



Published in final edited form as:

Patient Educ Couns. 2014 September ; 96(3): 333–338. doi:10.1016/j.pec.2014.06.003.

Impact of sociodemographic factors and previous interactions with the health care system on institutional trust in three racial/ethnic groups

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Abstract

Objective—Our objective was to explore whether there are differences in institutional trust across racial/ethnic groups and what factors might contribute to these differences.

Methods—We studied a convenience sample of 569 adults in Chicago grocery stores who self-identified as African American, Mexican-Hispanic, or white. We measured institutional trust and dichotomized responses into “high” and “low” trust. We used chi squared tests to examine differences in institutional trust across racial/ethnic groups and stepwise multivariable logistic regression to investigate how sociodemographic factors, health care access, health care usage, and previous negative experience with the health care system modified this relationship.

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Results—In unadjusted analysis, race/ethnicity was significantly associated with institutional trust ($p < 0.001$). In the fully adjusted model, African Americans and Mexican-Hispanics had greater odds of reporting low trust compared to whites (OR:1.90; 95% CI,1.13–3.17; and OR:2.34; 95% CI,1.43–3.81, respectively); reporting a previous negative health care experience was the only other factor significantly related to having low trust (OR:2.84; 95% CI,1.83–4.41).

Conclusions—We found lower institutional trust in African Americans and Mexican-Hispanics and among participants reporting previous negative health care experiences.

Practice implications—Improving health care experiences, especially for racial/ethnic minority groups, could improve institutional trust and decrease health disparities in these populations.

Keywords

institutional trust; race/ethnicity; previous negative health care experience

1. Introduction

Trust is a fundamental component of the patient-physician relationship and effective medical care in general. It can broadly be defined as a patient's expectation that his or her best interests will be kept in mind at all times by those caring for them.[1] There are two types of trust in health care: interpersonal trust, defined as a patient's trust in their individual physician, and institutional trust, defined as a patient's trust in the medical profession, hospitals, insurers, health care organizations and systems.[1, 2] The two are related. For example, institutional trust is important in a patient's willingness to enter a particular health care institution, engage with a healthcare provider, and therefore develop interpersonal trust in that healthcare provider. A patient needs to believe that an institution will keep his or her best interests in mind and provide a safe environment for their care [1, 3–6] so that they decide to seek care at that institution.

The literature on institutional trust has shown that lower levels of institutional trust are associated with higher rates of changing physicians and seeking second opinions,[7] reduced reliance on the judgment of physicians,[7, 8] and decreased patient satisfaction.[9] Higher levels of institutional trust are associated with improved perceived physical and mental health status,[4, 10–12] decreased emergency room visits,[12] increased acceptance and use of antiretroviral medication,[12, 13] increased willingness to donate organs,[14] and increased acceptance of the HPV vaccination.[15]

In many studies, African Americans and Hispanic populations have reported lower levels of institutional trust when compared to the white population, [9, 16–22] and this difference in trust likely contributes to disparities in health care. However, many of these studies have only examined differences in institutional trust between African Americans and whites [9, 16–20] or have only evaluated medical mistrust.[9, 16–21] Previous work has shown that trust and distrust do not necessarily operate on a single continuum, but that patients may be trusting and distrusting simultaneously.[22] This paper fills a gap in the current literature because we evaluate institutional trust using a new measure that incorporates items that

measure both trust and distrust, was developed based on perspectives of African Americans, Mexican-Hispanics and whites, and has been shown to be reliable and valid in all three of these racial and ethnic groups.[22, 23]

Our overall objectives were to see if there are differences in institutional trust across three racial/ethnic groups and if the relationship between these differences can be explained by health care access, exposure to health care and previous health care experiences. We hypothesized that there would be differences in institutional trust across the three racial/ethnic groups and across socioeconomic status and that these differences would persist even after controlling for sociodemographic, access, health care utilization, and previous health care experiences.

2. Methods

2.1 Study participants and survey development

We conducted a cross-sectional, computer adapted survey among a convenience sample of adults shopping at selected supermarkets in 12 socioeconomically diverse neighborhoods in Chicago, IL. Participants volunteered after passing the research table set up at the entrance of each supermarket; when we reached a sample of 200 participants from a particular racial/ethnic group, we no longer took volunteers from that group allowing us to achieve a target study sample of 600 adults with equal proportions self-identifying as African American, Mexican-Hispanic and white. To be eligible, individuals were required to be fluent in English or Spanish, 18 years of age or older, and to not have cognitive impairment that would preclude giving informed consent. We administered the computer-adapted survey in English or Spanish according to the preference of the respondent. The Institutional Review Boards of the Cook County Bureau of Health Services and the University of Wisconsin School of Medicine and Public Health approved all study activities.

2.2 Measures

The questionnaire consisted of 235 items that included questions about sociodemographic characteristics, health care access, health care usage, perceived discrimination, interpersonal trust, institutional trust and previous negative health care experience. We measured institutional trust using a 36 item Health-Related Trust Measure (HTM). All 36 statements in the measure are statements about institutional trust in general and they were grouped together into 7 factors based on similar content. The factors included: discrimination in health care (3 items), equity (6 items), hidden agenda (4 items), insurance (3 items), negative physician perception (5 items), positive physician perception (12 items), and system welcoming (3 items).[23] The HTM is a cross-cultural measure that was developed by Dr. Jacobs and her team to measure institutional trust across the three largest racial/ethnic groups in the United States: African Americans, Mexican-Hispanics and whites. For each of the 36 questions, participants responded that the statements were never true, a little true, half the time true, mostly true, or always true, and each response received a corresponding score of 0–4. Examples of items on the hidden agenda, positive physician perception and system welcoming factors respectively are: doctors won't do what is best for a patient if it means that doctors will earn less money; doctors listen carefully to their patients; and clinic front

desk staff are friendly to patients. The HTM instrument performed well overall ($\alpha = 0.94$) and individually in African Americans ($\alpha = 0.95$), Mexican-Hispanics ($\alpha = 0.94$), and whites ($\alpha = 0.96$).

We included sociodemographic variables in the analysis that have been shown to be related to trust in medical care: race/ethnicity (self-reported as African American, Mexican-Hispanic or white), age (years), gender (male or female), and marital status (married, previously married, never married), employment status (employed, unemployed or homemaker/retired/student), income (\$15,999, \$16,000–\$34,999, \$35,000–\$74,999, \$75,000, or don't know/no response), and education level (less than high school, high school/GED, trade school/associate's degree or bachelor's degree and above).

We included the variables insurance status and forgoing health care due to cost as measures of access to health care. Participants reported their insurance status as private insurance, Medicare/Medicaid or no insurance. We asked participants the following question to see if they had previously avoided care due to cost: "Is there any time in the past two years, when you did not seek medical care because it was too expensive or health insurance did not cover it? Do not include dental care." Possible responses included yes, no or not sure.

We used the number of annual visits to the doctor to assess health care use. We asked participants "Have you seen any doctor in the last 12 months? If yes, about how many times in the last 12 months have you seen a doctor (including your personal doctor)?" We ultimately classified responses into the following discrete categories: 0, 1–2, 3–5, or 6 visits in the last 12 months.

We included one variable assessing previous negative health care experience. We asked participants: "In the past five years, have you had a health care experience you considered to be bad or negative?" (yes or no).

2.3 Data analysis

To calculate an overall institutional trust score we summed the values of all 36 items in the measure. When necessary items were reverse coded so that a response of "always true" indicated lower trust and received a score of four. The possible range of values was 0 to 144 with higher values indicating lower institutional trust. Eleven participants did not answer 1 of the 36 questions, and for these individuals we imputed the missing value by using the mean value for participants in the same racial/ethnic and gender demographic (e.g. African American women) who did respond to the question. Because overall trust scores were normally distributed, we dichotomized the variable into high trust and low trust using the mean value of 57 as the cut-point. We assessed differences in institutional trust across the three racial and ethnic groups with a chi-squared test.

We used multivariable stepwise logistic regression to determine the relationship between institutional trust and race/ethnicity. Model 1 included only race/ethnicity; Model 2 included all sociodemographic variables; Model 3 included all sociodemographic, access to and use of health care and previous health care experience variables.

We then dropped whites from our sample and did chi square and multivariable stepwise logistic regression analysis to see if there were any differences in institutional trust between African Americans and Mexican-Hispanics.

3. Results

Of the 569 respondents, 33% identified as African American, 33% identified as Mexican-Hispanic and 34% identified as white. Table 1 describes the distribution of sociodemographic, access to health care, use of health care, previous negative health care experience and institutional trust overall and across three racial/ethnic groups. For sociodemographic variables, 59% of our overall sample was female and this was similar in all three racial/ethnic groups. African Americans were more likely to be single (never married), unemployed, and have an annual family income less than \$16,000 as compared to Mexican-Hispanics and whites. Mexican-Hispanics were more likely to be younger, married, and have less than a high school education as compared to African Americans and whites. Whites were more likely to have an annual family income greater than \$35,000 and have received a bachelor's degree or above as compared to African Americans and Mexican-Hispanics. For access to health care variables, 36% of our sample had previously avoided health care due to cost, and this was similar across all racial/ethnic groups. African Americans were more likely to report having Medicare/Medicaid, Mexican-Hispanics were more likely to report having no insurance, and whites were more likely to report having private insurance as compared to the other two racial/ethnic groups. African Americans were more likely to report going to the doctor three or more times per year as compared to Mexican-Hispanics and whites, and Mexican-Hispanics were more likely to have no annual visits to the doctor as compared to African Americans and whites. Thirty three percent of our sample reported having a previous negative experience in the last five years and this was similar in all racial/ethnic groups. For institutional trust, 61% of whites reported high institutional trust compared to 47% of African Americans and 39% of Mexican-Hispanics ($p<0.001$).

Table 2 describes the relationships between sociodemographic, access to health care, use of health care, and previous negative health care experience by level of institutional trust (high/low). Being white and older was significantly associated with reporting high institutional trust. Individuals who reported low institutional trust were significantly more likely to report that they had previously avoided care due to cost compared to those who reported high institutional trust (43% vs. 29% $p=0.001$). Forty-three percent of individuals who reported low institutional trust also reported a previous negative experience compared to only 22% of those with high institutional trust ($p<0.001$).

In the first logistic regression model including only institutional trust and race/ethnicity (Table 3), the odds of reporting low trust, compared to whites, was 1.77 (95%CI: 1.18–2.67) for participants identifying as African American, and 2.41 (95%CI: 1.60–3.64) for participants identifying as Mexican-Hispanic. When sociodemographic variables were added into the model the odds of reporting low trust remained significantly greater for African Americans (OR: 1.63; 95%CI: 1.03–2.57) and Mexican-Hispanics (OR: 2.12; 95%CI: 1.34–3.34) compared to whites. In model 2 increasing age (OR: 0.98 95%CI: 0.97–1.00), being

single (OR: 0.59; 95%CI: 0.38–0.91) compared to being married, and having an annual income \leq \$75,000 (OR: 0.32; 95%CI: 0.15–0.69) compared to $>$ \$15,999 were associated with reduced odds of low trust. In the fully adjusted model (model 3) with access to health care, use of health care and previous negative health care experience variables included, African Americans (OR: 1.93; 95%CI 1.16–3.23) and Mexican-Hispanics (OR: 2.33; 95%CI 1.43–3.81) continued to have greater odds of reporting low trust compared to whites. In the fully adjusted model, being single (OR: 0.64; 95%CI 0.39–1.02) and having an annual income greater than \$75,000 (OR: 0.52; 95%CI 0.23–1.21) were no longer associated with decreased odds of having low institutional trust. Participants who reported having a previous negative health care experience in the last five years had 2.81 increased odds (95%CI 1.81–4.37) of having low institutional trust compared to participants who reported no previous negative health care experience in the last five years.

Results are not shown, but when we dropped whites from the analysis, we found no differences in report of institutional trust between African Americans and Mexican-Hispanics in chi-square analysis ($p=0.140$). Similarly, when only African Americans and Mexican-Hispanics were included in the 3 regression models, Mexican-Hispanics did not differ in their reporting of institutional trust compared to African Americans. The only factor significantly related to being in the low trust groups was reporting a previous negative health care experience (OR: 2.79; 95%CI 1.57–4.96) compared to those who did not report a previous negative health care experience.

4. Discussion and conclusions

4.1 Discussion

Similar to other studies, we found institutional trust was lower in racial and ethnic minority groups compared to whites and that this relationship persisted even when controlling for a host of other factors. There were no statistically significant differences in institutional trust between African Americans and Mexican-Hispanics. We also found that one third of our sample reported having had a negative health care experience in the last five years and this was the only other factor related to reporting lower trust in health care, independent of race.

Our study adds to the growing body of literature that shows that institutional trust is lower in racial/ethnic minority groups compared to whites.[9, 16, 18, 21] This relationship persists even after controlling for sociodemographic, access to health care, use of health care and previous negative health care experience variables, confirming our hypothesis. These differences are important as previous literature has shown that institutional trust influences patient attitudes,[9] future behaviors,[7, 8, 12, 13, 15] and ultimately health outcomes.[4, 10–12] We were able to demonstrate this was true for both African Americans and Mexican-Hispanics in our study and they had similar levels of trust. Our findings support the theory that differences in trust may contribute to health disparities in racial and ethnic minority populations, and that this is likely true for Hispanic populations in the US as well as African American populations.

We also found that individuals who reported a previous negative health care experience had significantly increased odds of reporting low trust. This is a new and important finding. Due

to the cross sectional nature of our data we cannot determine the direction of this relationship. It is likely however, that those previous experiences inform participants' current trust in health care. We need more longitudinal studies to understand whether low institutional trust is related to increased report of negative health care experiences, or whether negative health care experiences later leads to lower institutional trust, or if there are some other mediating factors in this relationship. We also need more qualitative studies, such as the one conducted by Suurmond et al. in the Netherlands,[24] to begin to understand what people identify as previous negative health care experiences and what factors (i.e. individual, provider, system) contribute to these negative experiences in health care systems in the United States.

Additional factors significantly related to greater trust were being single and having an annual household income \leq \$75,000 in Model 2. However, after adding access to health care, use of health care and previous negative experience into the model these relationships were no longer significant. This is likely because these factors overlap in their content and what they represent, for example access to health care is frequently determined by insurance status which is influenced by employment status and family income. Apart from race/ethnicity, no other sociodemographic variables were significantly related to institutional trust in the fully adjusted model.

Several factors may limit the generalizability of our findings. The data were collected from a convenience sample of Chicago residents shopping at selected supermarkets, and may not be generalizable to other populations. All of our measures were self-reported and cross sectional and we are not able to identify causality with this dataset. It is also possible that there are other factors that contribute to lower institutional trust, such as the type of system of care or payment models as Kao and colleagues demonstrated were related to lower interpersonal trust.[25] Finally, negative health care experience was a single-item variable which could be interpreted in different ways, and we do not have specific details on the severity of the negative encounters that individuals report experiencing.

There are also several strengths to this study. First, we used a multi-factorial measure of institutional trust that was developed from the patient perspectives of individuals in the three racial/ethnic groups and was designed to simultaneously capture feelings of trust and mistrust. Secondly, we surveyed a large group of racially and ethnically diverse individuals. Finally, we surveyed individuals outside of the health care setting (i.e. hospital, clinic) allowing us to survey individuals who may distrust health care institutions so much that they avoid health care. Additionally, surveying individuals outside of the health care system may have contributed to more accurate results as individuals may be less afraid of being identified by their health care providers.

4.2 Conclusions

Our study provides evidence that both African American and Mexican-Hispanic individuals and those reporting a negative health care experience in the past 5 year have increased odds of reporting low institutional trust. Previous literature has shown how important institutional trust is in health seeking behavior and overall health. Our findings demonstrate that research

on trust is important for both thinking about how to reduce health disparities but also the import of understanding how previous intera

4.3 Practice Implications

Improving health care experiences, especially for racial/ethnic minority groups, could improve institutional trust and decrease disparities in these populations. A better understanding of the factors that influence institutional trust in specific populations continues to be an important area of research as we strive to improve the health care delivery system, improve patient health outcomes, reduce health disparities, and improve individual care.

Acknowledgments

This research was funded by the National Institutes of Health (1R21HD057473-01A1). Additional support was provided by the Health Innovation Program. The project described was supported by the Clinical and Translational Science Award (CTSA) program, previously through the National Center for Research Resources (NCRR) grant 1UL1RR025011, and now by the National Center for Advancing Translational Sciences (NCATS), grant 9U54TR000021. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH. Additional funding for this project was provided by the UW School of Medicine and Public Health from the Wisconsin Partnership Program.

References

- Hall MA, Dugan E, Zheng B, Mishra AK. Trust in physicians and medical institutions: what is it, can it be measured, and does it matter? *Milbank Q.* 2001; 79(4):613–639. [PubMed: 11789119]
- Rowe R, Calnan M. Trust relations in health care--the new agenda. *Eur J Public Health.* 2006; 16:4–6. [PubMed: 16446297]
- Gilson L. Trust and the development of health care as a social institution. *Soc Sci Med.* 2003; 56:1453–1468. [PubMed: 12614697]
- Mohseni M, Lindstrom M. Social capital, trust in the health-care system and self-rated health: the role of access to health care in a population-based study. *Soc Sci Med.* 2007; 64:1373–1383. [PubMed: 17202025]
- Russell S. Treatment-seeking behaviour in urban Sri Lanka: trusting the state, trusting private providers. *Soc Sci Med.* 2005; 61:1396–1407. [PubMed: 16005775]
- Birungi H. Injections and self-help: risk and trust in Ugandan health care. *Soc Sci Med.* 1998; 47:1455–1462. [PubMed: 9823041]
- Zheng B, Hall MA, Dugan E, Kidd KE, Levine D. Development of a scale to measure patients' trust in health insurers. *Health Serv Res.* 2002; 37:187–202. [PubMed: 11949920]
- Balkrishnan R, Dugan E, Camacho FT, Hall MA. Trust and satisfaction with physicians, insurers, and the medical profession. *Med Care.* 2003; 41:1058–1064. [PubMed: 12972845]
- LaVeist TA, Nickerson KJ, Bowie JV. Attitudes about racism, medical mistrust, and satisfaction with care among African American and white cardiac patients. *Med Care Res Rev.* 2000; 571(Suppl):146–161. [PubMed: 11092161]
- Armstrong K, Ravenell KL, McMurphy S, Putt M. Racial/ethnic differences in physician distrust in the United States. *Am J Public Health.* 2007; 97:1283–1289. [PubMed: 17538069]
- Egede LE, Michel Y. Medical mistrust, diabetes self-management, and glycemic control in an indigent population with type 2 diabetes. *Diabetes Care.* 2006; 29:131–132. [PubMed: 16373908]
- Whetten K, Leserman J, Whetten R, Ostermann J, Thielman N, Swartz M, Stangl D. Exploring lack of trust in care providers and the government as a barrier to health service use. *Am J Public Health.* 2006; 96:716–721. [PubMed: 16507725]
- Altice FL, Mostashari F, Friedland GH. Trust and the acceptance of and adherence to antiretroviral therapy. *J Acquir Immune Defic Syndr.* 2001; 28:47–58. [PubMed: 11579277]

14. Boulware LE, Cooper LA, Ratner LE, LaVeist TA, Powe NR. Race and trust in the health care system. *Public Health Rep.* 2003; 118:358–365. [PubMed: 12815085]
15. Marlow LA, Waller J, Wardle J. Trust and experience as predictors of HPV vaccine acceptance. *Hum Vaccin.* 2007; 3:171–175. [PubMed: 17622801]
16. Armstrong K, McMurphy S, Dean LT, Micco E, Putt M, Halbert CH, Schwartz JS, Sankar P, Pyeritz RE, Bernhardt B, Shea JA. Differences in the patterns of health care system distrust between blacks and whites. *J Gen Intern Med.* 2008; 23:827–833. [PubMed: 18299939]
17. Armstrong K, Putt M, Halbert CH, Grande D, Schwartz JS, Liao K, Marcus N, Demeter MB, Shea J. The influence of health care policies and health care system distrust on willingness to undergo genetic testing. *Med Care.* 2012; 50:381–387. [PubMed: 22473221]
18. Armstrong K, Rose A, Peters N, Long JA, McMurphy S, Shea JA. Distrust of the health care system and self-reported health in the United States. *J Gen Intern Med.* 2006; 21:292–297. [PubMed: 16686803]
19. Boulware LE, Ratner LE, Sosa JA, Cooper LA, LaVeist TA, Powe NR. Determinants of willingness to donate living related and cadaveric organs: identifying opportunities for intervention. *Transplantation.* 2002; 73:1683–1691. [PubMed: 12042662]
20. Corbie-Smith G, Thomas SB, St George DM. Distrust, race, and research. *Arch Intern Med.* 2002; 162:2458–2463. [PubMed: 12437405]
21. Thompson HS, Valdimarsdottir HB, Jandorf L, Redd W. Perceived disadvantages and concerns about abuses of genetic testing for cancer risk: differences across African American, Latina and Caucasian women. *Patient Educ Couns.* 2003; 51:217–227. [PubMed: 14630378]
22. Jacobs EA, Mendenhall E, McAlearney AS, Rolle I, Whitaker EE, Warnecke R, Ferrans CE. An exploratory study of how trust in health care institutions varies across African American, Hispanic and white populations. *Commun Med.* 2011; 8:89–98. [PubMed: 22616359]
23. Jacobs, EA.; Choi, S.; Schwei, R.; Rathouz, P. Summit on the Science of Eliminating Health Disparities. National Harbor, MD: 2012. A Valid Measure of Health-related Trust for Use in Diverse Populations [abstract].
24. Suurmond J, Uiters E, de Bruijne MC, Stronks K, Essink-Bot ML. Negative health care experiences of immigrant patients: a qualitative study. *BMC Health Serv Res.* 2011; 11:10. [PubMed: 21235738]
25. Kao AC, Green DC, Davis NA, Koplan JP, Cleary PD. Patients' trust in their physicians: effects of choice, continuity, and payment method. *J Gen Intern Med.* 1998; 13:681–686. [PubMed: 9798815]

Highlights

We explored whether institutional trust in healthcare differed across racial/ethnic group.

We explored what factors might contribute to these differences.

African Americans and Mexican-Hispanic respondents were less trusting than whites.

The only other factor related to lower trust was a previous negative health care experience.

Sociodemographic, Access to Care, Use of Care, Previous Negative Experience and Institutional Trust Across Three Racial and Ethnic Groups

Table 1

Study Variables	Overall (n=569)	African American (n=186)	White (n=193)	Mexican- Hispanic (n=190)	P-Value ^d
Sociodemographic Variables					
Mean age (SD), y	40.2 (14.3)	41.4 (12.2)	42.7 (15.7)	36.5 (13.8)	<0.001**
Female (%)	59	58	54	64	0.144
Marital Status (%)					<0.001**
Married	44	26	45	61	
Previously Married	17	22	20	8	
Single (Never Married)	40	53	36	31	
Employment Status (%)					<0.001**
Employed	55	49	59	57	
Unemployed	26	38	23	18	
Homemaker/Retired/Student	19	13	17	25	
Family Income (%)					<0.001**
\$15,999	40	54	28	38	
\$16,000–\$34,999	24	26	23	23	
\$35,000–\$74,999	20	13	26	22	
\$75,000	10	3	16	10	
Don't Know/No Response	6	4	7	8	
Education Level (%)					<0.001**
Less than High School	10	9	3	16	
High School/GED	53	63	48	48	
Trade School/Associate's Degree	18	18	19	17	
Bachelor's Degree and Above	20	10	29	19	
Access to Health Care Variables					
Insurance Status (%)					<0.001**
Private Insurance	48	40	57	47	
Medicare/Medicaid	30	44	21	25	

Study Variables	Overall (n=569)	African American (n=186)	White (n=193)	Mexican- Hispanic (n=190)	P-Value ^d
No Insurance	23	17	22	29	
Avoid Care due to Cost (%)					0.488
No	56	55	60	53	
Yes	36	36	35	38	
Not Sure/Refused	8	9	5	9	
Use of Health Care Variable					
# Annual Visits (%)					0.041 [*]
0	22	19	19	26	
1--2	29	22	35	28	
3--5	32	39	28	31	
6	18	20	18	15	
Negative Health Care Experience Variable					
Previous Negative Experience (%)	33	30	35	33	0.594
Institutional Trust Variable					
High Institutional Trust (%)	49	47	61	39	<0.001 ^{**}

^a p-values measure any difference in three racial/ethnic groups

^{*} Significant at p <0.05;

^{**} Significant at p <0.001

Table 2

Sociodemographic, access to care, use of care and previous negative experience by level of institutional trust

Study Variables	High Institutional Trust (n=277)	Low Institutional Trust (n=291)	P-Value
Sociodemographic Variables			
Race/Ethnicity (%)			p < 0.001**
African American	31	34	
Mexican-Hispanic	27	40	
White	42	26	
Mean age (SD), y	42 (14.4)	39 (14.0)	p=0.0147*
Female (%)	56	61	p=0.213
Marital Status (%)			p=0.235
Married	41	46	
Previously Married	16	18	
Single (Never Married)	43	36	
Employment Status (%)			
Employed	55	56	p=0.527
Unemployed	25	27	
Homemaker/Retired/Student	20	17	
Family Income (%)			p=0.053
\$15,999	37	42	
\$16,000–\$34,999	23	25	
\$35,000–\$74,999	21	20	
\$75,000+	13	6	
Don't Know/No Response	5	7	
Education Level (%)			p=0.673
Less than High School	8	11	
High School/GED	53	53	
Trade School/Associate's Degree	19	17	
Bachelor's Degree and Above	19	20	
Access to Health Care Variables			
Insurance Status (%)			p=0.335
Private Insurance	51	45	
Medicare/Medicaid	28	30	
No Insurance	21	24	
Avoid Care due to Cost (%)			p=0.001*
No	64	48	
Yes	29	43	
Not Sure/Refused	6	9	
Use of Health Care Variable			
# Annual Visits (%)			p=0.564
0	20	23	

Study Variables	High Institutional Trust (n=277)	Low Institutional Trust (n=291)	P-Value
1-2	28	30	
3-5	32	33	
6	20	15	
Negative Health Care Experience Variable			
Previous Negative Experience (%)	22	43	p<0.001**

^a p-values measure any difference in three racial/ethnic groups

* Significant at p <0.05;

** Significant at p <0.001

Table 3

Odds of lower Institutional trust in 3 logistic regression models

	Base Model n=568 OR (95% CI)	Model 1 n=532 OR (95% CI)	Model 2 n=479 OR (95% CI)
Race/Ethnicity			
White	ref	ref	ref
African-American	1.77** (1.18–2.67)	1.63* (1.03–2.57)	1.93* (1.16–3.23)
Mexican-Hispanic	2.41** (1.60–3.64)	2.12** (1.34–3.34)	2.33** (1.43–3.81)
Age			
Female		0.98* (0.97–1.00)	0.99 (0.97–1.00)
Marital Status			
Married		ref	ref
Previously Married		1.13 (0.65–1.96)	1.14 (0.62–2.09)
Single (Never Married)		0.59* (0.38–0.91)	0.64 (0.39–1.02)
Employment Status			
Employed		ref	ref
Unemployed		0.99 (0.62–1.58)	0.87 (0.52–1.46)
Homemaker/Retired/Student		0.69 (0.42–1.15)	0.62 (0.35–1.10)
Family Income			
\$15,999		ref	ref
\$16,000–\$34,999		0.89 (0.55–1.45)	0.97 (0.56–1.68)
\$35,000–\$74,999		0.80 (0.46–1.39)	1.16 (0.60–2.26)
\$75,00		0.32** (0.15–0.69)	0.52 (0.23–1.21)
Don't Know/No Response		1.42 (0.66–3.06)	2.09 (0.90–4.83)
Education Level			
Less than High School		ref	ref
High School/GED		0.94 (0.48–1.83)	1.13 (0.51–2.50)
Trade School/Associate's Degree		0.86 (0.40–1.85)	0.88 (0.36–2.17)
Bachelor's Degree and Above		1.54 (0.70–3.40)	1.66 (0.66–4.14)
Insurance Status			
Private Insurance			ref
Medicare/Medicaid			1.49 (0.86–2.59)
No Insurance			1.10 (0.60–2.01)
Avoided Care Due to Cost			
No			ref
Yes			1.50 (0.94–2.40)
Not Sure/Refused			1.76 (0.80–3.84)
# Annual Visits			
0			ref
1--2			1.10 (0.62–1.96)
3--5			0.86 (0.49–1.51)

	Base Model n=568 OR (95% CI)	Model 1 n=532 OR (95% CI)	Model 2 n=479 OR (95% CI)
6			0.56 (0.29–1.11)
Previous Negative Experience			2.81 ** (1.81–4.37)

* Significant at p<0.05;

** Significant at p<0.001