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Determinants of Trust in Health Care in an Older Population

Natalie Guerrero, BA¹, Carlos F. Mendes de Leon, PhD², Denis A. Evans, MD³, and Elizabeth A. Jacobs, MD, MPP^{1,4}

¹University of Wisconsin School of Medicine and Public Health; Madison, WI

²Department of Social Epidemiology, University of Michigan; Ann Arbor, MI

³Department of Medicine & Rush Institute for Aging, Rush University Medical School; Chicago, IL

⁴Division of General Internal Medicine & Departments of Medicine and Population Health Sciences; Madison, WI

Abstract

Background—Compared with non-Hispanic white patients, minority patients tend to have less trust in the health care system and its providers. It is not clear what contributes to this disparity.

Objectives—To explore differences in socio-demographic and psychological correlates of institutional trust in health care in an aging population of African Americans and non-Hispanic whites.

Design—Cross-sectional survey data from the longitudinal Chicago Health and Aging Project.

Setting—Population-based study of three communities in the Chicago area

Participants—The sample included 2,284 African Americans and 1,354 non-Hispanic whites with a mean age of 79.3 years.

Measurements—Demographic factors, socio-economic status, health care access, cynical hostility, perceived discrimination, depression, and institutional trust in health care.

Results—African Americans reported substantially lower health care trust than non-Hispanic whites ($p < 0.001$). After adjustment for demographic variables and socioeconomic status, only race ($p < 0.001$) and age ($p < 0.01$) were significantly associated with health care trust scores. The association between race and health care trust was slightly attenuated after adjusting for cynical hostility, depressive symptoms, and perceived discrimination ($p < 0.001$). Each of these variables

Corresponding Author: Elizabeth A. Jacobs, MD, MPP, Associate Vice Chair for Health Services Research, Department of Medicine, Associate Professor, Departments of Medicine and Population Health Sciences, University of Wisconsin-Madison, 800 University Bay Drive, Suite 210, MC 9445, Madison, WI 53705, Phone: 608-262-8302, eajacobs@medicine.wisc.edu; **Alternate Corresponding Author:** Carlos Mendes de Leon, PhD, cmendes@umich.edu.

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was negatively associated with health care trust, and together these accounted for about 15% of racial differences in health care trust.

Conclusion—Psychological factors, not demographic characteristics, socioeconomic status, or health care factors appear to contribute the most to disparities in health care trust between African Americans as compare to non-Hispanic whites in this older population.

Keywords

Trust; Older Adults; African Americans; Disparities; Discrimination; Hostility; Depression

INTRODUCTION

Racial disparities in health are observed throughout the life course. They exist at birth¹, continue through childhood², and persist into adulthood^{3,4}. Minority populations have higher prevalence of many diseases^{5–8}, an important determinant of racial disparities in disability and other forms of poor physical health in late life. In addition, prevention and control of these conditions tends to be lower in racial minorities, and contribute to health disparities in older adults⁹. Effective prevention and control depends in part on patients' trust in the health care system and the health care providers responsible for the screening, diagnosis and treatment of chronic health conditions.

African Americans and Hispanics have less trust in the health care system and its providers compared with non-Hispanic whites and this likely contributes to disparities^{10–12}. Lower trust in physicians and/or health care organizations is associated with worse self-reported health¹⁰, underutilization of health services and vaccinations^{12–14}, lower adherence¹¹, delayed care-seeking¹⁵, diagnosis and treatment¹⁶, and disregard of physicians' opinions¹⁷.

Given the potential role of lower trust in health care disparities, it is important to understand the range of conditions and experiences that may lead to lower health care trust levels in minority populations. There is limited systematic information on the complex set of factors that may contribute to racial differences in health care trust. For example, persons with lower education, income, and access to care are less trustful of health care providers and institutions, which may account for at least part of the racial differences in health care trust. Finally, social disadvantage is disproportionately more common among minorities and may manifest itself in a range of negative emotions and experiences, such as depression, hostility, and perceived discrimination that may also lead to lower trust¹⁸.

The aims of this study are to (1) describe differences in health care trust among African Americans and non-Hispanic whites from an urban population of older adults, and (2) examine the degree to which socio-economic status, factors related to health care access and utilization, and psychosocial factors, account for these differences. Although older adults tend to have uniform health care insurance via Medicare, there still may be differences by race in rates of actual access and utilization of care. We hypothesize that (1) health care trust levels is lower in African Americans than non-Hispanic whites, and (2) that differences in SES, health care utilization, and negative emotions account for at least part of the lower levels of health care trust among older African Americans.

METHODS

Study Design and Population

Data came from an epidemiologic study of older adults, the Chicago Health and Aging Project (CHAP). CHAP is a longitudinal study of a geographically-defined, urban community population of older African Americans and non-Hispanic whites. Details of the study have been described previously⁶. Briefly, the study population included all residents aged 65 years and older who resided in three adjacent community areas on the south side of Chicago. Data collection started in 1993 and continued through 6 cycles (2009–11), each taking an average of 3 years to complete. In the third cycle (2000–02), additional age-eligible participants from the original community areas and another adjacent community area were identified and enrolled. Interviews included standardized questions on demographic, socio-economic, behavioral, psychological and health history-related variables, as well as several brief performance tests of physical and cognitive function. Data on health care trust, health care utilization, and medication adherence were added during the sixth interview cycle, and form the basis of the present analysis. The study and this analysis were approved by the Institutional Review Board (IRB) of four academic medical centers. All participants provided written, informed consent.

Study Variables

Health care trust—The health care trust variable came from an abbreviated version of the Health Care Trust Survey Instrument. The original instrument consists of 36 items, clustered in 7 factors, which was developed to assess trust in health care¹⁹. The 7 factors were (1) discrimination, (2) equity, (3) hidden agenda, (4) insurance, (5) positive physician expectations, (6) negative physician expectations, and (7) system welcoming. The original instrument had good reliability in both African American ($\alpha = 0.93$) and non-Hispanic white populations ($\alpha = 0.95$) and convergent validity: less trust on our measure was significantly correlated with lower levels of institutional trust and reporting having a negative experience in health care in the last 5 years in both groups¹⁹. Because our trust measure was being integrated into an ongoing, large epidemiologic study, we had to be sensitive to response burden and include a smaller number of items. We chose one item that had the highest correlation with the overall trust score from each factor except the two physician-related factors. Since they had the largest number of items, we chose the two items that had the highest correlation. Respondents were instructed, when answering, to “...think about things that have happened to you or people you know. These experiences may be recent or in the past.” Individual items were scored on a 0–4 likert scale ranging from never true to always true. The health care trust summary score was computed by adding individual scores, after reverse coding items framed in the direction of distrust, yielding a potential range from 0 to 36.

Other measures—Demographic variables include information on age, race/ethnicity, and marital status. Race/ethnicity status was self-reported and classified according to the 1990 United States Census categories; the majority of the population is African Americans and non-Hispanic Whites; all others (< 1%) were dropped from this analysis. Marital status at the time of interview is classified as married versus non-married. Information on

socioeconomic status is based on years of formal schooling completed and income. Household income was reported in one of ten categories, ranging from < \$5,000/year to > \$75,000/year.

Access to health care was based on a question adopted from the Stanford Disease Self-Management Study²⁰ which assesses whether the participant has a particular doctor's office, clinic, health center or other place where they usually go if sick or need advice about your health. Utilization of care was assessed based on a question about the frequency of visits to the usual place of care during the last 6 months (0, 1, 2, 3, 4+)²¹.

Psychosocial measures include measures of depressive symptoms, cynical hostility, and perceived discrimination. Depressive symptoms are assessed using the 10-item version of the Center of Epidemiologic Studies-Depression (CES-D), a shorter form which reduces participant burden in older adults²²; scores ranged from 0–10 with a higher score indicating more depressive symptomatology. Hostility is measured by the 8-item Cynical Distrust Scale²³; scores range from 0–8, with higher scores reflecting greater cynical distrust. Perceived discrimination is measured by the 9-item Perceived Discrimination scale²⁴, which assesses experiences of discrimination regardless of attribution to a specific personal characteristic, such as race, gender, or age. Scores range from 0–9 with higher scores indicating greater perceived discrimination.

Analysis

Descriptive statistics are provided in terms of means and standard deviations for continuous variables, and frequency distributions of categorical variables. The primary analysis consists of a series of four linear regression models to test for racial differences in health care trust, ranging from a simple unadjusted model to a fully adjusted model. The first model only includes a term for race. The next three models sequentially add covariates for 1) basic demographic and socio-economic variables; 2) health care access (having no usual doctor/ place of care) and utilization (frequency of visits to usual place of care during last 6 months); and 3) psychosocial characteristics (hostility, depressive symptoms, perceived discrimination).

We excluded data from the 220 (5.7%) participants (5.5% among blacks; 6.1% among non-Hispanic whites) who had missing data on all 9 health care trust items. For the remaining 3,638 participants, we used a multiple imputation procedure (PROC MI) to account for missing data in subsets of the health care trust items and other variables (e.g., income, hostility, CES-D). For the primary analysis, we computed 15 imputed complete-data files to fit the linear regression models, using data from all the variables included in this analysis, as well as a number of other health-related and psychosocial status variables available in the CHAP data base. In sensitivity analyses, we repeated these regression models using 35 imputed complete-data files, to correspond to the proportion of missing data in our primary variables²⁵. We also reran the regression models using imputation for all missing data (N=3,858) and without imputation for the subset with complete data on all variables (N=2,355).

RESULTS

Exclusion of 220 participants left a total of 3,638 participants in the analysis, 2,284 (63%) African Americans and 1,354 non-Hispanic Whites (27%). Descriptive information of the sample and study variables is provided in Table 1. The mean age of the sample was 79.3 years, 66% of the participants were female, and 40% were married. On average, participants completed 13.1 years of education; 12% had a yearly income of < \$15,000, 37% an income between \$15,000 and \$30,000, and 51% an income > \$30,000. Five percent of the participants lacked a source of regular care; participants with a source of care reported an average of almost 2 (1.9) visits to this source of care during the last 6 months. Participants reported a mean of 1.6 depressive symptoms score (SD, 2.1), and had a mean hostility score of 2.8 (SD, 2.1) and perceived discrimination score of 0.9 (SD, 1.5). The average health care trust score in the total sample was 23.5 (SD, 5.2).

On average, Blacks tended to be slightly younger than Whites, were less likely to be married, had a lower level of education, lower income, and were less likely to lack a regular source of care. They also had a slightly higher average number of visits to their regular source of care during the last 6 months, and reported substantially higher levels of depressive symptoms, hostility, and perceived discrimination compared with Whites. Blacks also tended to report lower levels of health care trust (mean=22.1, SD 5.1) than Whites (mean=25.5, SD 4.9).

Race and Health Care Trust

Results of the primary analyses are presented in Table 2. There was a significant unadjusted association between race and health care trust (coefficient = -3.507 , $p<.001$), indicating that on average, African Americans report health care trust levels that are about two-thirds of a standard deviation (3.5/5.3) lower compared with Whites. These differences were slightly reduced (coefficient = -3.208 , $p<.001$) after adjustment for demographic variables and SES (Model 2). Age was the only demographic variable significantly associated with health care trust scores (coefficient = 0.034 , $p<.01$), with older participants reporting higher trust levels.

Further adjustment for health care-related variables (Model 3) slightly increased the association between race/ethnicity and health care trust (coefficient = -3.271 , $p<.001$). The small percentage of participants without a regular physician reported significantly lower health care trust levels (coefficient = -1.521 , $p<.001$) than those who did. In the final regression model (Model 4), the association between race and health care trust was somewhat attenuated, but remained statistically significant (coefficient = -2.813 , $p<.001$). All three additional variables had an independent negative association with health care trust, including hostility (coefficient = -0.185 , $p<.001$), depressive symptoms (coefficient = -0.358 , $p<.001$), and perceived discrimination (coefficient = -0.147 , $p<.01$). Adjustment for these 3 psychosocial variables accounted for about 15% of racial differences in health care trust. The individual variables of hostility, depressive symptoms and perceived discrimination accounted for 5.9%, 8.5% and 3.5% of the racial differences in health care trust, respectively.

Sensitivity Analysis

Results from the sensitivity analyses showed the same pattern of findings as those obtained in the primary analyses. Notably when we restricted the analysis to the subset of participants with complete data, the unadjusted association for race was -3.468 ($p < .001$), and the fully adjusted association was -2.694 ($p < .001$).

CONCLUSION

As hypothesized, we found significantly lower levels of health care trust in older African Americans compared with older whites in our sample. The observed racial difference of approximately 3.5 on our health care trust scale amounts to an effect size of about 0.66 ($3.5/5.3$, the pooled SD), which ranges between medium and large²⁶. The black-white difference in health care trust was modified less than 10% after adjustment for SES and health care-related factors. Psychosocial factors including hostility, depressive symptoms and perceived discrimination accounted for an additional 15% of the racial difference in health care trust and the relationship between race/ethnicity and trust remained substantial in size and significant.

An interesting aspect of our findings is that socio-economic status was not associated with institutional trust in healthcare nor did it account for the observed disparity in trust. Previous studies have found mixed results in regards to SES and institutional trust. Some have found that trust is lower among those with higher educational attainment and SES status²⁷, while others have found the opposite. These mixed results are the same in studies focusing on African Americans compared to other populations^{28,29}. This is likely because African Americans are not a monolithic population and there are differences in populations across geography and age cohorts.

Our findings suggest that racial differences in trust in older age are more related to psychosocial determinants than to socioeconomic status. We found that the psychological orientation of participants, including overall distrust of the environment and social interactions, measured by cynical hostility, depressive symptoms, and perceived discrimination to be significantly related to lower trust. Previous studies have documented a relationship between depressive symptoms^{28,30} and perceived racial discrimination²⁸ and trust in healthcare. We were able to look at these factors together, along with cynical hostility, and to demonstrate how they independently contributed to racial differences in health care trust.

Our study was not without limitations. It was conducted in a single geographic area and in an older cohort; it may not be generalizable to other regions or younger populations. However, studying an older cohort is an important contribution as the US population is rapidly aging and understanding determinants of trust in this population that engages the most in health care is important. Our measure of trust was an abbreviated version of a validated measure and we could only measure it and its determinants, not whether it influences behavior in regards to engagement with health care. Previous work has documented the relationship between health care mistrust and health care utilization,

outcomes, and disparities²⁹. An important next step of our work is to understand how these differences contribute to health care disparities, particularly in older populations.

Our findings have implications for understanding how to increase trust in older African American populations. Recognizing and treating depression in this population could increase trust as could altering staff and physician practices that could potentially be perceived as racist. Understanding the determinants of racial disparities in distrust gives us the knowledge needed to address and reduce them.

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Table 1

Descriptive characteristics of the study population

	Total study population (n=3,638)	Blacks (n=2,284)	Whites (n=1,354)	p-value
Age (mean, SD)	79.3 (6.8)	78.6 (6.4)	80.3 (7.4)	<.001
Female (% , n)	66 (2,401)	67 (1,533)	64 (868)	.06
Black (% , n)	63 (2,292)	N/A	N/A	
Marital Status (% married, n)	40 (1,455)	37 (845)	45 (610)	<.001
Education (mean, SD)	13.1 (3.3)	12.3 (3.1)	14.6 (3.1)	<.001
Income (\$/yr)				<.001
< 15,000 (% , n)	12 (435)	16 (366)	5 (69)	
15,000 – 30,000 (% , n)	37 (1,350)	47 (1,070)	21 (280)	
> 30,000/yr (% , n)	51 (1,838)	27 (628)	74 (1,008)	
Lack of regular source of care (% , n)	5.0 (183)	3.9 (87)	7.0 (96)	<.001
# visits to regular source of care in last 6 months (mean, SD)	1.9 (1.2)	2.1 (1.2)	1.7 (1.2)	<.001
Hostility (mean, SD)	2.8 (2.1)	3.2 (2.1)	2.0 (1.8)	<.001
Depressive symptoms (mean, SD)	1.6 (2.1)	2.0 (2.3)	1.0 (1.4)	<.001
Perceived discrimination (mean, SD)	0.9 (1.5)	1.1 (1.7)	0.6 (1.1)	<.001
Health care trust (mean, SD)	23.5 (5.3)	22.2 (5.1)	25.6 (4.9)	<.001

Table 2

Relationship between participant characteristics and trust scores

	Model 1	Model 2	Model 3	Model 4
Race	−3.506 (0.17) ^c	−3.208 (0.19) ^c	−3.271 (0.19) ^c	−2.813 (0.20) ^c
Age	N/A	0.034 (0.013) ^b	0.038 (0.01) ^b	0.037 (0.01) ^b
Gender	N/A	−0.006 (0.18)	−0.014 (0.18)	−0.011 (0.18)
Marital status	N/A	0.057 (0.20)	0.045 (0.20)	−0.035 (0.19)
Education	N/A	0.042 (0.03)	0.042 (0.03)	0.005 (0.03)
Income	N/A	0.077 (0.04)	0.066 (0.04)	0.026 (0.04)
No source of care	N/A	N/A	−1.531 (0.40) ^c	−1.273 (0.40) ^b
# of visits/month	N/A	N/A	−0.005 (0.07)	0.098 (0.07)
Hostility	N/A	N/A	N/A	−0.185 (0.04) ^c
Depressive symptoms	N/A	N/A	N/A	−0.358 (0.04) ^c
Perceived discrimination	N/A	N/A	N/A	−0.147 (0.06) ^a

^a p< .05^b p< .01^c p< .001.