Primary Care Provider Cultural Competence and Racial Disparities in HIV Care and Outcomes

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BACKGROUND: Health professional organizations have advocated for increasing the “cultural competence” (CC) of healthcare providers, to reduce racial and ethnic disparities in patient care. It is unclear whether provider CC is associated with more equitable care.

OBJECTIVE: To evaluate whether provider CC is associated with quality of care and outcomes for patients with HIV/AIDS.

DESIGN AND PARTICIPANTS: Survey of 45 providers and 437 patients at four urban HIV clinics in the U.S.

MAIN MEASURES: Providers' self-rated CC was measured using a novel, 20-item instrument. Outcome measures included patients' receipt of antiretroviral (ARV) therapy, self-efficacy in managing medication regimens, complete 3-day ARV adherence, and viral suppression.

KEY RESULTS: Providers' mean age was 44 years; 56 % were women, and 64 % were white. Patients' mean age was 45; 67 % were men, and 77 % were nonwhite. Minority patients whose providers scored in the middle or highest third on self-rated CC were more likely than those with providers in the lowest third to be on ARVs, have high self-efficacy, and report complete ARV adherence. Racial disparities were observed in receipt of ARVs (adjusted OR, 95 % CI for white vs. nonwhite: 6.21, 1.50–25.7), self-efficacy (3.77, 1.24–11.4), and viral suppression (13.0, 3.43–49.0) among patients of low CC providers, but not among patients of moderate and high CC providers (receipt of ARVs: 0.71, 0.32–1.61; self-efficacy: 1.14, 0.59–2.22; viral suppression: 1.20, 0.60–2.42).

CONCLUSIONS: Provider CC was associated with the quality and equity of HIV care. These findings suggest that enhancing provider CC may reduce racial disparities in healthcare quality and outcomes.

KEY WORDS: culture; ethnic groups; HIV.

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INTRODUCTION

Human immunodeficiency virus (HIV) infection is a leading contributor to racial inequalities in health and life expectancy in the United States.^{1–3} These disparities arise in part from the fact that minority Americans receive lower quality medical care than whites.^{4,5} Studies have demonstrated that minority individuals with HIV/AIDS are less likely than whites to receive antiretroviral (ARV) therapy^{6,7} and to adhere to ARV regimens once prescribed.^{8–11} Disparities in HIV management lead directly to disparities in outcomes, including viral suppression, progression to AIDS, and death.^{10–15}

Although disparities in HIV care and outcomes are multifactorial in origin, the patient–provider relationship plays a critical role. The strength of patient–provider relationships is associated with greater patient trust and self-efficacy, and in turn, a higher likelihood of patients' receiving ARV therapy, adhering to ARV regimens, and achieving favorable virologic outcomes.^{16–20} Unfortunately, many minority patients face a disadvantage in establishing strong relationships with their providers. Most minorities in the U.S. see providers from racial and ethnic groups different from their own.²¹ Minority patients tend to have better relationships with, and may therefore receive higher quality care from, primary care providers (PCPs) of their own race or ethnicity.^{22–24} In a national study of HIV care, delays in the initiation of protease inhibitors were observed among African Americans with race discordant providers, but not among those with race concordant providers.²⁵

Acknowledging that patient–provider relationships might contribute to racial disparities, health professional organizations have advocated for healthcare providers to increase their “cultural competence” (CC),^{5,26–29} i.e., their effectiveness in caring for patients from diverse backgrounds.³⁰ Although appealing in concept, the promise of increasing provider CC remains unclear, because there has been limited evaluation of whether CC is associated with better or more equitable patient care and outcomes.

We sought to evaluate whether CC among HIV care providers was associated with better care and outcomes for patients with HIV/AIDS. Specifically, we hypothesized that provider CC would be associated with patients' receipt of ARV therapy, self-efficacy in managing medications, ARV adherence, and viral suppression. We also examined whether provider CC mitigated racial disparities in these outcome measures.

METHODS

Study Sample and Setting

We designed the Enhancing Communication and HIV Outcomes (ECHO) Study to evaluate the role of the patient-provider relationship in racial/ethnic disparities in HIV care and outcomes.^{31–33} Subjects were PCPs and their patients at four outpatient HIV care sites (Baltimore, Detroit, New York, and Portland, OR) participating in the HIV Research Network.³⁴ The study received Institutional Review Board approval from each site. Eligible providers were physicians, nurse practitioners, or physician assistants who provided primary care to HIV-infected patients. Eligible patients were HIV-infected, 19 years or older, English-speaking, and had had at least one prior visit with their provider. Data were collected between October 2006 and June 2007.

Data Collection Methods

All eligible providers at the four sites were invited to participate in the study. Providers who agreed to participate and gave informed consent completed a baseline questionnaire. Research assistants (RAs) approached patients of participating providers in clinic waiting rooms, with the goal of enrolling ten patients per provider. For most providers, the actual number of patients recruited ranged from five to 15. Providers also completed post-encounter surveys for each enrolled patient. Providers received a \$250 incentive for participation. Based on the expected distribution of patients by race/ethnicity at the four study sites, we attempted to enroll equal numbers of African American and white patients for each provider at two sites (Baltimore and Detroit), and equal numbers (about one-third each) of African American, white, and Latino patients for each provider at the other two sites (Portland and New York). Following the medical encounter, RAs obtained informed consent from a convenience sample of each participating provider's patients and administered a one-hour interview, assessing demographic, social, attitudinal, and behavioral characteristics, and ARV adherence. Patients received a \$50 incentive for participation. We abstracted clinical data, including ARV

regimens, and CD4 counts and HIV RNA levels measured within 3 months of the interview, from patients' medical records.

Measures

Race and Ethnicity. We asked patients and PCPs to indicate—from a list of options including White/Caucasian, Black/African American, Hispanic/Latino, American Indian/Alaska Native, Asian, Pacific Islander/Native Hawaiian, or Other—the primary racial/ethnic group with which they identified.

Provider Cultural Competence. To measure provider CC, we initially sought existing instruments, but found none with sufficient face validity for use among PCPs.³⁵ Many prior instruments focus on personal characteristics and traits, rather than role-specific knowledge, attitudes and skills as health professionals. We therefore developed a novel measure. We first conducted a systematic review of 29 published conceptual models describing the concept of healthcare provider CC. Three reviewers abstracted distinct concepts that represented components of CC described by authors. Through iterative discussion of these components and their definitions, the reviewers developed a framework outlining core dimensions of CC that included domains of provider awareness and attitudes—about the concept of culture, the relevance of sociocultural context in patient care, disparities in health and health care, and diverse health beliefs and behaviors—and provider skills and behaviors—in cross-cultural care and patient-centered communication. We then developed a pool of survey items representing these dimensions. Two investigators (SS, MCB) selected 27 items that had the greatest relevance to physicians providing primary care ([Appendix](#)). Because the different dimensions of CC were not completely distinct, there was overlap in the content of items across dimensions, and the selected items were chosen to represent CC broadly, rather than to constitute subscales measuring distinct CC dimensions. Of the 27 selected items, seven were subsequently dropped due to highly skewed responses suggesting ceiling effects, leaving a final set of 20 items. All items were statements with which providers rated their level of agreement, using a 6-point Likert scale.

Outcome Measures. Patients were considered to be on ARV therapy if they were on medications recommended by national guidelines for HIV treatment at the time of data collection.³⁶ We used a previously validated, six-item scale to measure patients' self-efficacy in managing their HIV medication regimens.³⁷ We defined ARV adherence, according to the Adult AIDS Clinical Trials Group method,³⁸ as patients' reporting not having missed any ARV medication doses within the previous three days.³⁹ Finally, based on the limits of detection for viral load at our

sites, we considered a patient's viral load to be suppressed if it was at or below 75 RNA copies per mL.³⁶

Covariates. In addition to race/ethnicity, providers reported their age, gender, and profession (physician vs. non-physician). Patients reported age, gender, level of education, marital status, and employment. We measured patients' health literacy using the Rapid Evaluation of Adult Literacy in Medicine (REALM).⁴⁰ We assessed substance use with the Addiction Severity Index-Lite⁴¹ and calculated substance use severity scores using a weighted algorithm validated as a predictor of ARV adherence.⁴² Patients rated their quality of life using a single, global item with a 100 mm visual analogue scale.⁴³ They reported depressive symptoms using the 10-item Center for Epidemiologic Studies depression scale (CES-D).⁴⁴ Finally, we measured social support using a 9-item scale from the HIV Cost and Services Utilization Study.⁴⁵

Analysis

The score distribution for the CC scale was moderately skewed. We accordingly divided scores into tertiles to accommodate this skewed distribution in our analyses, while still allowing for evaluation of graded associations with our outcome variables. Similarly, because of skewed response distributions, and to enable multivariable logistic regression analyses, we dichotomized medication self-efficacy between the highest possible value and all others.

We compared provider and patient covariates across provider CC tertiles, our primary independent variable, using Pearson's chi-square tests or one-way analysis of variance, as appropriate. Covariates that differed ($p < 0.10$) across provider CC tertiles were included in multivariable analyses. To test the association between provider CC and our outcome variables, we developed multivariable logistic regression models using generalized estimating equations to account for clustering of patients within providers. These models were adjusted for study site; provider gender; patient age, gender, marital status, and employment status; and patient-provider race concordance. Analyses of receipt of ARV therapy also included CD4 count (≤ 350 vs. > 350 cells/mm³) as a covariate, based on national guidelines for ARV initiation.³⁶ Analyses for adherence were limited to patients on ARV therapy, and for viral suppression to patients either on or eligible (CD4 count ≤ 350 cells/mm³) for ARV therapy. We included patients whom we considered eligible for ARV therapy in our viral suppression analyses, even if they were not on ARV therapy, to account for the impact that differences in appropriate use of ARV medications may have on disparities in HIV-related outcomes. We conducted regression analyses first for all patients in the sample, and then for racial/ethnic subgroups, including whites, all nonwhites (predominantly African

Americans and Latinos), and African Americans alone. The Latino subgroup was too small for separate analysis.

To test for racial disparities, we compared outcomes by race in both unadjusted and adjusted GEE-based logistic regression models. In adjusted models, we included study site, as well as variables that differed ($p < 0.10$) between whites and nonwhites: provider race and profession (non-physician vs. physician), and patient age, gender, education level, employment status, health literacy, substance use severity, and quality of life. To evaluate the hypothesis that provider CC mitigates racial disparities, we tested for interactions between patient race and provider CC. Where interactions were significant, we evaluated the association of race with the outcome variable, stratified by provider CC. To allow for stability of stratified multivariable models, we collapsed CC tertiles into two categories, low vs. middle/high. We chose this dichotomy based on findings from our primary analyses that the major differences across CC tertiles were between the lowest and the two higher categories.

All analyses were conducted using Stata/SE version 9.0 (StataCorp, College Station, Texas).

RESULTS

There were 55 providers eligible for the study across all sites. Overall, 45 (82 %) agreed to participate. Two refused; the other eight were not approached because we reached our enrollment target. Of 617 eligible patients, 437 (71 %) agreed to participate and completed the post-encounter survey, including 250 African American, 60 Latino, and 101 white patients, and 26 from other racial/ethnic groups.

Our CC scale had a Cronbach's alpha of 0.76 (average inter-item correlation 0.15, item-scale correlations ranging from 0.17 to 0.69). The mean CC score among providers was 4.67 (SD .51), from a possible range of 1 to 6. Provider and patient characteristics, stratified by CC tertiles, are displayed in Table 1. Among providers, men were more likely than women to be in the low CC group ($p = 0.03$). Patient-provider race concordance was associated with higher provider CC, primarily because the majority of patients in the sample were African American, and both African American providers in our study had high CC scores.

In unadjusted comparisons among all patients, we found no significant differences in any outcome variable by provider CC (Table 1). However, after adjusting for CD4 count and other clinical and demographic variables, we found that nonwhite patients seeing moderate to high CC providers were more likely to be on ARV therapy than those with low CC providers (Table 2). Provider CC was also independently associated with nonwhite patients' self-efficacy and medication adherence. In general, nonwhite patients with low CC providers reported less self-efficacy

Table 1. Provider and Patient Characteristics, by Provider Cultural Competence Level

	Provider cultural competence tertile*			p-value
	Low	Middle	High	
Provider characteristics				
N	15	16	14	
Age, mean (SD)	45.0 (7.9)	44.3 (8.9)	44.2 (9.4)	0.96
Female, n (%)	5 (33.3)	10 (62.5)	10 (71.4)	0.09
Race n (%)				0.16
White	11 (73.3)	9 (56.3)	10 (71.4)	
Asian	4 (26.7)	6 (37.5)	1 (7.1)	
African American	0 (0)	0 (0)	2 (14.3)	
Latino	0 (0)	0 (0)	1 (7.1)	
Other	0 (0)	1 (6.3)	0 (0)	
Profession, n (%)				0.37
Physician	13 (86.7)	12 (75.0)	9 (64.3)	
Non-physician	2 (13.3)	4 (25.0)	5 (35.7)	
Cultural competence score, mean (range)	4.11 (3.40–4.55)	4.71 (4.60–4.85)	5.22 (4.90–5.95)	< 0.001
Patient characteristics				
N	152	149	136	
Age, mean (SD)	45.0 (8.9)	45.4 (9.9)	45.7 (9.6)	0.82
Female, n (%)	42 (27.8)	63 (42.9)	42 (31.1)	0.02
Gender concordant with provider, n (%)	84 (55.6)	77 (52.4)	63 (46.7)	0.31
Race, n (%)				0.65
White	34 (22.4)	33 (22.2)	34 (25.0)	
African American	93 (61.2)	84 (56.4)	73 (53.7)	
Latino	20 (13.2)	22 (14.8)	18 (13.2)	
Other	5 (3.3)	10 (6.7)	11 (8.1)	
Race concordant with provider, n (%)	30 (19.7)	25 (16.8)	48 (35.3)	< 0.001
Completed high school, n (%)	112 (73.7)	104 (69.8)	101 (74.3)	0.65
Literacy level ≥ 9th grade, n (%)	105 (69.1)	99 (66.4)	98 (72.1)	0.59
Married, n (%)	14 (9.2)	26 (17.5)	13 (9.6)	0.05
Employed, n (%)	48 (31.6)	31 (21.1)	31 (23.1)	0.09
Substance use severity score, mean (SD)	.79 (1.5)	.66 (1.5)	.60 (1.2)	0.52
Quality of life score, mean (SD)	69.0 (26.2)	68.5 (28.2)	68.2 (25.1)	0.96
Depression score, mean (SD)	2.11 (.64)	2.09 (.67)	2.12 (.62)	0.92
Social support score, mean (SD)	2.86 (.70)	2.89 (.70)	2.92 (.72)	0.77
CD4 count ≤ 350 cells/mm ³ , n (%)	62 (41.9)	54 (38.9)	53 (40.5)	0.87
Patient outcomes				
On ARV, n (%)	111 (74.5)	117 (81.8)	106 (79.7)	0.29
High medication self-efficacy, n (%)	48 (32.4)	49 (33.6)	40 (30.5)	0.86
100 % 3-day adherence [†] , n (%)	85 (76.6)	102 (87.2)	88 (83.0)	0.11
HIV RNA ≤ 75 copies per mL [‡] , n (%)	67 (51.9)	67 (54.5)	59 (50.9)	0.85

ARV Antiretroviral therapy

*Percent figures represent proportions within each column that have the given characteristic

[†]Among patients on ARV[‡]Among patients on ARV or eligible for ARV (CD4 count $\leq$ 350 cells/mm³)

and lower medication adherence than those with moderate to high CC providers. Comparisons of moderate and high CC levels were not significant, but the pattern of findings differed qualitatively across outcomes. Nonwhite patients' self-efficacy increased monotonically with increasing provider CC. In contrast, adherence was highest among patients seeing providers in the middle CC tier. Among white patients, provider CC was negatively associated with medication self-efficacy and adherence, though the latter association was not significant.

Consistent with the data for adherence, the association of provider CC with patients' viral suppression was positive for nonwhites and negative for whites, though these associations were not significant. In analyses restricted to African Americans, however, we observed a graded association, with better virologic outcomes for patients of high CC providers.

In comparing outcomes by patient race, we found no disparities in receipt of ARV therapy. However, nonwhites (74 % of whom were African American) had lower self-efficacy and adherence, and less adequate control of viremia than white patients did (Table 3). After adjusting for potential confounders, the disparity in patient self-efficacy was similar in magnitude but no longer significant; all other differences persisted. Interaction analyses revealed that the association of patient race with medication adherence did not vary significantly by provider CC ($p=0.10$ for patient race-provider CC interaction), but receipt of ARV therapy, self-efficacy, and viral suppression did vary by provider CC (p for interactions = .024, .026, and .006 for receipt of ARV therapy, self-efficacy, and viral suppression, respectively). Stratified analyses revealed that racial disparities in each of these 3 outcomes were confined to low CC providers (Table 4). Among low CC providers,

Table 2. Adjusted Association of Provider Cultural Competence (CC) with Patients' Receipt of ARV, Medication Self-Efficacy, Adherence, and Viral Suppression

Outcome	Provider CC tertile	All patients (n=437)	Patient race		
			White (n=101)	All nonwhite (n=336)	African American (n=250)
On ARV	Low	—	—	—	—
	Middle	2.20 (1.17–4.17)	.86 (.14–5.09)	2.56 (1.26–5.19)	2.97 (1.27–6.91)
	High	1.63 (.85–3.15)	.39 (.08–2.03)	2.52 (1.13–5.60)	3.24 (1.16–9.01)
Medication Self-Efficacy	Low	—	—	—	—
	Middle	1.26 (.74–2.15)	.87 (.27–2.84)	1.47 (.79–2.75)	1.37 (.68–2.76)
	High	1.19 (.67–2.12)	.29 (.08–.99)	2.12 (1.05–4.29)	1.82 (.80–4.14)
Adherence*	Low	—	—	—	—
	Middle	2.52 (1.17–5.41)	.13 (.01–1.75)	3.33 (1.43–7.77)	2.41 (.96–6.06)
	High	1.54 (.71–3.36)	.11 (.01–1.41)	2.31 (.92–5.79)	3.06 (.92–10.1)
Viral Suppression†	Low	—	—	—	—
	Middle	1.39 (.80–2.40)	.31 (.07–1.38)	1.83 (.97–3.42)	1.73 (.86–3.51)
	High	1.20 (.67–2.15)	.52 (.12–2.21)	1.69 (.83–3.44)	2.74 (1.17–6.43)

ARV Antiretroviral therapy

Estimates represent odds ratios (95 % confidence intervals) for association of provider cultural competence level with specified outcome variables. Positive outcomes were defined as follows: on anti-HIV medication for being on ARV; highest possible score for medication self-efficacy; no missed ARV doses for prior 3 days for adherence; and HIV RNA level ≤ 75 copies per ml for viral suppression. All estimates include adjustment for study site, provider gender, patient age, gender, marital status, employment status, and patient-provider race concordance. Analyses for being on ARV also adjusted for CD4 count (≤ 350 vs. > 350 cells/mm³)

*Among patients on ARV

†Among patients on ARV or eligible for ARV (CD4 count ≤ 350 cells/mm³)

nonwhite patients had 6-fold lower odds of being on ARV therapy, 4-fold lower odds of having high medication self-efficacy, and 13-fold lower odds of having their viral load suppressed, compared to white patients. These findings were similar or more dramatic when comparing African Americans to whites. In contrast, among providers with moderate to high levels of CC, we observed no racial disparities in any patient outcome measure.

DISCUSSION

In response to evidence that both health and health care are inequitably distributed among racial and ethnic groups in the U.S., health professional organizations have called for

increased “cultural competence” among healthcare providers.^{26–29} These recommendations have been largely based on expert opinions about the theoretical benefits of CC, rather than empirical research. We developed a novel instrument to measure some of the diverse dimensions of awareness, attitudes, skills, and behaviors that have been collectively referred to as “cultural competence.” Higher scores on our measure among PCPs in HIV care settings were associated with more equitable care and outcomes across racial/ethnic groups. Among low CC providers, we observed substantial racial disparities in receipt of ARV therapy, patients' self-efficacy in managing medications, and viral suppression. Among providers with moderate or high CC, we found no racial disparities. These findings provide empirical support for the assertion that greater

Table 3. Association of Patient Race with Receipt of ARV, Medication Self-Efficacy, Adherence, and Viral Suppression

Outcome	White (n=101)	All Nonwhite (n=336)	African American (n=250)	White vs. Nonwhite*		White vs. African American*	
				Unadjusted	Adjusted	Unadjusted	Adjusted
On ARV, n (%)	81 (81.8)	253 (77.6)	195 (79.3)	1.30 (.73–2.30)	1.47 (.75–2.87)	1.18 (.64–2.14)	1.45 (.70–3.03)
Medication Self-Efficacy, n (%)	40 (40.8)	97 (29.7)	76 (31.2)	1.64 (1.02–2.61)	1.69 (.99–2.90)	1.53 (.94–2.48)	1.68 (.93–3.06)
Adherence†, n (%)	73 (90.1)	202 (79.8)	156 (80.0)	2.30 (1.04–5.08)	2.63 (1.11–6.25)	2.28 (1.01–5.13)	2.51 (1.02–6.20)
Viral Suppression‡, n (%)	56 (65.1)	137 (48.5)	106 (48.6)	1.98 (1.20–3.26)	2.24 (1.26–3.97)	1.97 (1.18–3.31)	2.49 (1.35–4.62)

ARV Antiretroviral therapy

Positive outcomes were defined as follows: on anti-HIV medication for being on ARV; highest possible score for medication self-efficacy; no missed ARV doses for prior 3 days for adherence; and HIV RNA level ≤ 75 copies per ml for viral suppression

*Estimates represent odds ratios (95 % confidence intervals), adjusted for study site, provider race and profession (non-physician vs. physician), and patient age, gender, education, health literacy level, employment status, substance use severity score, and quality of life score. Analyses for being on ARV also adjusted for CD4 count (≤ 350 vs. > 350 cells/mm³)

†Among patients on ARV

‡Among patients on ARV or eligible for ARV (CD4 count ≤ 350 cells/mm³)

Table 4. Adjusted Association of Patient Race with Receipt of ARV, Medication Self-Efficacy and Viral Suppression, Stratified by Provider Cultural Competence (CC)

Outcome	Provider CC Tertile	White vs. All Nonwhite (n=437)	White vs. African American (n=351)
On ARV	Low	6.21 (1.50–25.7)	7.76 (1.56–38.6)
	Middle/High	.71 (.32–1.61)	.61 (.24–1.52)
Medication Self-Efficacy	Low	3.77 (1.24–11.4)	4.13 (1.19–14.3)
	Middle/High	1.14 (.59–2.22)	1.10 (.53–2.30)
Adherence	Low	6.07 (1.09–33.9)	4.56 (.69–30.0)
	Middle/High	1.63 (.57–4.69)	1.74 (.58–5.25)
Viral Suppression [†]	Low	13.0 (3.43–49.0)	21.8 (4.01–118.4)
	Middle/High	1.20 (.60–2.42)	1.27 (.60–2.66)

ARV Antiretroviral therapy

Estimates represent odds ratios (95 % confidence intervals) for association of patient race with specified outcome, stratified by provider cultural competence level. Positive outcomes were defined as follows: on anti-HIV medication for being on ARV; highest possible score for medication self-efficacy; and HIV RNA level ≤ 75 copies per ml for viral suppression. All estimates include adjustment for study site, provider race and profession (non-physician vs. physician), and patient age, gender, education, health literacy level, employment status, substance use severity score, and quality of life score. Analyses for being on ARV also adjusted for CD4 count (≤ 350 vs. > 350 cells/mm³)

*Among patients on ARV

[†]Among patients on ARV or eligible for ARV (CD4 count ≤ 350 cells/mm³)

provider CC may reduce racial/ethnic disparities in health care quality and outcomes.

Greater equity in our study largely resulted from positive associations between provider CC and outcomes among minority patients. However, we also found an unexpected, negative association between provider CC and outcomes among white patients. It is possible that our bidirectional findings for nonwhite and white patients resulted in part from different preferences for provider interaction style. High scores on our CC measure may have captured, in part, a provider orientation to patient care that has been referred to as “relationship-centered.”^{46,47} This orientation may be particularly valued by cultural groups, including many ethnic minorities, that prefer close relationships with health care providers and more personal interactions with social and emotional content.^{48,49} In contrast, European Americans may on average prefer, or be more tolerant of, a more transactional form of patient–provider relationship, in which interactions are dominated by exchanges of biomedical information.⁴⁹

Our study had several limitations. We developed a novel CC measure not tested in prior studies. Because our sample included only 45 providers, we could not perform analyses (e.g., factor analysis) to establish the construct validity of the instrument or empirically derive subscales. We did, however, develop our measure using qualitative methods to derive concepts described in the published literature, and our multidimensional instrument likely captures a more theoretically grounded and robust set of CC dimensions than prior studies that have used only two to three items or

composites of items from multiple existing instruments.^{50–53}

In addition, our finding that CC scores were associated with better outcomes among minority but not white patients, and that racial disparities were less prominent among patients of higher CC providers, offers supportive evidence that our instrument measures a construct that predicts the major goals of CC, i.e., effectiveness in caring for minority patients and reducing racial and ethnic disparities in health care quality.

The diversity of items in our measure was both a strength and a limitation. The inclusion of multiple dimensions allowed us to capture a broader conceptualization of CC than other studies. However, this resulted in a scale that had only a moderate level of internal consistency. Larger provider samples will be needed to conduct further analyses to refine and empirically specify discrete dimensions contained within our multidimensional instrument.

Our measure also included only interpersonal dimensions of CC. Separate instruments and study designs will be needed to evaluate how system or organization-level CC affects quality and equity of health care.³⁰ Finally, our study included only persons with HIV/AIDS and their PCPs. The extent to which our findings are generalizable to other settings, patients, and providers may depend on the similarity of those settings to ours in terms of the influence of race, ethnicity, and patient–provider relationships on healthcare processes and outcomes.

Acknowledging these limitations, we believe our results have important implications. Although CC has been heavily promoted in recent years,^{5,26–29} there has been little empirical evidence to inform what constitutes CC or to evaluate whether it is associated with better patient care. A recent study demonstrated that higher scores on attitudinal and behavioral scales similar in content to many of our items were associated with higher patient ratings of interpersonal care and greater patient involvement in care.⁵⁰ Our study extends these findings by demonstrating that provider CC is associated with higher quality of care, better patient self-management, and better health outcomes, among minority patients. If validated in future studies and in other care settings, our instrument might serve as an evidence-based tool to evaluate CC among health professionals. Our study also provides support for the notion that increasing healthcare provider CC, whether through training interventions or through efforts to diversify the healthcare workforce, holds the potential to reduce racial disparities in both the quality of health care and the health of diverse patient populations.

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APPENDIX

Table 5. Self-Rated Cultural Competence Instrument for Primary Care Providers

Items	Domains
Awareness and Attitudes	<p>1. I understand the distinctions between the concepts of race, ethnicity, and culture.*</p> <p>2. I don't consider myself to be a part of any particular culture. (R)</p> <p>3. Understanding a patient's culture is vital to providing effective health care.*</p> <p>4. Physicians can provide excellent care without knowing much about a patient's social environment. (R)</p> <p>5. Finding out where patients live and work is an essential aspect of the medical history.*</p> <p>6. Family and friends are as important to a patient's health as doctors are.</p> <p>7. Health care providers should not ask patients about personal matters like religion and spirituality. (R)</p> <p>8. The social history rarely contributes much to how I care for my patients. (R)</p> <p>9. Minority patients in the U.S. as a whole receive lower quality health care than white patients.</p> <p>10. Being white affords people many privileges in the U.S. that minorities don't have.</p> <p>11. I am familiar with most of the lay beliefs about disease that my patients have.</p> <p>12. Lay beliefs about disease and treatments are an impediment to good medical care. (R)</p> <p>13. I am not interested in hearing patients' folk beliefs about their illnesses. (R)</p> <p>14. Working with patients from different cultural backgrounds is an exciting part of being a doctor.</p> <p>15. Physicians can learn a lot from patients about providing good medical care.*</p> <p>16. I have little patience for people who believe in "wives' tales" over science. (R)</p> <p>17. I am comfortable asking patients from different cultural backgrounds about their beliefs and customs.*</p> <p>18. I know where to find information about prevalent beliefs and health practices of different cultural groups.</p> <p>19. I feel less than competent working with patients from cultural backgrounds different from mine. (R)</p> <p>20. I am equally effective in caring for minority patients as I am in caring for white patients.</p> <p>21. I ask all my patients about complementary and alternative therapies they may be using.</p> <p>22. I feel comfortable adapting my approach to patient care for patients from different cultural backgrounds.*</p> <p>23. I'm uncomfortable letting patients believe things about their disease that I don't believe are true. (R)</p> <p>24. I am good at negotiating treatment plans with skeptical patients.*</p> <p>25. I always try to find out what patients think is the cause of their illness.</p> <p>26. I try to maintain professional distance from my patients when caring for them. (R)</p> <p>27. I try to involve patients in decisions about their health care as much as I can.</p>
Skills and Behaviors	<p>Concept of Culture</p> <p>Relevance of Sociocultural Context</p> <p>Disparities in Health and Health Care</p> <p>Diverse Beliefs and Behaviors</p> <p>Cross-Cultural Care</p> <p>Patient-Centered Communication</p>

Responses for all items used a 6-point scale ranging from strongly disagree to strongly agree. (R) indicates items with reverse-coded responses. Final scale included 20 items. Seven items were excluded due to highly skewed responses

*Not included in final scale