.09)	–
African American	0.81 (0.76 to 0.85)	.473	0.93 (0.90 to 0.95)	.944	0.08 (0.06 to 0.11)	.764
Hispanic	0.88 (0.84 to 0.91)	< .01	0.95 (0.93 to 0.97)	.058	0.08 (0.05 to 0.11)	.900
Asian	0.72 (0.64 to 0.79)	.071	0.97 (0.94 to 0.98)	.015	0.16 (0.11 to 0.24)	< .01

* *The sample size for regression analyzes decreases with more complex models as a result of non-responders for specific items. The range of sample sizes for each outcome is 6,028 respondents (maximum in unadjusted model) to 3,363 respondents (in model #2).*

† *Model #1 controls for respondent's age, socioeconomic status (SES), self-rated health status, and source of care (insurance type, whether or not respondent has a regular doctor).*

‡ *Model #2 controls for respondent's age, SES, self-rated health status, source of care, communication characteristics, and health literacy (ease reading and understanding instructions on prescription drug label).*

§ *Estimated probability reflects the likelihood that the respondents in each category answered "a great deal" vs "less than a great deal" on the survey item indicated. Adjusted estimates are presented for patients in each racial/ethnic group while controlling for all covariates included in each model.*

CI, Confidence Interval.

(*P* < .01), being listened to (*P* < .01), understanding what the doctor tells you (*P* < .01), having few unanswered questions (*P* < .01), perceiving more participation in care (*P* < .01), and perceiving sufficient time for medical visits (*P* < .01) were independently associated with respondents' perceptions that they were treated with a great deal of respect by their physician(s).

There were no statistically significant racial/ethnic differences in patient perceptions of physicians' understanding of their background and values in unadjusted models. In the final model, being older, having better health status (*P* = .03), having a regular doctor (*P* < .01), being listened to (*P* < .01), having few unanswered questions (*P* = .01), and perceiving more participation in care (*P* < .01) were independently associated with respondents' perceptions that their physician(s) understand their background and values.

In unadjusted analyses, African Americans (Pr 0.15), Hispanics (Pr 0.20), and Asians (Pr 0.22) were all more likely than whites (Pr 0.09) to agree with a statement that their physician looks down on them and they way they live their lives. This difference persisted for Asians (Pr 0.16 vs 0.08 for whites), but not for African Americans (Pr 0.08) and Hispanics (Pr 0.08), when controlling for demographics, self-rated health status, source of care, patient–physician communication, and health literacy. Lower levels of educational attainment (*P* < .01), poorer health status (*P* = .03), having more unanswered questions (*P* < .01), and perceiving less participation in care (*P* = .03) were independently associated with respondents' perceptions that their physician(s) look down on them and the way they live their lives.

Relation of Respondent Race and Ethnicity with Health System Bias and Cultural Competence

Racial and ethnic minorities are more likely to perceive bias and a lack of cultural competence in the health system overall than are whites (Table 5). In unadjusted logistic regression models, African Americans, Hispanics, and Asians were more likely than whites (*P* < .001) to agree that: 1) they would receive better medical care if they belonged to a different race/ethnicity (Pr 0.16, Pr 0.15, Pr 0.13, and Pr 0.01, respectively); 2) medical staff judged them unfairly or treated them with disrespect based on their race/ethnicity (Pr 0.04, Pr 0.08, Pr 0.04, and Pr 0.01, respectively); and 3) medical staff judged them unfairly or treated them with disrespect based on how well they speak English (Pr 0.11, Pr 0.09, Pr 0.08, and Pr 0.03, respectively). These racial differences were not fully explained by differences in demographics, health status, source of care, patient–provider

Table 5. Relationship of Respondent Race with Perceptions of Health System Bias and Cultural Competence

	Would Receive Better Medical Care If Different Race/ Ethnicity (Yes vs No)		Feel Medical Staff Judged You Unfairly/ Treated You with Disrespect Based on Race/Ethnicity (Yes vs No)		Feel Medical Staff Judged You Unfairly/Treated You with Disrespect Based on How Well You Speak English (Yes vs No)	
	Estimated Probability† (95% CI)	*P* Value	Estimated Probability† (95% CI)	*P* Value	Estimated Probability† (95% CI)	*P* Value
Unadjusted model*						
White (reference)	0.01 (0.01 to 0.02)	–	0.01 (0.00 to 0.01)	–	0.03 (0.02 to 0.03)	–
African American	0.16 (0.14 to 0.20)	< .01	0.04 (0.02 to 0.06)	< .01	0.11 (0.08 to 0.14)	< .01
Hispanic	0.15 (0.12 to 0.18)	< .01	0.08 (0.05 to 0.11)	<.01	0.09 (0.07 to 0.12)	< .01
Asian	0.13 (0.09 to 0.18)	< .01	0.04 (0.02 to 0.08)	<0.01	0.08 (0.05 to 0.12)	< .01
Adjusted model #1*†						
White (reference)	0.02 (0.01 to 0.02)	–	0.01 (0.01 to 0.02)	–	0.01 (0.00 to 0.01)	–
African American	0.15 (0.11 to 0.18)	< .01	0.07 (0.05 to 0.10)	< .01	0.03 (0.02 to 0.06)	< .01
Hispanic	0.11 (0.08 to 0.15)	< .01	0.06 (0.04 to 0.08)	< .01	0.03 (0.02 to 0.06)	< .01
Asian	0.11 (0.07 to 0.16)	< .01	0.05 (0.03 to 0.10)	< .01	0.05 (0.01 to 0.10)	< .01
Adjusted model #2*‡						
White (reference)	0.01 (0.01 to 0.02)	–	0.01 (0.01 to 0.02)	–	0.00 (0.00 to 0.01)	–
African American	0.13 (0.10 to 0.16)	< .01	0.06 (0.04 to 0.08)	< .01	0.02 (0.01 to 0.04)	< .01
Hispanic	0.08 (0.06 to 0.12)	< .01	0.04 (0.02 to 0.06)	< .01	0.01 (0.01 to 0.03)	< .01
Asian	0.08 (0.05 to 0.14)	< .01	0.06 (0.04 to 0.11)	< .01	0.02 (0.01 to 0.05)	< .01

** The sample size for regression analyses decreases with more complex models as a result of non-responders for specific items. The range of sample sizes for each outcome is 6,077 respondents (maximum in unadjusted model) to 4,427 respondents (in model #2).*

† Model #1 controls for respondent's age, socioeconomic status (SES), self-rated health status, and source of care (insurance type, whether or not respondent has a regular doctor). Estimated probability reflects the likelihood that the respondents in each category answered "yes" versus "no" on the survey item indicated. Adjusted estimates are presented for patients in each racial/ethnic group while controlling for all covariates included in each model.

‡ Model #2 controls for respondent's age, SES, self-rated health status, source of care, communication characteristics, and health literacy (ease reading and understanding instructions on prescription drug label).

CI, confidence interval.

communication, or health literacy between racial groups. The magnitude of the probabilities were attenuated for racial/ethnic minorities as compared with whites in perceptions of health system bias and deficiencies in cultural competence; however, all remained statistically significant ($P < .01$) for African Americans, Hispanics, and Asians as compared with whites (see Model #2 in Table 5). Furthermore, the perception of language-related bias remained statistically significant even in analyses that controlled for the language spoken at home or foreign-born status (data not shown).

DISCUSSION

To our knowledge, this is the first study that uses empiric measurements of several theoretical constructs of cultural competence in a nationally representative sample of adults in order to demonstrate racial and ethnic differences in patient ratings of care. Our results reveal troubling evidence that racial and ethnic minority respondents are more likely to perceive bias and lack of cultural competence when seeking treatment in the health care system overall than whites, and that these perceptions are somewhat diminished, but persist, even when controlling for demographic factors, health literacy, self-rated health status, source of care, and reports of medical communication. In contrast, with the exception of the perception among Asian respondents that physicians look down on them and the way they live their lives, racial and ethnic differences in patient ratings of individual physician bias and cultural competence were explained, almost entirely, by demographics, health literacy, medical visit communication, and source of care.

Many efforts have been made in recent years to develop standards for cultural competence, both in the realms of service provision and medical education.[18,20,25–27] In 2001, the Office of Minority Health published its final set of standards for the provision of Culturally and Linguistically Appropriate Services, which emphasize three key areas: culturally competent care, language access services, and organizational supports for cultural competence.[21] More recent work by Dolhun and colleagues[22] sought to further standardize the definitions used to evaluate cultural competence education programs. Several of the questionnaire items employed as outcome variables and covariates in our analyses reflect domains identified in their study. While gender effects are not examined in our analyses, some aspect of the other seven elements of cultural competence education identified by Dolhun and colleagues are evaluated including: 1) general concepts of culture (i.e., background and values); 2) racism and stereotyping (i.e., being judged

or treated unfairly); 3) doctor–patient relationship (i.e., patient–provider communication characteristics); 4) specific cultural content (i.e., the way respondents live their lives); 5) access issues (i.e., regular source of care and insurance); 6) socioeconomic status (i.e., educational attainment and income as a percent of poverty); and 7) language (i.e., the way respondents speak English). Thus, this study builds on theoretically based and empirically validated conceptualizations of cultural competence.

One strength and unique contribution of this study is that it explores cultural competence from the patients' perspective. Most cultural competence measures and interventions described in the literature to date come from the medical establishment and are more focused on evaluating physicians' responses to specific instances of cultural difference.[18,20,28–30] We are only aware of three studies that have assessed cultural competence from the patients' perspective.[31–33] A second contribution is that this study uses operationalized variables to measure theoretical concepts (patient perceptions of providers' culture-general and culture-specific expertise and perceptions of biased treatment in the health care system in general) from the cultural competence literature. By incorporating ethnic minority respondents' views of bias in the health care system in our definition of cultural competence, we submit that the health care system and its providers do not operate in a cultural vacuum, but rather are susceptible to biases and norms that exist in the larger societal and environmental context. Third, this study goes beyond an appraisal of bias and cultural competence in the physician–patient encounter to examine whether patients perceive cultural competence or cultural bias when interacting with the health system in general. Finally, the sampling frame used in the design of the study increases the generalizability of the findings in that the study sample likely reflects the social, economic, and geographic diversity within whites, African Americans, Hispanics, and Asians in the US.

To date, other than for interpreter and linguistically appropriate services, there has been only indirect evidence to support the assertion that a lack of cultural competence among providers contributes substantively to the racial and ethnic disparities in health and health care that are so pervasive in the United States' health care system. Our study suggests that while source of care factors (including having a regular doctor) and patient–physician communication do *not* explain racial and ethnic disparities in perceptions of bias and lack of cultural competence in the health care system generally, they may partially explain disparities in patient ratings of individual health care provider cultural competence. As such, interventions aimed at improving access to a regular source of care and enhancing patient–physician communication may improve patient ratings of interpersonal bias and cultural competence of physicians; however, such interventions alone are not likely to substantially improve ethnic minority patients' perceptions of bias and cultural competence in the health care system as a whole.

Furthermore, while linguistic aspects of cultural competence have been empirically linked to decreases in racial/ethnic disparities in health and health care,[34] this research illustrates the importance of disentangling the influence of various cultural factors on health care. The finding in this study that African Americans believe they are treated unfairly and with disrespect in the health care system based on the way they speak English lends support to the assertion that cultural differences between African Americans and their predominantly white physicians exist, regardless of language concordance. Perhaps, in subtle ways, not only Hispanics and Asians, but also African Americans, are given a message that aspects of their culture, including the way they speak English, are not looked upon favorably in the health care system. Yet few studies have explored linguistic influences among African Americans. Similarly, the influence of factors such as religious beliefs, attitudes, and preferences among other ethnic minorities on patient experiences with providers or in the health care system warrants further investigation.

Limitations of this study should be discussed. First, this is a cross-sectional study, and while racial and ethnic differences in perceptions of bias and cultural competence mirror the differences in technical quality of care documented in other studies, they do not establish a causal relationship. Second, the variables used to measure provider and health system bias and cultural competence have face validity; however, these items were developed by researchers and have not been generated from patient input nor have they undergone psychometric testing for construct and convergent validity. For example, it is unclear whether the concepts measured in this study have different meanings and hold different values for patients belonging to different racial and ethnic groups. Third, the response rate was only 54.3% for this study despite intensive call-back efforts, and this may limit the external validity of our findings. Fourth, because this was a telephone survey, certain disadvantaged populations may have been missed systematically because they lack telephones in their homes. Previous studies suggest that the effect of this noncoverage bias is small, but not insignificant, in terms of its potential effect on external validity and generalizability of findings.[35] Fifth, because we grouped respondents into overarching racial/ethnic group categories, the findings from this study may not fully represent the diversity of opinions and experiences that people within each ethnic group represent. Those classified in the same race/ethnicity categories may represent large and highly divergent geographic, cultural, and linguistic backgrounds. This may be especially true for Asians, Hispanics, and foreign-born African Americans and whites.

In summary, it is possible that survey respondents differed systematically from nonrespondents, which could decrease the generalizability of the findings, and that the cultures to which some respondents were assigned based on race/ethnicity may not fully represent their true cultural perspective and experiences. The consistency of some of

our findings with previous studies of interpersonal communication in medical care makes the existence of such a bias less likely, however. Finally, because this study measured only patient perceptions, there is a potential for confounding by unmeasured provider, health care system or other environmental variables. It is possible that contextual issues such as limited resources at health care delivery sites or societal issues not related to primary care provider or health care system bias or cultural competence might be the true factors responsible for producing the racial/ethnic differences in perceptions observed.

Future studies should seek to identify the mechanisms through which cultural competence and experiences of bias impact health and health care.[36] These studies should use validated measures of provider and health system cultural competence that incorporate the patient's perspective to shed insight into what biases against ethnic minority individuals are inherent in the US health care system. Well-designed studies that include structure, process, and outcome measures will allow clinicians, researchers, and policymakers to determine whether patient perceptions of cultural competence (including bias) help to explain racial and ethnic differences in technical quality of care received and health outcomes. If cultural competence is shown to be a substantive contributor to racial and ethnic disparities in health outcomes, these studies will identify the key components to be included in future medical education, clinical practice, health care system, and health policy interventions to eliminate racial and ethnic health disparities.

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