Racial and Ethnic Disparities in Access to Physicians with HIV-related Expertise

Findings from a Nationally Representative Study

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OBJECTIVE: Professional medical associations recommend that physicians who treat patients with human immunodeficiency virus (HIV) have a measurable form of disease-specific expertise, such as high HIV patient volume or infectious diseases certification. Although it is known that racial/ethnic minorities generally have worse access to care than do whites, previous work has not examined disparities in the use of physicians with HIV-related expertise.

DESIGN, SETTING, AND PARTICIPANTS: We linked data from a prospective cohort study of 2,207 persons with HIV receiving care in the United States with a cross-sectional survey of 404 physicians caring for them. Using multivariate analysis, we estimated the association of patient race/ethnicity with the experience and training of their physicians, controlling for health status, socioeconomic status, demographic characteristics, and geographic variation in provider supply.

RESULTS: Compared with white patients, African Americans were less likely to have an infectious diseases specialist as a regular source of care (odds ratio [OR], 0.60; 95% confidence interval [CI], 0.37 to 0.95). Persons of Alaskan Native, American Indian, Asian, Pacific Islander, or mixed racial background were also less likely than whites to have an infectious diseases specialist (OR, 0.44; 95% CI, 0.23 to 0.83). Conversely, Latino patients had physicians whose HIV patient volume was, on average, 24% higher than the physicians of white patients (incident rate ratio, 1.24; 95% CI, 1.03 to 1.50).

CONCLUSIONS: Some groups of racial/ethnic minorities are less likely than are whites to have infectious diseases specialists as a regular source of care. The finding that the physicians of Latino patients had relatively higher HIV caseloads suggests that this particular patient subpopulation has access to HIV expertise. Further work to explain racial/ethnic differences in access to physicians will help in the design of programs and policies to eliminate them.

KEY WORDS: race/ethnicity; health services accessibility; specialty care; physicians.
DOI: 10.1111/j.1525-1497.2005.40109.x
J GEN INTERN MED 2005; 20:283–289.

P rofessional medical associations recommend that physicians who treat patients with human immunodeficiency virus (HIV) have some form of disease-specific expertise, based on evidence from the United States that certain types of board certification and high HIV patient volume ("experience") are associated with indicators of better quality care such as lower patient mortality, increased use of appropriate medications, and fewer hospitalizations.[1,2] In one of the first published studies on the effectiveness of HIV expertise, Kitahata et al.[3]

categorized 125 physicians into "least, moderate, and most" levels of experience and found that patients of the moderately and most-experienced physicians had progressively lower relative risks of death. Earlier studies found that patients of several types of specialists were prescribed antiretroviral therapy sooner[4] and hospitalized less frequently[5] than were patients of generalists. More recently, tests of physician knowledge showed that infectious diseases certification and high HIV experience were independently associated with responding correctly to questions about the appropriate use of antiretroviral and prophylactic therapy.[6,7]

The importance of physician expertise has also come to the attention of state policymakers, as evidenced by the recent enactment of laws requiring managed care plans to give their HIV-positive enrollees the option to self-refer to specialists.[8] This legislation, however, does not apply to persons who are uninsured or not enrolled in managed care plans. Further, relatively generous insurance coverage does not guarantee that HIV patients will see physicians who are best suited for treating their health problems. As noted in a recent Institute of Medicine report,[9] racial/ethnic minorities with HIV, regardless of insurance coverage, generally have worse access to care than do whites. African Americans and Latinos in particular have fared poorly on each of the outcomes that evidence suggests is improved by the care of physicians whose training or clinical experience would make them eligible for certification as "HIV specialists."[2] Specifically, members of these racial/ethnic minority groups have greater odds of dying,[10,11] lower odds of receiving antiretroviral therapy,[12,13] and more frequent hospital admissions[14] compared with whites.

Previous research has helped to establish infectious diseases training and clinical experience as defining components of HIV expertise by examining the relationship of these provider characteristics with indicators of health care quality.[15,16] However, the lack of any studies on racial/ethnic differences in the use of physicians with HIV expertise represents a considerable gap in the health disparities literature. The present study addresses the extent to which the potential benefit of having a physician with HIV-related expertise is realized for all persons in care for HIV in the United States. Using data from the nationally representative HIV Cost and Services Utilization Study (HCSUS), we estimate the association of patient race/ethnicity with the use of physicians who have infectious diseases training or high HIV patient volume, while also accounting for the potential effects that patient health status, socioeconomic status, other demographic characteristics, and geographic variation in specialist supply might have on their care. Based on previous evidence of individual and institutional barriers to health services for racial/ethnic minorities,[9] we hypothesize that patients of African-American, Latino, and other racial/ethnic minority backgrounds are less

likely than are whites to have regular physicians with HIV-related expertise.

METHODS

Full details of the design are available elsewhere.[17] The reference population consists of adults with known HIV infection who made at least 1 visit for regular care to a nonmilitary, nonprison medical provider other than an emergency department at some point between January and March 1996. The HCSUS used a multistage design in which geographic areas, medical providers, and then patients were sampled.[18] In the first stage, investigators sampled with certainty the 8 metropolitan statistical areas (MSAs) with the largest AIDS caseloads plus an additional 20 MSAs and 24 clusters of rural counties. In the second stage, 58 urban and 28 rural providers were sampled from lists of providers identified by local informants as HIV providers, as well as another 87 urban and 23 rural providers who affirmed caring for HIV patients in a survey of approximately 4,000 physicians randomly selected from the Physician Master File of the American Medical Association (AMA).[19] In the third stage, respondents were sampled from lists of eligible HIV patients who visited participating providers during the population definition period. The Institutional Review Board at RAND approved the study protocol. Any use of HSCUS data is tracked as part of a data safeguarding plan.

DATA SOURCE: THE HCSUS PATIENT SURVEY

A prospective cohort design was used for this survey, with patients participating in 3 waves of structured interviews. After obtaining informed consent, interviews were conducted using computer-assisted programs. Of the 4,042 eligible subjects, 2,864 (71%) completed baseline interviews. The average interview was approximately 90 minutes long and included questions on service use, health status, and sociodemographic characteristics. Baseline interviews were conducted between January 1996 and April 1997, and first follow-up interviews were conducted between December 1996 and July 1997.

DATA SOURCE: THE HCSUS PROVIDER SURVEY

Using a cross-sectional design, the investigators also distributed a self-administered questionnaire to physicians. At the first follow-up interview, patients were asked to identify the provider who was most important to their HIV care. If this provider could not be identified, a provider was chosen based on the first available information from the patient in the following list: 1) the most recent provider reported at first follow-up; or 2) the non-HIV primary care provider reported at first follow-up; or 3) the HIV primary care provider reported at baseline; or 4) the non-HIV primary care provider reported at baseline. Of the 734 providers named by patients, 571 (78%) had a confirmed identity and mailing address and were sent the questionnaire. A total of 411 providers returned completed questionnaires (72% response rate).

There were 2,609 patients who identified a provider through one of the approaches described above. Of those patients, completed provider survey data were received for 1,894 (73%). Because specialty data on nonresponding physicians were obtained from the AMA for another 313 patients,[19] 77% of the baseline patient sample had data for the infectious diseases specialist variable.

DEPENDENT VARIABLES

The dependent variables refer to characteristics of the physicians caring for HIV patients. Data from the HCSUS provider survey were used to create a variable that categorized physicians as infectious diseases specialists versus generalists/other specialists. The physicians also reported their current number of HIV patients at the time they completed the questionnaire. We analyzed the patient volume variable in continuous form.

INDEPENDENT VARIABLES

Data on patient characteristics were taken from the baseline interview. The key independent variable in this analysis was race/ethnicity, which was categorized as African-American, Latino, white, and "other." Persons who self-reported as black Hispanic were categorized as Latino. Persons who self-reported as Alaskan Native, American Indian, Asian, Pacific Islander, or mixed racial background were grouped together as "other," because of sample size considerations.

Additional sociodemographic variables included in the analysis were gender, primary mode of HIV exposure, education, and annual household income. Primary mode of HIV exposure was categorized as heterosexual contact, male homosexual contact, injection drug use, and other exposure (i.e., hemophilia, infected blood transfusion, or unknown). Education was categorized as bachelor's degree or higher, associate degree or some college, high school diploma or general equivalency degree, and less than high school or no degree. Annual income was categorized as >$25,000, between $10,001 and $25,000, between $5,001 and $10,000, and ≤$5,000.

Variables for other patient sociodemographic characteristics were included in the analyses. Insurance type was categorized as private fee for service (FFS), private health maintenance organization (HMO), Medicaid, Medicare, and none. We included a dichotomous variable indicating whether patients could self-refer to specialists (rather than being required to obtain authorization). A dichotomous variable indicating whether respondents had a case manager was included, as case managers frequently refer clients to health care providers. Because patients with a larger number of close friends might have access to more information about available physicians, we included a variable indicating the number of friends with whom respondents felt they could "talk to about private matters or call on for help." This variable was categorized as none, 1 or 2, 3 or 4, and 5 or more close friends. We also included a dichotomous variable indicating whether respondents were living in households with children, because caregiving responsibilities could impede access to specialists.

Two health status measures were included to account for the potential effect of disease severity on access to expert physicians. We included self-reported data on helper T4 lymphocyte (CD4) count, categorized as less than 50, between 50 and 199, between 200 and 499, and greater than 500. We also included a variable for disease stage that indicated whether respondents were asymptomatic, symptomatic, or diagnosed with AIDS.[20]

Availability of health care providers could also affect whether participants had physicians with HIV-related expertise. For this reason, we created the following 2 specialist supply variables with data from the Area Resource File[21]: the

proportion of active physicians who were infectious diseases specialists and the proportion of active physicians who were internists, aggregated at the MSA level. We added total active physician supply to normalize the effects of the specialist physician variables. The 40 patients who did not live in MSAs (1.4% of the baseline sample) were assigned the mean values of the supply variables for all non-MSAs in their respective geographic regions (Midwest, Northeast, South, West).

STATISTICAL ANALYSES

The patient is the unit of analysis. We calculated unweighted frequencies and weighted proportions of categorical variables, and weighted means and standard deviations of continuous variables. A multivariate logistic regression model was fitted for the dichotomous dependent variable that defined physician expertise as infectious diseases specialty (vs generalist/other). Odds ratios (ORs) and 95% confidence intervals (CIs) were calculated. Because the prevalence of the outcome was greater than 10% in this analysis, odds ratios would overestimate the risk ratio. Using the method suggested by Zhang and Kai,[22] the point estimates for the independent variable of primary interest, race/ethnicity, were adjusted to approximate the risk ratio (adjusted parameters are presented in the text).

For the analysis of HIV patient volume, negative binomial regression was used instead of linear regression because it is a skewed continuous variable that can take only a limited range of values. The negative binomial is similar to the Poisson model, but it does not require the dependent variable to be a count of independent events with variance equal to the mean.[23] We calculated incident rate ratios (IRRs) and 95% confidence intervals (CIs). To aid interpretation, we also present predictive margins for the point estimates in the text. For racial/ethnic minorities, the predictive margin is an estimate of how much the HIV patient caseload of their physicians differs, on average, from the physicians of whites.

As a sensitivity analysis, we estimated the model of access to infectious diseases specialists excluding patients whose physicians had "other" types of board certification (n=140), because this category may have included immunologists, oncologists, or other physicians who have extensive training relevant to HIV.

We used the results for race/ethnicity from the logistic regression analysis as a test of the hypothesis that minority patients were less likely than were whites to have infectious diseases specialists as a regular source of care. Results from the negative binomial regression were used to test the hypothesis that the physicians of minority patients had, on average, lower HIV patient caseloads than did the physicians of whites, adjusting for other variables. Covariates were included in the multivariate models because of their bivariate associations with the dependent variables, or because they seemed conceptually important for their content.

We created several weights to adjust for differential selection probabilities across subgroups of the population, for nonresponse, and for the fact that some patients had more than one opportunity to enter the sample. To permit inference to the reference population, these weights were applied to all analyses. The Stata software program was used to adjust standard errors for the complex survey design (Release 8.0, Stata Corporation, College Station, TX).

RESULTS

Table 1 shows the characteristics of the sample. Approximately 33% of respondents were African-American, 15% were Latino, 49% were white, and 3% identified as Alaskan Native, American Indian, Asian, Pacific Islander, or of mixed racial background. Among patients with data on physician residency training (n=2,207), 44% had an infectious diseases specialist

Table 1. Characteristics of a Probability Sample of HIV Patients in the United States (N=2,207)

Variables	N	% (SE)
Had infectious diseases specialist	936	44.3 (6.7)
Racial/ethnic category		
African-American	702	33.0 (2.9)
Latino	311	15.0 (1.9)
White	1,130	48.9 (2.8)
Other	63	3.1 (0.6)
Female	649	22.8 (2.6)
Primary HIV exposure		
Heterosexual contact	451	18.6 (2.4)
Injection drug use	533	24.3 (3.1)
Male homosexual contact	1,006	48.2 (4.6)
Other	216	8.9 (1.1)
Education		
Less than high school	558	24.9 (2.9)
High school	601	27.7 (1.4)
Some college	646	28.1 (1.8)
Bachelor degree	402	19.3 (2.4)
Annual household income		
< $5,000	459	20.0 (1.6)
$5,000– $9,999	572	25.8 (1.7)
$10,000–$25,000	552	26.0 (1.2)
> $25,000	624	28.2 (2.6)
Type of insurance		
Private FFS	293	16.2 (2.4)
Private HMO	402	15.4 (2.2)
Medicaid	641	29.5 (2.8)
Medicare	426	19.1 (1.0)
None	445	19.8 (2.1)
Insurance allowed patient self-referral	1,079	52.1 (3.1)
Had children in household	396	15.7 (1.9)
Number of friends		
None	281	12.5 (0.9)
1 or 2	778	35.3 (2.0)
3 or 4	564	26.0 (1.4)
5 or more	583	26.3 (2.0)
Had a case manager	1,361	59.7 (2.6)
CD4 count (lowest ever)		
> 500	191	9.4 (0.8)
200–499	854	37.5 (1.7)
50–199	648	29.6 (1.6)
0–49	513	23.5 (1.3)
Disease stage		
Asymptomatic	192	10.6 (0.9)
Symptomatic	1,164	50.9 (1.7)
AIDS	851	38.6 (1.8)
	Mean	**SE**
HIV volume of patients' physicians	339	49
Patient age, y	38.7	0.3
MSA-level variables		
Infectious diseases specialists/MDs (×100), %	0.5	0.3
Internists/MDs (×100), %	18.0	3.6
Total number of MDs	3,240	688

Number values are unweighted; means, percentages, and standard errors are weighted. Due to missing data, not all variables sum to 2,207. SE, standard error; FFS, fee for service; MSA, metropolitan statistical area.

as a regular source of care. The average HIV volume for the physicians was 339 patients. Infectious diseases specialists had a higher average HIV patient volume than did internists and other specialists, at 411 versus 290 HIV patients (not shown). The majority of patients were men (77.2%), and approximately half the sample was exposed to HIV through sex with other men (48.2%). Findings on other patient characteristics suggest that a large proportion of the sample was from disadvantaged backgrounds. For example, 25% of participants had not finished high school. Nearly 20% of patients had no health insurance, and the same proportion had annual household incomes under $5,000.

Patient Race/Ethnicity and Physician Expertise

Results from the analysis of having an infectious diseases specialist are shown in Table 2. The hypothesis that racial/ethnic minorities would be less likely than whites to have physicians with HIV-related expertise is supported by the odds ratio for African–American patients, who had approximately 40% lower odds of having infectious diseases specialists than did whites (OR, 0.60; 95% CI, 0.37 to 0.95). The adjusted risk ratio[22] for the point estimate was 0.71. Persons of Alaskan Native, American Indian, Asian, Pacific Islander, or mixed racial background had approximately 56% lower odds of having infectious diseases specialists than did whites (OR, 0.44; 95% CI, 0.23 to 0.83). The adjusted risk ratio[22] for this point estimate was 0.57. We found no differences between Latinos and whites in this analysis. None of these results were appreciably affected in the sensitivity analysis that omitted patients whose physicians had "other" types of board certification.

Results from the patient volume analysis did not support the hypothesis that the physicians of minority patients had less HIV experience than did the physicians of white patients (Table 3). In fact, the physicians seen by Latinos had a 24% greater HIV caseload than did the physicians of white patients (IRR, 1.24; 95% CI, 1.03 to 1.50), adjusting for the other variables in the model. The predictive margin for the point estimate was 26 (i.e., the physicians of Latino patients had, on average, 26 more HIV patients in their caseloads than did the physicians of whites).

Illness was associated with having physicians with more expertise. The physicians of asymptomatic patients had, on average, a lower HIV caseload than did the physicians of AIDS patients, and asymptomatic patients also had lower odds of having specialists. However, the physicians of patients in the lowest CD4 count category (0–50 t cells) had lower HIV caseloads in their care than did physicians of patients with CD4 counts of 500 or more.

Several sociodemographic variables were associated with having a physician with HIV expertise. Having 3 or 4 friends was associated with having a less-experienced physician, compared with patients having 5 or more close friends. Women had greater odds of having an infectious diseases specialist as a regular source of care than did men. Persons living in households with children had greater odds of having infectious diseases specialists, compared with those living in an all-adult household. Patients with case managers had greater odds of having an infectious diseases specialist than did patients without case managers.

Table 2. Multivariate Logistic Regression Analysis of Having an Infectious Diseases Specialist as a Regular Source of Care Among HIV Patients (N=2,159)*

Variable (Reference Group)	Has Infectious Diseases Specialist
	Odds Ratio (95% CI)
Racial/ethnic category (white)	
African-American	0.60 (0.37 to 0.95)†
Latino	1.27 (0.77 to 2.08)
Other	0.44 (0.23 to 0.83)†
Age, 5-year increments	1.03 (0.87 to 1.22)
Female gender (male)	1.38 (1.07 to 1.77)†
HIV exposure (male homosexual contact)	
Heterosexual contact	1.36 (0.93 to 2.00)
Injection drug use	1.63 (0.99 to 2.69)
Other	1.03 (0.60 to 1.77)
Education ($\geq$ BS/BA)	
Less than high school	0.85 (0.54 to 1.32)
High school	1.24 (0.85 to 1.83)
Some college	1.04 (0.76 to 1.43)
Annual household income ($\geq$ $25,000)	
$0–$4,999	0.75 (0.39 to 1.46)
$5,000–$9,999	0.72 (0.43 to 1.20)
$10,000–$24,999	0.84 (0.64 to 1.10)
Insurance type (private FFS)	
Medicaid	1.13 (0.60 to 2.12)
Medicare	1.15 (0.73 to 1.80)
Private HMO	1.54 (0.90 to 2.61)
None	0.79 (0.45 to 1.38)
Insurance allowed patient self-referral	1.44 (0.97 to 2.13)
Had children at home	1.52 (1.19 to 1.94)§
Had a case manager	1.57 (1.11 to 1.38)‡
Number of close friends ($\geq$ 5)	
None	1.54 (1.14 to 2.08)†
1–2	1.43 (1.09 to 1.88)‡
3–4	1.19 (0.91 to 1.57)
CD4 count (>500)	
200–499	0.85 (0.60 to 1.21)
50–199	0.88 (0.56 to 1.41)
0–49	1.00 (0.51 to 1.99)
Disease stage (AIDS)	
Asymptomatic	0.62 (0.39 to 0.99)†
Symptomatic	0.87 (0.62 to 1.22)
Infectious diseases specialists/all MDs	1.76 (0.59 to 5.24)
Internists/all MDs	1.03 (0.96 to 1.11)
Total number of MDs	1.00 (1.00 to 1.00)

*Reference category is generalist/other specialist.
†P$<$0.05; ‡P$<$0.01; §P$<$0.001.
CI, confidence interval; FFS, fee for service.

DISCUSSION

Research has identified racial/ethnic disparities in the use of important HIV services such as highly active antiretroviral therapy[13] and prophylaxis for pneumonia.[24] Although these services could be considered examples of specialty care, previous work has not addressed racial/ethnic differences in access to physicians whose training or experience would qualify them as HIV specialists. Even after controlling for important determinants of access such as insurance coverage, income, and physician supply, these findings suggest that patients of African-American, Alaskan Native, American Indian, Asian, Pacific Islander, or mixed racial backgrounds are less likely than are whites to have infectious diseases specialists as a regular source of care. Explanations for these findings include the possibility that physicians do not refer minority patients to specialists or other experienced providers as often as they do

Table 3. Negative Binomial Regression Analysis of HIV Patient Volume of Physicians on Patient Characteristics (N=1,857)

Variable (Reference Group)	Physician HIV Volume Incident Rate Ratio (95% CI)
Racial/ethnic category (white)	
African-American	0.93 (0.77 to 1.11)
Latino	1.24 (1.03 to 1.50)*
Other	0.92 (0.68 to 1.25)
Age, 5-year increments	1.04 (0.95 to 1.15)
Female gender (male)	1.08 (0.99 to 1.19)
HIV exposure (male homosexual contact)	
Heterosexual contact	1.07 (0.87 to 1.30)
Injection drug use	1.18 (0.90 to 1.54)
Other	1.14 (0.90 to 1.44)
Education (>BS/BA)	
Less than high school	1.03 (0.86 to 1.24)
High school	1.06 (0.89 to 1.25)
Some college	1.04 (0.90 to 1.20)
Annual household income (≥ $25,000)	
$0–$4,999	0.86 (0.72 to 1.02)
$5,000–$9,999	0.86 (0.71 to 1.05)
$10,000–$24,999	0.93 (0.78 to 1.11)
Insurance type (private FFS)	
Medicaid	1.09 (0.80 to 1.49)
Medicare	0.97 (0.75 to 1.26)
Private HMO	0.96 (0.67 to 1.38)
None	1.15 (0.85 to 1.55)
Insurance allows patient self-referral	1.18 (0.97 to 1.45)
Has children at home	1.01 (0.90 to 1.14)
Has a case manager	1.07 (0.94 to 1.22)
Number of close friends (≥ 5)	
None	0.91 (0.76 to 1.08)
1–2	1.00 (0.86 to 1.15)
3–4	0.88 (0.75 to 1.02)
CD4 count (>500)	
200–499	0.97 (0.87 to 1.07)
50–199	1.00 (0.86 to 1.17)
0–49	0.81 (0.67 to 1.00)*
Disease stage (AIDS)	
Asymptomatic	0.81 (0.67 to 0.99)*
Symptomatic	0.95 (0.85 to 1.05)
Infectious diseases specialists/all MDs	1.08 (0.61 to 1.91)
Internists/all MDs	0.98 (0.94 to 1.01)
Total number of MDs	1.00 (1.00 to 1.00)

CI, confidence interval; FFS, fee for service.
*P<0.05.

white patients, or that specialists are less likely to accept these patients for ongoing care. Future studies specifically designed to explain these disparities in access to expert physicians will be useful in this regard. Regardless of the reason for these findings, however, the lower use of expert physicians by minorities would likely contribute to worse health outcomes.[3] Therefore, clinicians and administrators should make greater efforts to see that patients from disadvantaged minority backgrounds are referred to expert physicians as appropriate.

Contrary to our hypothesis, the physicians of Latino patients had higher HIV caseloads than did those of whites. It is possible that the physicians of Latinos treated more HIV patients because they were particularly interested in the HIV-affected population, which is increasingly composed of individuals of racial/ethnic minority backgrounds. The supply of higher-volume physicians may also vary across settings and local geographic areas in ways that place Latinos at an advantage relative to whites. Unfortunately, the variables that

were available to use as controls for physician supply were measured at the MSA level.

Other positive findings from the multivariate analysis warrant discussion. The findings suggest that care coordination may improve patient access to physicians with HIV expertise. Having a case manager was associated with receiving care from an infectious diseases specialist, suggesting that efforts to link HIV patients to the health services system through case management are effective.[25]

Because the demands of raising children appear to deter poor people from seeking needed health care,[26,27] we did not expect that having children would be associated with better access to specialists. However, because families use more health services than do single people, one possible explanation is that HIV patients with children have more frequent contact with the health care system and, consequently, more opportunities to find specialist physicians than do patients without children. Similar explanations have been suggested for the association of female gender and service use in the general population, an assertion that is also supported by the gender result from our infectious diseases specialist model.

Disease severity was associated with access to physician expertise, as shown by the finding that asymptomatic patients were only two thirds as likely as AIDS patients to have infectious diseases specialists. We expected that having a greater number of close friends would be associated with having expert physicians, mainly because friends can be relied upon for help such as transportation. Our finding ran counter to this hypothesis, however. It is possible that this variable is capturing some of the effect of poor health status on access. People who are seriously ill with HIV are less able to maintain social relationships, but they are more likely to need and use HIV specialists.

Limitations

There are obvious limitations to using one racial/ethnic category for persons of such heterogeneous backgrounds as Alaskan Native, American Indian, Asian, Pacific Islander, and mixed race. Future population-based studies could avoid this limitation by oversampling individuals from these racial and ethnic groups. Another limitation is the cross-sectional design of this study. Although it makes sense that the care coordination mechanisms of case management would increase access to physicians, patients with an overall tendency to select expert providers may have also sought out and obtained this enabling service. This potential simultaneity bias limits our interpretation of this result; however, the inclusion of these variables also supports the validity of the race/ethnicity finding, because it reduced the amount of variation in the dependent variables that could be explained by patient race/ethnicity. The data are from surveys conducted in 1996 and 1997, at the beginning of the highly active antiretroviral therapy (HAART) era. Although available antiretrovirals and use of HAART has changed since that time,[28] there is, to our knowledge, no evidence that the use of HIV-expert physicians by racial/ethnic minorities has changed. Finally, it is important to note that omitted regressors describing the patient-provider relationship or patient attitudes such as trust or satisfaction may have affected physician utilization. Although relationship and attitudinal measures were not included in our models, we may

have partially controlled for the effects of such variables by including income, insurance coverage, and other variables that have demonstrated associations with trust, satisfaction, and other patient attitudes in previous studies of racial/ethnic minority groups.[29,30]

Implications

Policymakers could employ a variety of strategies to reduce disparities in access to physicians with HIV expertise. The Health Resources and Services Administration (HRSA) and more than 40 states offer educational loan repayments and scholarships to recruit primary care physicians, but not specialists, into health professional shortage areas.[31] Although broadening the eligibility of these programs might encourage specialists to practice in underserved minority communities, our analysis suggests that addressing supply variation alone will not eliminate racial/ethnic disparities in access to HIV care. Currently, HRSA supports the National HIV/AIDS Clinicians' Consultation Center, a telephone service from which providers can receive individualized advice on HIV care. In 2004, approximately 50% of requests to this consultation service concerned the care of racial/ethnic minority patients (R. Goldschmidt, MD, personal communication, 2004). Initiatives to increase cultural competence such as physician and consumer education and the provision of language translation services may also help clinicians to better serve minority patients with HIV.[32,33] The availability of life-prolonging treatments makes the elimination of disparities in access to HIV care more important than ever.

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SGIM
28th
Annual
Meeting

SGIM 28th Annual Meeting
May 11–14, 2005
New Orleans, Louisiana
Out of Chaos: The Critical Role of Generalists
Register Online at http://www.sgim.org/am

Medical Students, Residents, and Fellows Programming

Students, Residents, and Fellows Welcome Reception
Thursday, May 12at 6:30 pm

Interest Groups

Fellows Forum
Friday, 7:30–8:30 AM
Coordinator: Emran Rouf

Student and Resident Interest Group
Friday, 12:00 pm-1:00 pm
Presenters: Jason Block, MD, Ivan Hanson

Workshops

Thursday, May 12
10:30 AM – 12:00 PM: Go Behind the AHRQ/NIH Study Section Door: A Mock Review
   Session Coordinator: Ming Tai-Seale, PhD, MPH, Associate Professor, Department of Health Policy and Management, School of Rural Public Health, Texas A&M University Health Science Center
   Additional Faculty: Francis Chesley, MD, Agency for Healthcare Research and Quality, Willard Manning, PhD, The Harris School, Eugene C. Rich, MD, Creighton University

1:30–2:30 pm: **Negotiating Contracts**
   Presenter: Timothy J. Keogh PhD, Associate Professor in Health Systems Management, Tulane University School of Public Health

3:30–5:00 pm: SGIM 101: **How Volunteering Can Enhance Your Career**
   Session Coordinator: Ellen Yee, MD, MPH, New Mexico VA HCS; *Additional Faculty: Pamela Charney, MD, Albert Einstein College of Medicine, Susana Morales, MD, Cornell University; William M. Tierney, MD, FACP, Indiana University Purdue University Indianapolis; Ellen Yee, MD, MPH, New Mexico VA HCS*

***Friday**, May 13*
10:00–11:00 AM: **Finding Your First Job**
   Presenter: Seth Landefeld, MD

1:00–2:00 pm: **Career Opportunities with the VA**
   Session Coordinator: Jeffrey Whittle, MD, Kansas City VA Medical Center. Additional Faculty: Gary Rosenthal, MD, Iowa City VA Medical Center, Lisa Rubenstein, MD; VA Greater Los Angeles Health Care System, Ellen Yee, MD, Albuquerque VA Medical Center Sponsored by an unrestricted educational grant from the VA HSR&D

3:30–4:30 pm: **What Do I Do Next? Preparing for Careers in General Internal Medicine**
   Presenters: Anthony Komaroff, MD, Donald Brady, MD, Nathan Spell, MD, Tejal Gandhi, MD