

Impact of Patient Race on Patient Experiences of Access and Communication in HIV Care

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BACKGROUND: Patient-centered care—including the domains of access and communication—is an important determinant of positive clinical outcomes.

OBJECTIVE: To explore associations between race and HIV-infected patients' experiences of access and communication.

DESIGN: This was a cross-sectional survey.

PARTICIPANTS: Nine hundred and fifteen HIV-infected adults receiving care at 14 U.S. HIV clinics.

MEASUREMENTS: Dependent variables included patients' reports of travel time to their HIV care site and waiting time to see their HIV provider (access) and ratings of their HIV providers on always listening, explaining, showing respect, and spending enough time with them (communication). We used multivariate logistic regression to estimate associations between patient race and dependent variables, and random effects models to estimate site-level contributions.

RESULTS: Patients traveled a median 30 minutes (range 1–180) and waited a median 20 minutes (range 0–210) to see their provider. On average, blacks and Hispanics reported longer travel and wait times compared with whites. Adjusting for HIV care site attenuated this association. HIV care sites that provide services to a greater proportion of blacks and Hispanics may be more difficult to access for all patients. The majority of patients rated provider communication favorably. Compared to whites, blacks reported more positive experiences with provider communication.

CONCLUSIONS: We observed racial disparities in patients' experience of access to care but not in patient-provider communication. Disparities were explained by poor access at minority-serving clinics. Efforts to make care more patient-centered for minority HIV-infected patients should focus more on improving access to HIV care in minority communities than on improving cross-cultural patient-provider interactions.

KEY WORDS: physician-patient relations; communication; HIV/AIDS treatment; health services accessibility; blacks; HIV Research Network. *J Gen Intern Med* 23(12):2046–52
DOI: 10.1007/s11606-008-0788-5
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INTRODUCTION

The quality of HIV treatment Americans receive varies among racial/ethnic groups. On the whole, non-whites experience poorer care than white persons living with HIV/AIDS¹. Blacks are less likely to receive highly active anti-retroviral therapy (HAART)^{2–5} and prophylaxis for *Pneumocystis jiroveci* pneumonia (PCP)⁶ compared with whites. This occurs in the context of decreased access to care for people of color throughout the U.S. health care system^{7,8}.

While the mechanisms behind these racial/ethnic disparities in HIV treatment are not clear, they may be related to differential care at several points in the care continuum. Hypotheses to explain observed disparities in general medical populations include differences in geographic and organizational factors^{9–12} and patient-provider interactions. Blacks tend to receive care from sites that have less access to clinical resources⁹, have longer travel times to reach their primary care providers¹², and are less likely to receive continuity of care from the same provider compared with whites¹. Overall, non-white patients are more likely to perceive bias in care than are whites¹³. Blacks have rated visits with health care providers as less participatory than whites¹⁴. Providers have been shown to dominate conversation and use less patient-centered language with black compared to white patients¹⁵.

Patient-centeredness—one of the six dimensions of quality outlined in 2001 by the Institute of Medicine¹⁶—originated as a manner of communication with patients characterized by the appreciation of each patient as a unique human being¹⁷ with associated communication skills of listening carefully, showing respect, and explaining things clearly¹⁸. Patient-centeredness evolved over time to include an organizational model of care which considers patients' experiences of access, including convenience and easy accessibility of services^{19,20}.

Little is known about racial disparities in the patient-centeredness of HIV care. Among patients attending an urban

Received April 19, 2008

Revised August 11, 2008

Accepted August 27, 2008

Published online October 2, 2008

medical center HIV clinic, the patient-centered principles of collaborative decision-making and patients' feeling "known as a person" were associated with improved antiretroviral adherence and HIV viral suppression^{21,22}. The objective of the current study was to further explore associations between race/ethnicity and two key aspects of patient-centeredness—access to care and patient-provider communication—among HIV-infected patients. Racial/ethnic disparities in patient-centeredness can occur within a site and also among sites. The latter is a site-level effect, which could arise if patients in a particular racial/ethnic group disproportionately use sites that are relatively high (or low) in certain processes of care affecting all patients. We attempt to distinguish within-site and among-site effects in the analyses.

METHODS

Sites

The HIV Research Network (HIVRN) is a consortium of 21 sites that provide primary and subspecialty care to HIV-infected adult and pediatric patients with an average annual enrollment of 16,000 patients^{23,24}. The participating 14 sites treating adult patients are located in the Eastern (6), Midwestern (3), Southern (2), and Western (3) U.S. Seven of the sites have academic affiliations; seven are community-based.

Subject Sample

During 2003, interviews were conducted in a sample of 951 adult (≥ 18 years old) HIV-infected patients at 14 adult HIVRN sites who volunteered when asked to participate, as described previously²⁵⁻²⁷. Initially, a random sample was drawn from de-identified patient lists at each site. Staff at each site determined the sampled patient's name and address, and mailed an invitation to participate. We encountered a large proportion of incorrect addresses and a high rate of non-response. Of 5,363 letters of invitation sent, we successfully conducted interviews with 717 patients. We consequently supplemented mail recruitment by approaching patients as they waited for treatment in all but three sites; this yielded interviews with another 234 patients. The current study used data from 915 respondents who reported their race/ethnicity as black, Hispanic, or white. People who reported other race/ethnicity groups were excluded due to small sample sizes.

Data Collection

Face-to-face interviews were conducted between December 2002 and December 2003 by professional interviewers trained and supervised by Battelle Corporation (Columbus, Ohio, USA). The interviews assessed a wide range of HIV and substance abuse related topics. For comparability, interview questions were adapted from the interview developed for the HIV Cost and Services Utilization Study (HCSUS).

IRB approval was obtained by the data coordinating center and each site, and informed consent was obtained from each participant before the start of the interview. Participants received \$30 for the approximately one-hour interview.

Measures

We collected information about participants' demographic characteristics and experiences with two dimensions of patient-centered care: access and communication. Access to care was assessed from the patients' perspective. For travel time to HIV care site, patients were asked, "About how much time does it usually take you to get to your usual source of HIV care from where you live?" For waiting time, patients were asked, "When you go to your usual source of HIV care for a scheduled appointment, about how long do you usually have to wait from the time you arrive to the time you actually see a doctor, nurse, or other care provider?" For both variables, responses in minutes were dichotomized and "prolonged" time was defined as anything greater than the median travel (30 minutes) or wait (20 minutes) times.

Measures of patient-centered communication were taken from the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey²⁸. Participants were asked about interaction with their HIV care provider over the past 12 months and whether their provider a) listened carefully, b) explained things in a way the patient could understand, c) showed respect for what the patient had to say, and d) spent enough time with the patient. Responses were given on a scale of never, sometimes, usually, and always, and dichotomized for analysis as "always" or "not always."

The independent variable was self-reported race/ethnicity (black, Hispanic, white). Covariates included patient age in years (18–39, 40–49, and ≥ 50), birth gender (female or male), education (less than a high school diploma, a high school diploma or some college, and bachelor's degree or greater), insurance (insured vs. uninsured), and HIV care site (outpatient clinic site that patient identified as their usual source of HIV care)—all from patient survey data. We also constructed site-level variables of the proportion of black patients and of Hispanic patients at each site using the overall HIVRN clinical data. This information was not available for one site, so race frequencies from the patient survey were used to calculate proportions for that site.

Data Analysis

Unadjusted associations between the independent variable (patient race/ethnicity) and dependent variables (access and communication measures) were examined using chi-square tests and simple logistic regression. We assessed the association between travel and wait times and proportion black and proportion Hispanic using multivariate linear regression adjusting for sociodemographics, and depicted this relationship graphically. We assessed the association between dichotomous communication variables and proportion black and proportion Hispanic using multivariate logistic regression adjusting for sociodemographics. Adjusted associations between race/ethnicity and dichotomized patient-centered access and communication variables were estimated using sequential logistic regression models, sequentially controlling first for sociodemographic variables and then adding dummy variables for HIV care site. Including dummy variables for each care site adjusts for all site-level characteristics, and the resulting coefficients represent within-site associations. In order to distinguish among vs. within-HIV care site effects, we also conducted sensitivity analyses using random effects

models that included site-level variables (proportion black and proportion Hispanic), controlling for sociodemographics and adjusting for site as a random intercept²⁹. When variables for proportion black and proportion Hispanic were significant, observed associations between race and outcomes were attributed to among-center variation in these site characteristics, as recommended by Localio *et al.*²⁹. If variables for the proportion black or proportion Hispanic were not significant, observed associations between race and outcomes were attributed to within-center (i.e., individual-level) variation by race. Analyses were conducted using STATA 9.0³⁰.

RESULTS

Study Sample

The majority of respondents were black (54%), while 32% were white and 14% were Hispanic (Table 1). Sixty-eight percent of the respondents were male, 10% had no insurance, and 27% reported a history of injection drug use (IDU) as their mode of HIV transmission. Twenty-seven percent had less than a high school diploma and 24% were employed. The median age was 45 (range 20–86) years. The median proportion of minority race/ethnicity groups per HIV care site was 51% for blacks (range 9–81%) and 18% for Hispanics (range 1–59%) across the 14 participating sites.

Gender, race/ethnicity, and HIV transmission distributions were similar in the larger population of patients at these sites and in the interviewed sample (Sex: 70% vs. 68% Male [chi-square $p=.153$]; Race/Ethnicity: 29% vs. 31% white, 48% vs.

52% black, 20% vs. 14% Hispanic [chi-square $p=.213$ for race]; HIV transmission: 16% vs. 16% injection drug use (IDU), 38% vs. 34% men who have sex with men (MSM), 3% vs. 3% MSM/IDU, 32% vs. 30% heterosexual (HET), 6% vs. 8% HET/IDU) [chi-square $p=.220$ for HIV risk]. The median sample size per site was 59 patients (range: 38 to 172 patients).

Access

Patients reported a median usual travel time of 30 (range 1–180) minutes from where they live to their HIV care site. Median reported time at the HIV care site waiting to see the provider was 20 (range of 0–210) minutes. In unadjusted analyses, mean time to arrive at HIV care site was longer for black (36 minutes, $p<.001$) and Hispanic (37 minutes, $p=.004$) compared to white patients (29 minutes). After arriving, waiting times were longer for Hispanics (36 minutes, $p=.004$) and blacks (31 minutes, $p=.055$) compared with whites (27 minutes).

Unadjusted and adjusted analyses are shown in Table 2. In unadjusted analysis, the odds of prolonged travel time were greater for blacks and Hispanics compared to whites. Addition of socio-demographic characteristics to analytic models had little impact on this association. When dummy variables representing HIV care sites were added to the analytic model, however, the effect of race/ethnicity on time to HIV care site diminished, with confidence intervals including 1.0. Similarly, the unadjusted odds of prolonged wait time to see one's provider were greater for blacks and Hispanics compared with whites. Addition of socio-demographic characteristics to multivariate models attenuated the association between race/ethnicity and prolonged wait time, with further attenuation when HIV care site indicators were added to the model.

The figure indicates that travel time to HIV care site increased as the proportion of black patients ($\beta=8.49$ [95% CI 0.63, 16.4]) and Hispanic patients ($\beta=13.5$ [95% CI 3.23, 23.8]) increased at a given site. Waiting times to see a provider increased with proportion Hispanic patients ($\beta=21.2$ [95% CI 9.04, 33.3]) but not proportion black patients ($\beta=-1.15$ [95% CI -10.5, 8.18]) at each site (Fig. 1).

In sensitivity analyses, random effects models including these site-level variables confirmed site-level variable associations with prolonged travel time (proportion black patients OR=6.22 [1.71, 22.6], proportion Hispanic patients OR=8.21 [1.58, 42.7]), but not patient-level variables (black patients OR=0.98 [0.67, 1.43]; Hispanic patients OR=1.12 [0.68, 1.86]). Similarly, random effects models confirmed an association between the site variable of proportion Hispanic patients and prolonged waiting times (OR=82.5 [2.3, 2955]), but not proportion black patients (OR=6.37 [0.36, 114]) or patient-level variables (black patients (OR=1.01 [0.66, 1.54]); Hispanic patients (OR=1.28 [0.74, 2.21])). This indicates that observed differences in access to care were explained by proportion of minority patients at a given site, rather than within-site variation by race.

Communication

Patient satisfaction with provider communication was high overall. Patients were least likely to report that their provider always spends enough time with them (75%), while 85% reported that their provider always explains things in a way they understand, 87% that their provider always listens

Table 1. Patient Characteristics, N=915

	N (%)
<i>Race/Ethnicity</i>	
White	294 (32)
Black	491 (54)
Hispanic	130 (14)
<i>Age (years)</i>	
18–39	232 (26)
40–49	421 (46)
≥50	257 (28)
<i>Gender</i>	
Female	294 (32)
Male	621 (68)
<i>HIV risk group</i>	
IDU	245 (27)
Non-IDU	593 (65)
Unknown/missing	77 (8)
<i>Education</i>	
< High school diploma	240 (27)
High school diploma/Junior college	545 (60)
College/Post-college	122 (13)
<i>Insurance</i>	
Insured	824 (90)
Uninsured	91 (10)
<i>Employment</i>	
Working	219 (24)
Retired	149 (16)
Disabled	453 (50)
Unemployed	87 (10)

IDU = injection drug use

Note: Observations with missing data excluded from calculation of percentages

Table 2. Patient-Centered Access to Care, Odds Ratios and Adjusted Models

	%	Unadjusted OR (95% CI)	Adjusted OR (95% CI): sociodemographics*	Adjusted OR (95% CI): sociodemographics* + site
<i>Time to HIV care site > 30 minutes</i>				
		†	†	
Black	58	1.74 (1.30–2.33)	1.50 (1.10–2.06)	0.97 (0.66–1.43)
Hispanic	62	2.04 (1.34–3.12)	1.83 (1.17–2.85)	1.15 (0.69–1.90)
White	45	1.0 (Ref)	1.0 (Ref)	1.0 (Ref)
<i>Waiting time > 20 minutes</i>				
		†	†	
Black	60	1.35 (1.01–1.81)	1.12 (0.82–1.54)	1.01 (0.66–1.54)
Hispanic	72	2.30 (1.47–3.60)	1.92 (1.20–3.06)	1.29 (0.74–2.24)
White	53	1.0 (Ref)	1.0 (Ref)	1.0 (Ref)

*Socio-demographic characteristics: age, gender, HIV risk group, education, insurance, and employment status as in Table 1. Site = HIV care site dummy variables

† Denotes $p < 0.05$ for overall race variable

carefully, and 88% that their provider always respects what they have to say. In unadjusted analyses (Table 3), blacks were more likely to report optimal provider communication in all four domains compared with whites. Adjustment for socio-demographic characteristics had little effect on the association between black race and communication ratings. Results were mixed when site of care indicators were added to analytic models: the positive association between optimal communication and black race/ethnicity was attenuated in three of four domains; however, blacks continued to have greater odds of reporting that their provider always explained things in a way they understood (Table 3).

As the proportion of black patients at each site increased, patients had greater odds of reporting their provider always listens carefully (OR 2.73, [1.03–7.22]), respects what they

have to say (OR 2.90, [1.01–8.31]), and spends enough time with them (OR 2.46, [1.14–5.33]), but not explain things in a way they understand (OR 2.08, [0.81–5.34]). As the proportion of Hispanics increased at a given site, patients reported lower odds of their provider always listening to them (OR 0.25, [0.07–0.88]), but proportion of Hispanic patients was not associated with other communication outcomes (explains: OR 0.45, [0.13–1.59]; respects: OR 0.51, [0.12–2.16]; spends enough time: OR 0.35, [0.12–1.00]).

In sensitivity analyses, random-effects models accounting for site did not change the results of Table 3. No site-level variables were associated with communication outcomes in random effects models. In contrast to access outcomes, this indicates that observed associations between race and communication outcomes may be due to within-center variation by

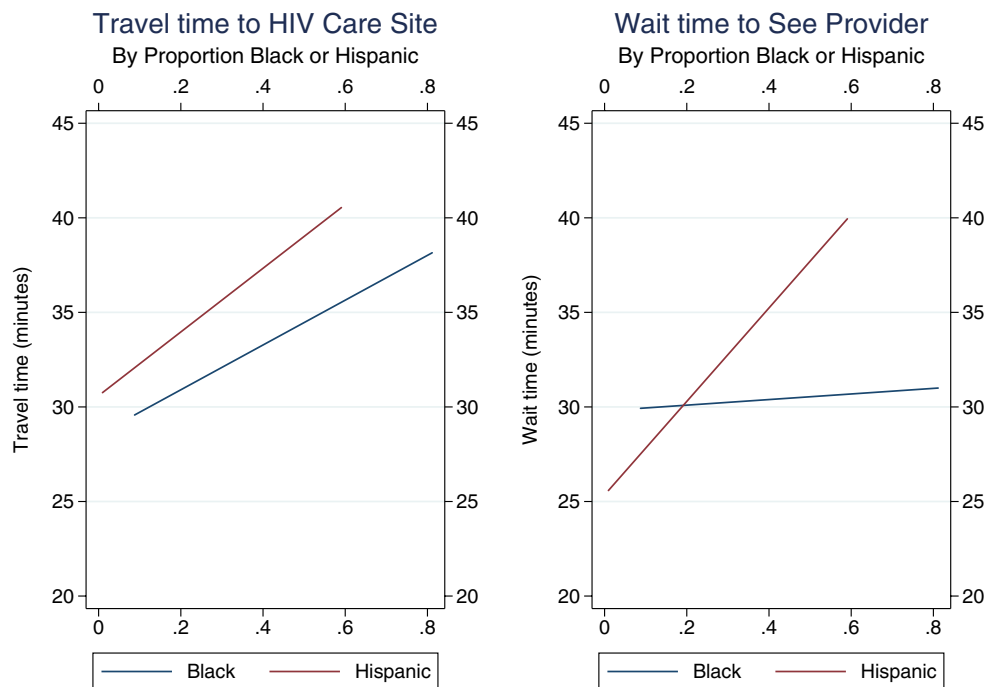


Figure 1. Access to care, by proportion of blacks or Hispanics at HIV care site (adjusted for age, gender, HIV risk group, education, insurance, and employment status).

Table 3. Patient-Centered Communication, Odds Ratios and Adjusted Models

	%	Unadjusted OR (95% CI)	Adjusted OR (95% CI): sociodemo*	Adjusted OR (95% CI): sociodemo* + Site
<i>Provider always listens carefully</i>				
		†		
Black	89	1.71 (1.12–2.60)	1.72 (1.08–2.73)	1.53 (0.90–2.61)
Hispanic	85	1.10 (0.63–1.95)	1.20 (0.66–2.21)	1.32 (0.67–2.60)
White	83	1.0 (Ref)	1.0 (Ref)	1.0 (Ref)
<i>Provider always explains in a way patient can understand</i>				
		†	†	†
Black	89	1.75 (1.16–2.64)	2.03 (1.29–3.19)	1.94 (1.15–3.27)
Hispanic	78	0.79 (0.47–1.32)	0.84 (0.48–1.46)	1.01 (0.55–1.87)
White	82	1.0 (Ref)	1.0 (Ref)	1.0 (Ref)
<i>Provider always respects what patient has to say</i>				
		†	†	
Black	92	2.29 (1.46–3.59)	2.08 (1.27–3.40)	1.66 (0.93–2.96)
Hispanic	89	1.62 (.86–3.06)	1.41 (0.72–2.73)	1.26 (0.60–2.64)
White	84	1.0 (Ref)	1.0 (Ref)	1.0 (Ref)
<i>Provider always spends adequate time with patient</i>				
		†	†	
Black	79	1.70 (1.22–2.37)	1.60 (1.12–2.29)	1.45 (0.95–2.21)
Hispanic	74	1.23 (0.77–1.96)	1.22 (0.75–1.99)	1.36 (0.79–2.33)
White	69	1.0 (Ref)	1.0 (Ref)	1.0 (Ref)

*Socio-demographic characteristics: age, gender, HIV risk group, education, insurance, and employment status as in Table 1. Site = HIV care site indicators
 † Denotes $p < 0.05$ for overall race variable

race rather than variation in the proportion of minority groups at a given site.

DISCUSSION

In this study, access to HIV care—as measured by prolonged travel and wait times—was worse for blacks and Hispanics compared with whites. These findings are predominantly attributable to site-level characteristics. HIV care sites that provide services to a greater proportion of blacks and Hispanics may be more difficult to access for all patients.

These findings are consistent with prior research in non-HIV-infected minority populations suggesting that observed disparities in access to care may be more due to site-level or community effects (i.e., the local environment of a given HIV care site that affects access for all patients) than race, per se. In a nationally representative household survey conducted by the Department of Transportation, blacks spent a mean of 29 minutes traveling to their medical provider compared with 21 minutes for whites, though geographic distances to providers were comparable¹². In analysis of care of black and white Medicare recipients, 80% of black patients received care from 20% of U.S. providers and these providers reported having less access to healthcare resources than providers caring for predominantly white patients⁹. In a large-scale study of several procedures undertaken at 123 hospitals, Hasnain-Wynia and colleagues³¹ concluded that observed racial differences in procedure rates were a result of where minority patients received care rather than bias or lack of cultural understanding. Baiker and colleagues examined disparities in healthcare utilization by race using Medicare claims data and found that differences in end-of-life care were far greater by residence than race^{10,32}. They conclude that efforts should be directed to improving quality of care across regions rather than across race. Blacks in many urban centers may be more likely to

access general medical care at sites with more limited resources. Taken together, these studies and ours suggest that disparities in access to care by race may be explained more by differences in access for people living in predominantly minority vs. white communities (site-level effects) rather than for minority vs. white individuals within a given community (within-site effects). It is important to recognize that these community-level differences are no less problematic than individual-level differences. Creating more equitable health-care access will likely require multi-faceted policy interventions that fund improvements in healthcare system and community infrastructure³³. For example, targeted supplemental funding for clinics treating predominantly minority populations might be used to create satellite services in local minority neighborhoods and hire additional staff to decrease wait times.

Blacks reported more positive experiences with patient-provider communication than whites. The relationship between patient-centered communication and race is complex. Patients' ratings of provider communication were better among blacks than whites overall, an association that was little-affected by other sociodemographic factors. Prior studies have yielded conflicting findings regarding variations in communication satisfaction by race/ethnicity in general medical populations. Patient ratings of the quality of interpersonal communication were lower for minority patients than for whites in the Commonwealth Fund 2001 Health Care Quality Survey¹³. In a telephone survey of persons with a recent primary care visit, Cooper et al. found that blacks reported lower satisfaction with participatory decision making¹⁴. In a quantitative analysis of audiotaped patient-provider encounters during primary care visits, patient-centered communication scores were lower for black compared with white patients¹⁵. In other studies, however, blacks reported comparable³⁴ or greater³⁵ satisfaction with patient-provider communication than white patients. In the current study, the positive

association between black race/ethnicity and communication ratings was reduced after addition of HIV care site to analytic models for three of four measures of patient-centered communication. This attenuation of effect was likely due to random variation in communication ratings across sites, since sensitivity analyses indicated that higher communication ratings among blacks could not be attributed to better provider communication at sites with higher proportions of black patients. Lurie et al. suggest that higher ratings of patient-provider communication may be the product of lower expectations for healthcare quality among blacks³⁵. As the HIV epidemic disproportionately affects persons of color in the U.S., further research is required to expand understanding of differences in patient-provider communication by race/ethnicity.

Results of this study should be interpreted in light of several potential limitations. First, we were unable to measure provider characteristics in this study and could not assess race concordance between patients and their providers. Previous studies suggest that patient-provider race concordance may be a better predictor of effective communication than patient race alone^{14,36,37}. Second, we were limited by self-reported measures of patient-centered access and communication in this analysis. Future studies that directly observe patient-provider encounters would be helpful in clarifying the relationship between race/ethnicity and patient-centered communication. Nonetheless, patients' subjective views of their healthcare experiences are, by definition, necessary for developing more patient-centered healthcare systems. Third, the HIVRN is not a national probability sample. Though its sample is similar to that of a 1996 nationally representative sample of persons in care for HIV infection^{1,38}, we are cautious about generalizing our findings to the entire U.S. HIV-infected population. Finally, our sample should be interpreted as a convenience sample. Although it reflected the demographics of the larger HIVRN population, it is possible that patients who volunteered to be interviewed experienced systematically better (or worse) access and communication than non-participants. For example, rural residents from the South may have been less likely to participate due to prolonged travel times, and more likely to be black. Inclusion of such participants, however, would likely strengthen the magnitude and direction of our findings.

Patient-centered access to HIV care is lower for blacks and Hispanics compared with whites, while satisfaction with patient-provider communication is higher for blacks than other race/ethnicity groups. Location of care and population demographics, rather than individual patient characteristics, explain disparities in access. Policies seeking to develop a more patient-centered and equitable HIV healthcare delivery system should address the geographic location, staffing, and resources of clinics serving predominantly minority communities.

The HIV Research Network

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Bronx, New York (Robert Beil, M.D.); Montefiore Medical Center, Bronx, New York (Lawrence Hanau, M.D.); Nemechek Health Renewal, Kansas City, Missouri (Patrick Nemechek, D.O.); Oregon Health and Science University, Portland, Oregon (P. Todd Korthuis, M.D.); Parkland Health and Hospital System, Dallas, Texas (Philip Keiser, M.D.); St. Jude's Children's Hospital and University of Tennessee, Memphis, Tennessee (Aditya Gaur, M.D.); St. Luke's Roosevelt Hospital Center, New York, New York (Victoria Sharp, M.D.); Tampa General Health Care, Tampa, Florida (Charurut Somboonwit, M.D.); University of California, San Diego, La Jolla, California (Stephen Spector, M.D.); University of California, San Diego, California (W. Christopher Mathews, M.D.); Wayne State University, Detroit, Michigan (Jonathan Cohn, M.D.)

Sponsoring Agencies. Agency for Healthcare Research and Quality, Rockville, Maryland (Fred Hellinger, Ph.D., John Fleishman, Ph.D., Irene Fraser, Ph.D.); Health Resources and Services Administration, Rockville, Maryland (Alice Kroliczak, Ph.D., Robert Mills, Ph.D.)

Substance Abuse and Mental Health Services Administration, Rockville, MD (Kevin Mulvey, Ph.D., Pat Roth)

Data Coordinating Center. Johns Hopkins University (Richard Moore, M.D., Jeanne Keruly, C.R.N.P., Kelly Gebo, M.D., Perrin Hicks, M.P.H., Michelande Ridoré, B.A.)

Acknowledgments: Preliminary results were presented as an oral abstract at the 30th Annual Society of General Internal Medicine meeting (April 2007, Toronto, Canada). This work was supported by the Agency for Healthcare Research and Quality (290-01-0012). Dr. Korthuis is supported by the National Institute on Drug Abuse (K23-DA019809). Dr. Saha is supported by an Advanced Research Career Development Award from the Department of Veterans Affairs Health Services Research & Development Service, and a Generalist Physician Faculty Scholar Award from the Robert Wood Johnson Foundation. Dr. Gebo received support from the Johns Hopkins Richard S. Ross Clinician Scientist Award. Dr. Beach is supported by the Agency for Healthcare Research and Quality (1-K08-HS13903). The views expressed in this paper are those of the authors. No official endorsement by DHHS, the National Institutes of Health, the Agency for Healthcare Research and Quality, the Robert Wood Johnson Foundation, or the Department of Veterans Affairs is intended or should be inferred.

Conflict of Interest: None disclosed.

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