



Differences in Patient–Provider Communication for Hispanic Compared to Non-Hispanic White Patients in HIV Care

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BACKGROUND: Hispanic Americans with HIV/AIDS experience lower quality care and worse outcomes than non-Hispanic whites. While deficits in patient–provider communication may contribute to these disparities, no studies to date have used audio recordings to examine the communication patterns of Hispanic vs. non-Hispanic white patients with their health care providers.

OBJECTIVE: To explore differences in patient–provider communication for English-speaking, HIV-infected Hispanic and non-Hispanic white patients.

DESIGN: Cross-sectional analysis.

SETTING: Two HIV care sites in the United States (New York and Portland) participating in the Enhancing Communication and HIV Outcomes (ECHO) study.

SUBJECTS: Nineteen HIV providers and 113 of their patients.

MEASUREMENTS: Patient interviews, provider questionnaires, and audio-recorded, routine, patient–provider encounters coded with the Roter Interaction Analysis System (RIAS).

RESULTS: Providers were mostly non-Hispanic white (68%) and female (63%). Patients were Hispanic (51%), and non-Hispanic white (49%); 20% were female. Visits with Hispanic patients were less patient-centered (0.75 vs. 0.90, $p=0.009$), with less psychosocial talk (80 vs. 118 statements, $p<0.001$). This pattern was consistent among Hispanics who spoke English very well and those with less English proficiency. There was no association between patient race/ethnicity and visit length, patients' or providers' emotional tone, or the total number of patient or provider statements categorized as socioemotional, question-asking, information-giving, or patient activating. Hispanic patients gave higher ratings than whites (AOR 3.05 Hispanic vs. white highest rating of providers' interpersonal style, 95% CI 1.20–7.74).

CONCLUSION: In this exploratory study, we found less psychosocial talk in patient–provider encounters with Hispanic compared to white patients. The fact that Hispanic patients rated their visits more positively than whites raises the possibility that these differences in

patient–provider interactions may reflect differences in patient preferences and communication style rather than “deficits” in communication. If these findings are replicated in future studies, efforts should be undertaken to understand the reasons underlying them and their impact on the quality and equity of care.

KEY WORDS: HIV/AIDS; patient–physician relations; patient–physician communication; health disparities.

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BACKGROUND

Hispanic Americans suffer a disproportionate burden of HIV disease, and those infected with HIV receive lower quality care and have worse outcomes, compared to the majority, non-Hispanic white population.^{1–4} The underlying causes of these disparities are unclear but are probably manifold. One potential factor that has not been well studied is the role of communication barriers between patients and providers.

For many Hispanic patients, the most obvious communication barrier is discordant language. But even among patients who speak English, factors related to race, ethnicity, and culture may affect the quality of communication in the medical encounter. The quality of patient–provider communication has been found to vary by patient race and ethnicity in many healthcare settings.^{5–8} Large studies of primary care patients have found that ethnic minority patients rate their physicians as less participatory than do white patients.^{9–11} A nationwide survey in 2001 found that African Americans and Hispanics were more likely than whites and Asians to feel they had been treated with disrespect;¹¹ all racial/ethnic minority groups were more likely than whites to believe that they would have gotten better care if they belonged to a different racial/ethnic group, and that medical staff judged them or treated them unfairly based on their race.¹² These findings of lower-quality interactions between minority patients and their providers in predominantly primary care settings raise the question of whether racial/ethnic differences in communication affect patients in HIV care settings and potentially contribute to disparities in the quality and outcomes of HIV care.

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Differences in patient ratings of care have been complemented by findings from studies measuring communication from audio-recorded patient-provider encounters. In their interactions with African-American patients, physicians exhibit less nonverbal attention, empathy, and courtesy⁵; give less information⁵; adopt a more “narrowly biomedical” communication style⁶; spend less time providing health education, chatting and answering questions⁸; are more verbally dominant⁷; and exhibit more negative emotional tone⁷ than with white patients.

Despite the accumulating evidence of disparities in the quality of patient-provider communication for African-American compared to white patients, there are no studies to our knowledge that have compared the quality of directly observed, patient-provider communication for Hispanic and non-Hispanic white patients. The purpose of this study was to explore possible racial/ethnic differences in communication between English-speaking Hispanic and white patients and their HIV care providers.

METHODS

Study Design, Subjects, and Setting

We designed and conducted the Enhancing Communication and HIV Outcomes (ECHO) Study to assess possible racial/ethnic disparities in communication in HIV care. Study subjects were HIV care providers and their patients at four HIV outpatient care sites in the United States (Baltimore, Detroit, New York, and Portland, OR). Sites were selected from within the HIV Research Network on the basis of an application detailing their interest in the study and documentation of racial/ethnic disparities in one or more processes of care for HIV-infected patients. The study received IRB approval from each site. Eligible providers were physicians, nurse practitioners, or physician assistants who provided primary care to HIV-infected patients at one of the study sites. Eligible patients were HIV-infected; 19 years or older; English-speaking; identified in the medical record as non-Hispanic black, Hispanic, or non-Hispanic white; and had had at least one prior visit with their provider. Data comparing African American to white patients with respect to communication at all four sites are presented elsewhere.¹³

Only two of these sites had Hispanic patients and were included in this analysis. At those two sites, there were 23 providers eligible for the study, and 19 (83%) agreed to participate (11 physicians, six nurse practitioners, and two physician assistants). Research assistants approached a convenience sample of patients of participating providers in clinic waiting rooms, with the goal of enrolling 10 patients per provider. At the two study sites, we identified 366 eligible patients, of whom 246 (67%) agreed to participate. The primary reason for refusal was lack of time to complete the interview (65%). Of these 246 patients, there were 133 who self-identified as African American/Black and were ineligible for this comparative analysis. Our final study sample included 55 white and 58 Hispanic patients.

Data Collection Methods

HIV providers who agreed to participate gave informed consent and completed a baseline questionnaire. Based on the expected distribution of patients by race/ethnicity at the four study sites, we designed the following sampling scheme. At two of the sites (Baltimore and Detroit), research assistants attempted to enroll equal numbers of black and white patients

for each provider. At the other two sites (Portland and New York), research assistants attempted to enroll an equal number (one-third each) of black, white, and Hispanic patients for each provider. Eligible patients gave informed consent, and then research assistants placed a digital audio-recording device in the examination room to record the patient-provider encounter. Following the medical encounter, research assistants administered a one-hour interview with patients, assessing demographic, social, and behavioral characteristics, as well as their experience of care and ratings of provider communication. All interviews were conducted in English. Finally, research assistants abstracted clinical data including most recent CD4 counts and HIV viral loads from patients' medical records.

Main Measures

In keeping with racial/ethnic identification methods used by the U.S. Census Bureau, we asked patients to identify: 1) whether they were Hispanic/Latino, or not; and 2) to which racial group(s) they belonged. We then asked them to identify, from a list of options, a single, main racial/ethnic group with which they identified themselves. Our main independent variable was derived from this question and for this analysis included patients identifying as non-Hispanic white or Hispanic/Latino. Our dependent variables were measures of patient-provider communication derived from two sources: (1) audio-recorded communication and (2) patients' post-visit ratings of provider communication.

Audiotapes were analyzed using the Roter Interaction Analysis System (RIAS), a widely used coding system to assess patient and provider communication behaviors during medical encounters with well-documented reliability and predictive validity.¹⁴⁻¹⁸ RIAS analysts assign one of 37 mutually exclusive and exhaustive categories to each complete thought expressed by either the patient or provider (referred to as an utterance). These categories can be combined to reflect four broad types of exchange (Table 1): socio-emotional communication (including emotional talk, positive talk, negative talk, and social chit-chat), information-giving (including biomedical and psychosocial/lifestyle information and counseling), question-asking (including biomedical and psychosocial/lifestyle questions), and patient activation (such as asking for the others' opinions, confirming the others' understanding, or clarifying one's own understanding). All RIAS coding was done by two white females who were blinded to the study aims, and the overall intercoder reliability, calculated on a random sample of 41 audiotapes, across categories for patient and provider behaviors was 0.71-0.95. All audio-recorded data were in English.

In addition, the RIAS provides several summary measures such as verbal dominance (ratio of provider to patient utterances), patient-centeredness (ratio of psychosocial and emotional to biomedical utterances), visit length in minutes, and global ratings of the patient and provider emotional tones (affect scores). Affect scores are calculated by summing coders' subjective ratings for patients and physicians (separately) on several dimensions. The *patient positive affect score* is the sum of coders' ratings of patient dominance/assertiveness, friendliness/warmth, responsiveness/engagement, and sympathy/empathy exhibited by the patient during the encounter. The *provider positive affect score* is the sum of coders' ratings of provider interest/attentiveness, friendliness/warmth, responsiveness/engagement, and sympathy/empathy, subtracting the degree to which the provider was hurried/

Table 1. Categories of RIAS Exchange

Major category	Sub-category	Examples of specific RIAS codes
Question-asking	Biomedical	Open-ended and closed ended biomedical questions
	Lifestyle/Psychosocial	Open-ended and closed ended psychosocial questions
Information-giving	Biomedical	Gives biomedical and therapeutic information
	Lifestyle/Psychosocial	Gives lifestyle and psychosocial information
Socio-emotional communication	Emotional talk	Empathy, legitimization, partnership
	Positive talk	Laughter, approval, compliments
	Negative talk	Criticisms, disagreements, concern
	Social chit-chat	Chit-chat
Patient activation	-	Asking for other's opinion, confirming the other's understanding, clarifying one's own understanding

rushed. Inter-coder agreement, calculated on a random sample of 41 audiofiles, was greater than 90% in each of the affect domains.

In post-visit interviews, patients were asked to report on the quality of their provider's communication using the Interpersonal Processes of Care (IPC) Survey, which includes scales evaluating providers on overall communication (21 items, Cronbach's alpha 0.88), interpersonal style (14 items, Cronbach's alpha 0.71), and support of shared decision-making (6 items, Cronbach's alpha 0.65).¹⁹ The IPC was designed to evaluate the quality of interpersonal care across diverse patient populations and was validated in a multiethnic sample.¹⁹ Patients also self-reported additional socio-demographic information (age, sex, education, active drug use,²⁰ language spoken at home) and provided a self-rating of their ability to speak English (very well- not very well). On provider baseline questionnaires, providers self-reported basic demographic information such as age, sex, and main race/ethnicity. There were insufficient numbers of Hispanic providers to assess the effects of racial/ethnic concordance between patient and provider.

Analysis

Data for these comparative analyses was restricted to non-Hispanic white and Hispanic patients at two study sites (Portland, OR and New York, NY). Analyses were conducted in three stages. First, we used descriptive statistics to explore and describe the characteristics of our study sample. Based on the positive skew in the patient-reported outcome variables, we dichotomized at the median score patients' reports about interpersonal care in the realms of general communication, interpersonal style, and shared decision-making.

We performed t-tests and chi-squared tests to assess patient and provider characteristics potentially associated with patient

race/ethnicity. We used negative binomial regression to compare observed measures of communication by patient race/ethnicity because outcomes were counts of utterances with skewed distributions. We adjusted for study site, accounted for nesting of patients within providers using generalized estimating equations, and calculated marginal means in all bivariate and multivariate analyses. In multivariate analyses, we further adjusted for patient age and sex, and any patient or provider characteristic found to be associated with patient race in bivariate analyses at $p < 0.20$ in multivariate analyses. The only exception to this was that we did not adjust for whether or not the patient spoke a language other than English at home or their self-rated ability to speak English, because in our sample these variables were highly correlated with Hispanic ethnicity. All analyses were conducted using Stata Version 8.0.

Finally, we conducted a series of secondary, exploratory analyses. When we found an association between race/ethnicity and a communication outcome, we further explored potential racial/ethnic differences in the specific components of communication from which the broader outcome variable was comprised. We also explored the potential role of language in explaining any disparities we observed by comparing Hispanic patients who reported an ability to speak English very well to those with lower self-reported levels of English proficiency.

RESULTS

Study Sample

Study sample characteristics and differences based on patient race/ethnicity are shown in Table 2. Compared to white

Table 2. Characteristics of the Study Sample

	Hispanic n=58		Non-Hispanic White n=55		p-value
Patient Characteristics					
Age, Mean (SD)	43	(9)	43	(11)	0.977
Female, N(%)	12	(21)	11	(20)	0.890
High school degree, N (%)	36	(62)	51	(93)	<0.001
Other language spoken at home, N (%)	48	(84)	5	(9)	<0.001
Ability to speak English 'very well', N (%)	33	(58)	49	(89)	<0.001
Active drug use [^] , N(%)	14	(24)	27	(49)	0.006
CD4 count, Mean 0.111 (SD)	414	(250)	494	(267)	0.111
Known provider >5 years, N(%)	16	(28)	15	(27)	0.925
Provider Characteristics					
Age, Mean (SD)	45	(6)	44	(5)	0.507
Female, N(%)	38	(66)	38	(69)	0.686
White, N(%)	42	(72)	48	(87)	0.050

[^]defined as any use of heroin, opiates (without prescription), cocaine, amphetamines, or marijuana in within past 30 days

Table 3. Differences in Patient-Reported Measures of Patient-provider Communication Comparing Hispanic/Latino to Non-Hispanic White HIV-Infected Patients

	Unadjusted ¹	Adjusted ²
>Median overall communication	1.98 (1.08 - 3.60)	1.78 (0.69 - 4.55)
Highest decision-making	2.20 (1.02 - 4.74)	1.60 (1.53 - 4.85)
Highest interpersonal style	2.87 (1.17 - 7.04)	3.05 (1.20 - 7.74)

¹p-values and adjusted means obtained using negative binomial regression with GEE to account for clustering of patients within providers, adjusted for site

²p-values and adjusted means obtained using negative binomial regression with GEE to account for clustering of patients within providers, adjusted for site and patient characteristics (age, sex, education, active drug use) and provider race/ethnicity

patients, Hispanic patients were less likely to have a high school degree, to actively use drugs, to report speaking English 'very well' and to have a white provider and more likely to speak a language other than English at home.

Differences in Communication for Hispanic Compared to White Patients

Unadjusted and adjusted differences in patient-reported measures of patient-provider communication by patient ethnicity are presented in Table 3. Hispanic patients rated their experience of provider's interpersonal style more positively than white patients, but did not differ from white patients in ratings of overall satisfaction or provider's decision making style.

Adjusted differences in observed measures of patient-provider communication by patient ethnicity (Hispanic vs. white) are presented in Table 4. In multivariate analyses, there was significantly less patient-centered communication in encounters with Hispanic compared to white patients. There was no association between patient ethnicity and visit length, verbal dominance or emotional tone; in the total number of

provider statements categorized as socio-emotional, question-asking or information-giving; or in the total number of patient statements categorized as socio-emotional, question-asking, or information-giving.

When we further analyzed specific communication measures within the overall patient-centeredness ratio, we found that there was significantly less psychosocial talk in visits with Hispanic compared to white patients (80 vs. 118 total utterances in the psychosocial realm, p<0.001, data not shown in table). These differences existed in psychosocial information-giving by both patients and providers in visits with Hispanic vs. white patients. There were no differences in psychosocial talk between Hispanic patients who reported that they did or did not speak English 'very well' (74 vs. 84 utterances in the psychosocial realm, p=0.654).

DISCUSSION

We found that encounters between HIV providers and Hispanic compared to white patients were less patient-centered, with less psychosocial talk. We also found that, despite these differences, Hispanic patients in our study rated their providers' communication more highly. Finally, we found that most other aspects of communication, such as physician verbal dominance and emotional tone, which had been previously shown to differ between African American and white patients, were no worse for Hispanic than for white patients.

The reasons that encounters with Hispanic patients were less patient-centered with less psychosocial talk are unclear. It is possible that providers perceive more cultural distance and are perhaps less comfortable exploring psychosocial topics with Hispanic patients. Alternatively, this finding may reflect cultural differences in patients' comfort or expectations for discussing psychosocial topics with doctors. To address the possibility that our findings arose from language barriers, we compared Hispanic patients by English proficiency and found similarly low amounts of psychosocial talk among those who

Table 4. Adjusted Differences in Audio Recorded Measures of Patient-Provider Communication Comparing Hispanic/Latino to Non-Hispanic White HIV-Infected Patients

	Hispanic		Non-Hispanic White		p-value [^]
	n=58		n=55		
	Mean	95% CI	Mean	95% CI	
Verbal dominance ratio	1.38	1.24-1.54	1.33	1.21-1.47	0.200
Patient-centeredness score	0.75	0.6-0.9	0.90	0.73-1.10	0.009
Visit length (minutes)	20.8	18.6-23.2	21.3	18.7-24.2	0.532
Provider behaviors					
Positive affect score	11.4	10.9-11.9	11.2	10.6-11.8	0.815
Socio-emotional talk	76.8	68.1-86.6	87.5	73.7-103.9	0.115
Question-asking	39.6	31.7-49.5	46.0	35.6-59.5	0.376
Information-giving/counseling	151.2	135.0-169.2	139.2	117.8-164.6	0.463
Patient activation	38.5	33.4-44.4	40.8	32.4-51.4	0.352
Patient behaviors					
Positive affect score	20.9	20.5-21.4	20.9	20.6-21.3	0.533
Socio-emotional talk	91.7	84.2-99.9	91.9	80.1-105.5	0.497
Question-asking	11.1	9.4-13.1	8.5	7.2-10.1	0.059
Information-giving	145.5	121.3-174.5	155.5	129.9-186.2	0.209
Patient activation	8.4	6.7-10.5	6.0	4.7-7.6	0.338

[^]p-values and adjusted means obtained using negative binomial regression with GEE to account for clustering of patients within providers, adjusted for site and patient characteristics (age, sex, education, active drug use) and provider race/ethnicity

spoke English very well and those who did not. The fact that Hispanic patients did not perceive their care more negatively, despite the relative lack of patient-centeredness, may indicate either that their expectations are lower (and that they are therefore more easily satisfied), or that they prefer more biomedically-oriented visits. Alternatively, this may represent culturally different norms when responding to such questions. Nevertheless, it is important that HIV providers explore lifestyle and psychosocial issues with all patients, to the extent that these discussions provide information relevant to patient care and are valued or helpful to the patient. Based on our findings, this might, on average, require extra effort or questioning with Hispanic patients. Further research will be necessary to determine whether our findings are reproducible and, if so, what the barriers to psychosocial communication in patient-provider encounters with Hispanic patients are. Cultural competence training, shown to be effective in improving provider skills, may be helpful.²¹

Also interesting is our finding that communication measures previously shown to differ between African American and white patients, such as verbal dominance and emotional tone, were not different between Hispanic and white patients. Although we have to be cautious in assuming no differences based on this small sample of patients, the pattern of our findings indicated that Hispanic patients asked more questions and engaged in more patient-activating behaviors than white patients. Although patient question-asking may reasonably be a marker of increased patient involvement, the fact that Hispanic patients tended to ask more questions was not reflected in the patient-centeredness ratios, probably because that ratio is disproportionately influenced by the amount of psychosocial talk. One possible area in which a larger study may have uncovered ethnic differences is in provider socio-emotional talk, which was slightly lower for Hispanics. This may be related to the fact that there was less psychosocial talk, and further research should explore these two types of dialogue together.

Our findings should be interpreted cautiously. Although our analyses were hypothesis-driven, the number of communication outcomes we examined raises the possibility that some of our findings could have reached statistical significance by chance. We also may not have had a large enough sample size to detect racial/ethnic differences in some communication measures. Our results should therefore be considered preliminary and studied further in larger samples and in other settings and populations.

Our study has several additional limitations. The number of Hispanic patients from different countries of origin was too small to form conclusions about how communication may differ based on different cultural backgrounds within the Latino population. Neither were we able to code communication in Spanish, which limits our ability to understand how communication may differ for Spanish-speaking patients. Further research ought to explore differences in communication for both English and Spanish speaking Hispanic patients, which might provide further insight into whether the differences we observed arise primarily from different communication styles, cultural preferences, or language barriers. Also, patients and providers in our study knew that they were being recorded and may have attempted to communicate differently, which may have biased our study toward more favorable observed communication behaviors. Two prior studies, howev-

er, have directly addressed this issue, and neither found that recorded visits were substantively different from non-recorded ones.^{22,23} Moreover, the study sample was from only two sites, and took place in the context of HIV care, limiting the generalizability of the results. Finally, because of limited variation in provider race/ethnicity, we were unable to assess the effects of racial or ethnic concordance between patient and provider on communication.

In conclusion, we found that communication between Hispanic and white HIV-infected patients and their providers may differ in distinct ways. Hispanic patients in our study had more narrowly biomedical interactions, with less communication about psychosocial issues, than white patients. The fact that Hispanic patients rated their visits more positively than whites, raises the possibility that these racial/ethnic differences in patient-provider interactions may reflect differences in patient preferences and communication style, rather than "deficits" in communication. However, given the ubiquity and persistence of racial/ethnic disparities in the quality of care for HIV/AIDS and many other conditions, providers should ensure that adequate attention has been paid to psychosocial issues with all patients. Further research is needed to understand whether these efforts will improve patient experiences and outcomes.

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