Racial/Ethnic Differences in Physician Distrust in the United States

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Objectives. We examined the racial/ethnic and geographic variation in distrust of physicians in the United States.

Methods. We obtained data from the Community Tracking Study, analyzing 20 sites where at least 5% of the population was Hispanic and 5% was Black.

Results. In univariate analyses, Blacks and Hispanics reported higher levels of physician distrust than did Whites. Multivariate analyses, however, suggested a complex interaction among sociodemographic variables, city of residence, race/ethnicity, and distrust of physician. In general, lower socioeconomic status (defined as lower income, lower education, and no health insurance) was associated with higher levels of distrust, with men generally reporting more distrust than women. But the strength of these effects was modified by race/ethnicity. We present examples of individual cities in which Blacks reported consistently higher mean levels of distrust than did Whites, consistently lower mean levels of distrust than did Whites, or a mixed relationship dependent on socioeconomic status. In the same cities, Hispanics reported either consistently higher mean levels of distrust relative to Whites or a mixed relationship.

Conclusions. Racial/ethnic differences in physician distrust are less uniform than previously hypothesized, with substantial geographic and individual variation present. (*Am J Public Health.* 2007;97:1283–1289. doi:10.2105/AJPH.2005.080762)

Trust has long been recognized as a fundamental component of the physician–patient relationship.[1] In health care, trust in physicians is generally defined as the belief that the physician will act in your best interest and arises from perceptions of the physician's values (including fidelity and honesty) and competence.[2–6] Theoretically, trust is central to a physician–patient relationship because of the risk and uncertainty inherent in medical care.[7] This theoretical framework is supported by studies demonstrating the relationship between physician trust and adherence to treatment recommendations, short-term symptom resolution, and overall health status.[8–10]

It is widely believed that trust has declined over the past 40 years in most segments of US society, including health care.[11,12] This decline in health care–related trust is attributed to the growth of managed care and for-profit health care, disclosures of prior episodes of unethical medical research, growing public access to medical information, and publicity surrounding medical errors, malpractice, and fraud and abuse within the medical system.[2,13]

Adding to concerns about the overall decline in trust is the recognition that distrust may be particularly prevalent among racial and ethnic minority groups.[14] This recognition has centered on the Black population because of the history of adverse treatment of Blacks by the medical system, dating back to slave experimentation and including the Tuskegee Syphilis Study and current evidence of racial disparities in health care.[15,16] However, issues such as discrimination that are likely to increase distrust in the Black community may also apply to other disadvantaged minority populations, such as the Hispanic population.

Despite the theoretical justification for studying racial differences in health care–related distrust, there are relatively few published empirical studies in this area. Evidence that distrust is higher among minority groups is largely anecdotal and largely focused on the Black population.[17–19] The few empirical studies that do exist have demonstrated important racial differences in health care but have not examined how other individual characteristics or experiences may modify the association between race and distrust.[14,20] In addition, most prior studies of health care–related trust or distrust have been limited to a single metropolitan area or have used national data without examining differences across areas. The existence of geographic variation in distrust and racial differences in distrust is potentially important as it suggests that environmental factors may influence distrust.[11]

Thus, the purpose of our study was to investigate racial differences in 1 component of physician trust, fidelity-based trust, across metropolitan areas in the United States. Fidelity-based trust corresponds to the belief that the physician will care for "the subject's interests or welfare"[21(p187)] and is analogous to terms such as agency, motives, and fiduciary responsibility that have been used in other definitions of physician trust.[5,6,22] We hypothesized that fidelity-based trust of physicians would differ among racial/ethnic groups in the United States and that the size of this difference would vary across communities. Although the relationship of trust and distrust remains controversial in the theoretical literature, for simplicity in this analysis, we used the term *physician distrust* to describe low scores on items designed to measure fidelity-based trust in physicians.

METHODS

Data Source

We analyzed data from the 1998–1999 Community Tracking Study, a population-based survey of health and health care conducted by the Center for Health System Change.[23] The Community Tracking Study was a telephone survey of 32 047 households in 60 communities in the United States, including 48 metropolitan statistical areas with populations of 200 000 or more

TABLE 1—Sample Distribution, by Race/Ethnicity and Geographic Location: Community Tracking Study, United States, 1998–1999

	No. Responding (Total)[a]	Race/Ethnicity		
		White	Black	Hispanic
Philadelphia, Pa–NJ	418 (522)	313	88	17
Boston, Mass	1 360 (1 792)	1215	63	82
Miami, Fla	1 196 (1 801)	336	250	610
Newark, NJ	1 502 (1 935)	1050	302	150
Phoenix, Ariz	1 382 (1 991)	1055	73	254
Bridgeport, Conn	364 (484)	270	82	12
Atlanta, Ga	348 (446)	284	36	28
Chicago, Ill–Kenosha, Wis	450 (586)	343	64	43
Houston–Galveston–Brazoria, Tex	364 (526)	231	61	72
Killeen–Temple, Tex	350 (461)	265	52	33
Las Vegas, Nev–Ariz	298 (455)	242	27	29
Los Angeles–Long Beach, Calif	422 (593)	248	36	138
Middlesex–Trenton, NJ	375 (501)	303	35	37
Nassau–Suffolk, NY	456 (583)	387	30	39
New York City, NY	330 (454)	135	102	93
Riverside–San Bernardino, Calif	367 (547)	226	21	120
San Antonio, Tex	378 (499)	200	27	151
Tampa–St Petersburg–Clearwater, Fla	327 (425)	276	24	27
Washington, DC–Hagerstown, Md–Va–WVa	436 (576)	298	116	22
West Palm Beach–Boca Raton, Fla	299 (399)	228	40	31
Total	11 422 (15 576)	7 905	1 529	1 988

[a]Total for both responders and nonresponders.

in 1992, 3 metropolitan statistical areas with populations less than 200 000, and 9 rural sites. Households were sampled using random-digit dialing; this sample was supplemented by a sample of households without telephones where cell phones were provided for data collection. The response rate for the 1998–1999 survey was 63%. Because our primary interest was geographic variation in racial/ethnic differences in distrust, we restricted our sample to the 20 communities where at least 5% of the sample was Black and 5% of the sample was Hispanic (Table 1). In the Community Tracking Study, questions about physician trust were restricted to respondents who reported having seen a doctor in the past year or reported having a physician as their usual source of care.

Measures

Our primary dependent variable was low fidelity-based trust of physicians (physician distrust). This construct was measured using 4 items: (1) "I think my doctor may not refer me to a specialist when needed"; (2) "I trust my doctor to put my medical needs above all other considerations when treating my medical problems"; (3) "I think my doctor is strongly influenced by health insurance company rules when making a decision about my medical care"; and (4) "I sometimes think that my doctor might perform unnecessary tests or procedures." We reverse-scored item 2 and summed responses to these 4 items to create an overall score, with higher levels representing higher levels of distrust. Although these items were designed to measure the construct of trust, the summative score had relatively low internal consistency (Cronbach's $\alpha=0.59$). Thus, we also conducted analyses with scores on each individual item as the dependent variable and compared the results to those with the summative score.

Sociodemographic variables including race/ethnicity, gender, age, education, income, and insurance coverage were measured by self-report. We restricted our analyses to 3 primary racial/ethnic groups: Black non-Hispanic, White non-Hispanic, and Hispanic. Categories were created for age (<40 years, 40–60 years, >60 years), education level (less than high school degree, high school degree, college degree or higher), and insurance coverage (none, Medicare or Medicaid only, private insurance). Reported annual household income was divided by the US Census Bureau 1998 poverty level for the corresponding family size and analyzed in percentage quartiles (≤25%, 26%–50%, 51%–74%, ≥75%).

Statistical Analyses

Trust items were asked only of individuals who had a physician or had seen a physician in the past year. Of the 15 576 participants in the study sample, 11 422 (73%) met these criteria. To better understand this potential selection bias, we compared the characteristics of individuals who had a physician or had seen a physician in the past year with individuals who did not have a physician and had not seen a physician in the past year. The probability of not having a physician or not seeing a physician in the past year was lower among individuals who were aged 40 to 60 years (24.6%; $P<.001$) than among individuals aged younger than 40 years (27.9%) or older than 60 years (26.6%), among women than among men (22.1% vs 31.9%; $P<.001$), among Whites and Blacks (25.6% and 22.7%, respectively) than among Hispanics (39.7%; $P<.001$), among those with public or private health insurance (23.7% and 23.4%, respectively) than among those with no insurance (47.4%; $P<.001$), among those with household income in the highest quartile than among those with household income in the lowest quartile (20.0% vs 36.8%; $P<.001$), and among those with a college degree or higher than among those with less than a high school degree (28.3% vs 24.2%; $P<.001$).

Statistical analyses of the data on distrust were carried out by fitting generalized linear models using the *svydesign* package implemented in the statistical program R 1.90 (R Foundation for Statistical Computing, Vienna, Austria). The analyses took into account the

survey design and incorporated stratified sampling within several of the sites, clustering within households and the weights provided by the Community Tracking Study. The weights were used to adjust for differential selection probability, nonresponse, interruption in telephone service, and poststratification to fit the weighted counts to external national estimates in the population for gender, age group, race, and education.[24] Standard errors of the estimates were computed using a linearization estimate.[25] In the primary analysis, the distrust score (range: 4–28) was a summation of ordinal responses for 4 response variables. In secondary analyses, ordinal responses to each individual item were used as the outcome of interest. We conceptualized the outcome as a count of the level of distrust and fit a Poisson model to these data.

The analytic plan had 4 steps. First, we fit univariate models with distrust as the outcome to test the association with site and each of the demographic variables of interest (race/ethnicity, age, education, insurance, income, and gender). Each of these variables was highly associated with distrust ($P<.001$; results not shown). Second, we examined the unadjusted variation in distrust levels across site within each racial group. Third, we fit a model with all of the demographic variables of interest and the interaction between each demographic variable and race. We assessed the statistical significance of each term in the model using the global Wald test. Finally, we fit a complete model including all of the demographic variables of interest, interactions between demographic variables and race/ethnicity, the site variable, and the interaction between site and race/ethnicity.

Our final model dropped the interaction between race/ethnicity and age and race/ethnicity and income because the overall *P* values were not significant ($P>.10$). The remainder of the race/ethnicity interaction terms were left in the model; all of the remaining interaction terms either achieved ($P<.05$) or approached ($P<.10$) statistical significance in the global test. For the remaining variables in the final model we report the *P* value for the adjusted interaction with race/ethnicity, along with 95% confidence intervals (CIs) for individual levels of the variable. The order of introducing variables into the model did not have substantive effects on the estimates of the main effects or interaction terms or the results of the tests of significance for these terms.

TABLE 2—Sociodemographic Characteristics and Mean Physician Distrust Score, by Race/Ethnicity: Community Tracking Study, United States, 1998–1999

	White	Black	Hispanic
Gender, %			
Men	44.7	35.5	40.1
Women	55.3	64.5	59.8
Age, y, %			
<40	48.6	58.6	65.6
40–60	33.7	31.1	25.5
>60	17.7	10.3	8.7
Insurance status, %			
None	6.2	13.5	19.4
Medicaid/Medicare	23.4	26.9	19.9
Private	70.4	59.6	60.6
Education level, %			
<High school degree	6.0	15.5	28.4
High school degree	29.9	38.6	31.9
College degree or higher	64.1	45.7	41.5
Income percentage quartiles[a]			
≤25	13.5	30.6	38.1
26–50	19.4	25.7	27.9
51–74	27.1	24.0	18.4
≥75	40.0	19.6	15.6
Physician distrust score, mean (SD)	15.1 (3.7)	16.2 (4.3)	16.7 (4.5)

Note. Data weighted for survey sampling.
[a]Reported annual household income was divided by the US Census Bureau 1998 poverty level for the corresponding family size and the categorized according to percentage quartiles.

RESULTS

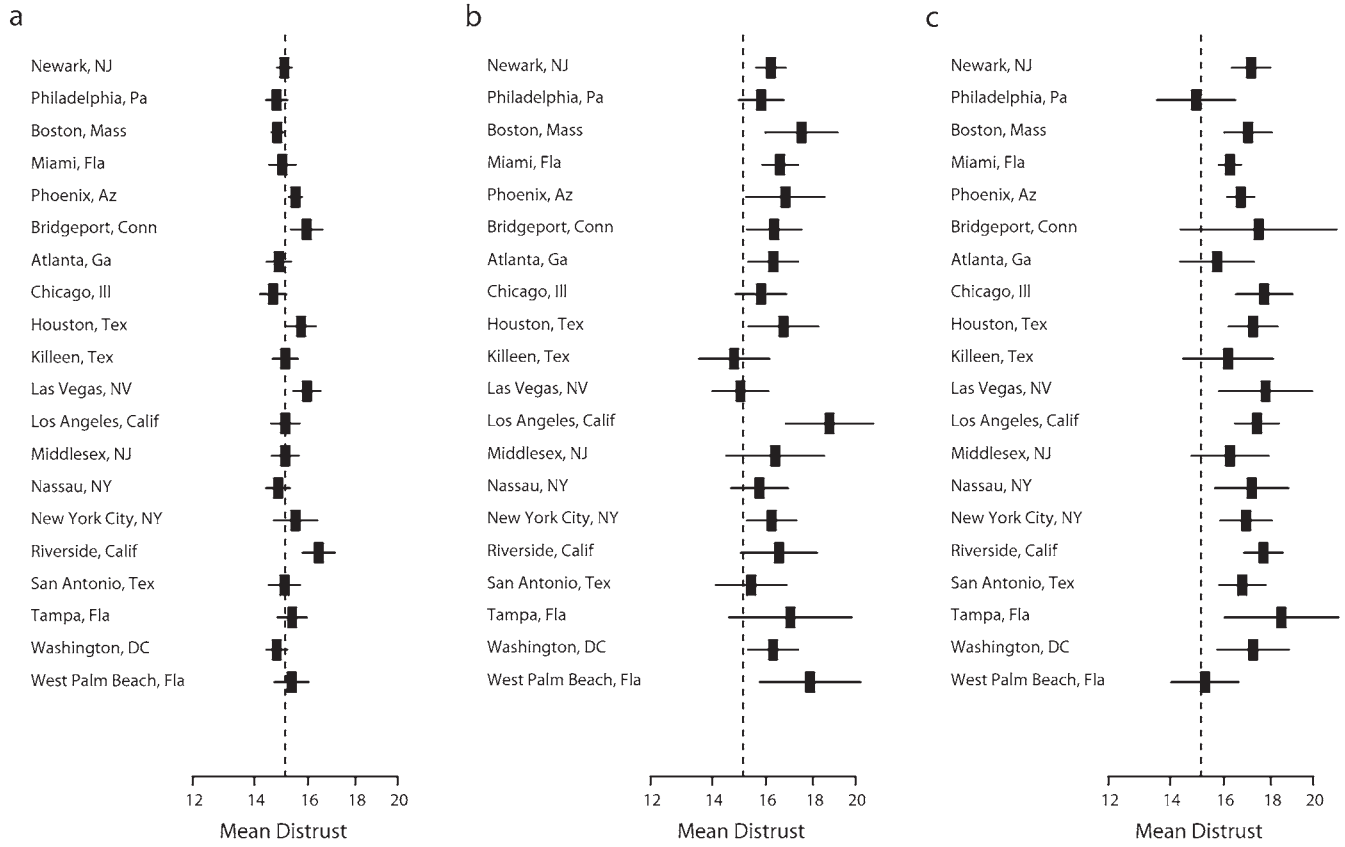
Table 1 shows the distribution of individuals across 20 sites. The sociodemographic characteristics of these individuals are shown in Table 2.

In an initial univariate model, race/ethnicity was significantly associated with distrust ($P<.001$). In the unadjusted model, mean distrust in Blacks and Hispanics was 16.5 (95% CI=16.1, 16.9) and 17.1 (95% CI=16.7, 17.4), respectively, values that were higher than the mean level of distrust in Whites (15.2; 95% CI=15.0, 15.3). In a model that included only race/ethnicity and site, the mean level of distrust among racial/ethnic groups varied across site ($P<.001$; Figure 1).

In the multivariate model that adjusted for sociodemographic characteristics but did not include site, distrust was associated with race/ethnicity, gender, age, insurance coverage, educational attainment, and household income (Table 3). However, the effect of gender, education, and insurance on distrust varied by race/ethnicity (*P* values for interaction=.01, .063, and .037, respectively). Women consistently had lower distrust scores than did men, but this association was greater among Blacks (9% lower) than among Whites (3% lower) or Hispanics (5% lower). Higher levels of educational attainment were associated with lower distrust scores among Blacks and Hispanics but not among Whites. Whites with any type of health insurance had lower distrust scores than did Whites without insurance, whereas the association between insurance coverage and lower distrust scores was seen for private insurance but not public insurance among Blacks and was not seen at all among Hispanics.

The results of the combined model that included interactions between race/ethnicity and sociodemographic characteristics and race/ethnicity and site are illustrated in Table 4, where the mean distrust levels are shown for men and women from each racial or ethnic group of different socioeconomic status from 3 cities (Boston, Mass; Las Vegas, NV; and Philadelphia, Pa). The full model that allows calculation of distrust levels for any specific subgroup in any of the sites is available as a supplement to the online version of this article.

We first considered the relative distrust levels of Blacks versus Whites. In Boston, we saw the pattern suggested by anecdotal reports, with Blacks having higher mean levels of distrust than did Whites. By contrast, in Las Vegas, Blacks consistently showed lower levels of distrust than did Whites. The effect was particularly pronounced for Black



Note. The means and CIs are plotted on a natural log scale because this is the basis of the Poisson model. The lower axis indicates the equivalent values on the linear scale. Because of the conversion from the log scale, the intervals on the linear axis are not evenly spaced.

FIGURE 1—Geographic variation in distrust scores (means and 95% confidence intervals [CIs]), among Whites (a), Blacks (b), and Hispanics (c): Community Tracking Study, 1998–1999.

women of high socioeconomic status, whose mean levels of distrust were 2.3 points lower than that of their White counterparts. Third, in some cities the relationship between race/ethnicity and distrust varied by socioeconomic status. For example, in Philadelphia, Blacks of high socioeconomic status tended to have slightly lower distrust levels than did their White counterparts, whereas Blacks of low socioeconomic status tended to have slightly higher levels of distrust than did their White counterparts. In Boston, the pattern for Hispanics was similar to that of Blacks, with mean levels exceeding that of their White counterparts in all categories. In Las Vegas the pattern for Blacks and Hispanics differed with mean distrust levels for Hispanics exceeding mean distrust levels for Whites for all categories. In Philadelphia, mean levels of distrust for Hispanics were lower than for Whites in all categories.

Results of analyses with each individual item as the dependent variable did not differ substantively from results with the summative score. Racial differences in scores continued to vary according to an individual's educational attainment, insurance coverage, household income, and gender, following the pattern shown by the summative score. However, the strength of the interactions varied, with the strongest interactions seen with the item "I trust my doctor to put my medical needs above all other considerations when treating my medical problems" and the weakest for the item "I think my doctor is strongly influenced by health insurance company rules when making a decision about my medical care." In addition, after adjustment for individual characteristics, scores on each item varied significantly across sites.

DISCUSSION

This study demonstrated variability in distrust of physicians among Blacks, Hispanics, and Whites in the United States, with the size of the differences between any 2 individuals of different race or ethnicity varying according to where they live and their sociodemographic characteristics, including gender, educational attainment, and insurance status. Furthermore, these analyses revealed a substantial underlying geographic variation in trust in physicians among Whites in the United States, even after adjusting for individual characteristics. These findings have

TABLE 3—Baseline Levels and Multiplicative Effect of Demographic Variables on Estimated Mean Physician Distrust, by Race/Ethnicity: Community Tracking Study, United States, 1998–1999

	White, mean (95% CI)	Black, mean (95% CI)	Hispanic, mean (95% CI)	P[a]
Baseline physician distrust score[b]	17.4 (16.4, 18.5)	19.7 (18.3, 21.3)	18.9 (17.7, 20.2)	
Gender				.01
Men	1.00	1.00	1.00	
Women	0.97 (0.95, 0.99)	0.91 (0.88, 0.95)	0.95 (0.92, 0.99)	
Age, y				NS
< 40	1.00			
40–60	0.98 (0.96, 0.99)			
> 60	0.94 (0.91, 0.97)			
Education level				.063
< High school degree	1.00	1.00	1.00	
High school degree	0.97 (0.93, 1.02)	0.99 (0.93, 1.06)	0.98 (0.93, 1.04)	
College degree or higher	0.97 (0.93, 1.02)	0.94 (0.88, 1.00)	0.93 (0.88, 0.98)	
Insurance status				.037
None	1.00	1.00	1.00	
Medicaid/Medicare	0.93 (0.89, 0.97)	0.97 (0.90, 1.05)	0.98 (0.92, 1.05)	
Private	0.95 (0.91, 0.99)	0.92 (0.86, 0.97)	0.96 (0.91, 1.03)	
Income percentage quartiles[c]				
≤ 25	1.00			NS
26–50	0.99 (0.96, 1.02)			
51–76	0.98 (0.95, 1.00)			
≥ 75	0.96 (0.94, 0.99)			

Note. CI = confidence interval; NS = not significant. The baseline was the average across all sites of men who were young, uninsured, uneducated (< high school), and poor (≤ 25% income quartile).
[a]*P* values are shown for test of the interaction between the sociodemographic characteristics and race/ethnicity in the final model.
[b]For any 1 group, the mean is calculated by multiplying the baseline value by the appropriate factors; e.g., mean distrust for young (< 40 years), college-educated Black women with private insurance in the 26th to 50th percentile of income is $19.7 \times 0.91 \times 0.94 \times 0.92 \times 0.99 = 15.3$.
[c]Reported annual household income was divided by the US Census Bureau 1998 poverty level for the corresponding family size and the categorized according to percentage quartiles.

TABLE 4—Representative Examples of Mean Level of Physician Distrust for Middle-Aged Participants: Community Tracking Survey, United States, 1998–1999

Gender and Socioeconomic Status	Mean Level of Physician Distrust		
	White	Black	Hispanic
Boston			
Men			
High SES, mean	15.3	17.1	16.4
Low SES, mean	17.0	20.6	18.7
Women			
High SES, mean	14.9	15.7	15.6
Low SES, mean	16.4	19.0	17.8
Las Vegas			
Men			
High SES, mean	16.4	14.7	17.4
Low SES, mean	18.2	17.8	19.9
Women			
High SES, mean	15.9	13.6	16.5
Low SES, mean	17.6	16.3	18.9
Philadelphia			
Men			
High SES, mean	15.3	15.2	14.5
Low SES, mean	17.0	18.3	16.6
Women			
High SES, mean	14.9	14.0	13.8
Low SES, mean	16.4	16.9	15.8

Note. SES = socioeconomic status. Participants classified as having high SES had a college degree or higher, had private insurance, and were in the 75th percentile or higher for income. Participants classified as having low SES had less than a high-school degree, had no insurance, and were in the 25th percentile or lower for income. Income quartile was derived by dividing reported annual household income by the US Census Bureau 1998 poverty level for the corresponding family size. Income was then categorized according to percentage quartiles.

several implications for understanding the determinants of physician distrust.

Our univariate analyses suggested varying levels of physician distrust among racial/ethnic groups, confirming the idea that, on average, minorities have a higher distrust of physicians than do Whites. Higher levels of distrust among Blacks are not surprising and have been reported in prior studies on distrust of medical research, distrust of the health care system, and distrust of health care providers.[14,20,26] These differences are generally attributed to current and historical evidence of inequitable treatment of Blacks by the health care system, as well as racial differences in patient–provider communication, insurance coverage, and physician characteristics.

In contrast to studies of Blacks and distrust, the relatively few studies that have examined trust or distrust among Hispanics have had conflicting results. In a study of trust in 13 major institutions in the United States (education, organized religion, major companies, organized labor, banks and financial institutions, the press, television, the executive branch of the federal government, Congress, the US Supreme Court, the military, medicine, and the scientific community), Mexican Americans reported significantly higher levels of trust than did non-Hispanic Whites.[27] In a survey of 719 residents of Corpus Christi, Tex, Mexican Americans reported higher levels of distrust in the medical establishment than did non-Hispanic Whites.[28]

Our study significantly extends the literature documenting racial/ethnic differences in trust by demonstrating that the size of the differences in distrust between racial/ethnic groups varies according to other sociodemographic characteristics and across cities.

Thus, the pattern is much more complex than previously suggested, with a far-from-uniform picture of greater distrust among minorities. This is particularly striking across cities, where in some cities Blacks report consistently higher mean levels of distrust than do

Whites; in others, Blacks report consistently lower mean levels of distrust than do Whites; and in still others, there is a mixed relationship dependent on socioeconomic status. In the same cities, Hispanics either reported consistently higher mean levels of distrust relative to Whites or a mixed relationship.

There are 2 potential explanations for this geographic variation: differences in the people who live in these communities (composition) or differences in the environment (context).[29] Although we adjusted for many of the characteristics of the individuals in our analyses, it remains possible that other individual-level factors explain the differences among cities. For example, we did not include measures of illness in our models and it is possible that geographic variation in illness burden may affect distrust. Alternatively, it is possible that characteristics of the social, physical, and health care environment of the communities may contribute to the geographic variation in racial differences in physician distrust.

Contextual factors are correlated with measures of social trust in other settings. For example, irrespective of an individual's personal experience, levels of crime in a community influence social trust among members of the community.[30] One prior study of physician trust demonstrated that a measure of health care gatekeeping at the community level—the proportion of patients for which a primary care provider must provide authorization before the patients can see a specialist—is correlated with lower levels of trust but did not explore racial differences in distrust.[31] Other factors such as the availability of primary care, the burden of uninsurance, income inequality, and racial segregation may be more important for racial differences in distrust. Although our results raise questions about the factors driving this geographic variation in racial differences in distrust, our sample contains too few sites with sufficient numbers of minority participants to be able to explicitly test these hypotheses. We are currently conducting studies to investigate this question further.

What are the implications of these results? The relationships between racial differences in distrust and gender or educational attainment both identify groups who could be targeted for interventions to increase trust and generate hypotheses about the pathways that may cause distrust of physicians, echoing studies in other areas that suggest the determinants of distrust may differ or have differential magnitudes among racial/ethnic groups.[30,32] For example, the gender difference raises the possibility that distrust may be greatest for individuals who are less invested in health care decisionmaking, an area that has been documented to differ substantially between men and women.[33–35] The association between educational attainment and smaller racial differences in distrust may reflect the importance of educational attainment in moderating the adverse circumstances experienced by many minority patients.

This study has several limitations. The trust items were developed by the Center for Studying Health System Change and provide a relatively narrow measure of physician distrust. In addition, the summative score has relatively low internal consistency, suggesting the 4 items may capture disparate components of trust. The distrust items were only asked of people with a physician or who had seen a physician in the past year and these individuals differ from those who meet neither of these criteria, including being less likely to be Hispanic of low socioeconomic status. Furthermore, individuals without a physician may have particularly low trust in physicians.

Because we wanted to compare patterns among Hispanics and Blacks in our analyses, we limited the sites to those that included a significant proportion of Blacks and Hispanics. Thus, our sample included a relatively small number of sites and did not provide sufficient power to test specific hypotheses about which environmental characteristics are associated with the magnitude of racial differences in trust. Despite the restriction to these sites, the number of minorities in the sample in some of the cities is quite small and limited our ability to make statistical comparisons involving geographic variation in racial differences.

Although we did identify some statistically significant differences in distrust, it is difficult to know whether these differences are clinically significant. To put some of the differences we saw into context, we note that the overall mean level of distrust in our study was around 15.5 units and at some sites the racial/ethnic differences in mean distrust were on the order of 3.5 units, or roughly 23% of the mean. Alternatively, an increase of 3 units might correspond to answering 3 out of the 4 distrust items each with an increase of 1 unit on the Likert scale.

In summary, our results demonstrate that distrust of physicians is higher among Blacks and Hispanics than among Whites in the United States but that these racial differences vary substantially according to individual characteristics, including the city of residence. This variation suggests that the determinants of physician distrust are complex, potentially differing across racial/ethnic groups and arising from the social and physical environment as well as from individual experiences. ■

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This study was accepted May 23, 2006.

Contributions

K. Armstrong originated the study, supervised its implementation, and drafted the article. K.L. Ravenell and S. McMurphy assisted with analyses, interpretation of findings, and article revision. M. Putt supervised the analyses, created the tables and figure, and drafted sections of the article.

Acknowledgments

K. Armstrong was supported by a Robert Wood Johnson Generalist Faculty Scholar Award and a Research Scholar Award from the American Cancer Society (grant PBP-104351).

Human Participant Protection

No institutional review board protocol approval was needed for this study.

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